# CONVERSION PROGRAM TACTICAL PLAN

**Version 0.0**

**March 2016**

Prepared For

INTERIOR GAS UTILITY


MWH®

# Interior Gas Utility

# Conversion Program Tactical Plan

## VERSION 0.0

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# Conversion Program Tactical Plan

## Revision Table

**This document will be revised and updated from time to time to maintain relevance.**

| Revision No. | Date | Revised by | Approved by |
|---|---|---|---|
| 0.0 | 3/11/2016 | Monique Garbowicz | Bruce Robson |
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## List of Acronyms and Abbreviations

| | |
|---|---|
| AIDEA | Alaska Industrial Development and Export Authority |
| Cardno | ENTRIX |
| Conversion Team | Conversion Program Team |
| CPL | Conversion Program Lead |
| CSP | Customer Service Plan |
| FNG | Fairbanks Natural Gas |
| FNSB | Fairbanks North Star Borough |
| GDP | Gas Distribution Project |
| GM | General Manager |
| Homer | City of Homer |
| IEP | Interior Energy Project |
| IGU | Interior Gas Utility |
| IR | Income Restricted |
| ISP | Installation Support Plan |
| LNG | liquefied natural gas |
| mcf | thousand cubic feet |
| PACE | Property-Assessed Clean Energy |
| Pentex | Alaska Natural Gas Company |
| Plan | IGU Conversion Program Tactical Plan |
| PM | Program Manager |
| POCP | Public Outreach and Communication Plan |
| RACI | Responsible, Approve, Consult, Inform |
| RCA | Regulatory Commission of Alaska |
| RFI | Request for Information |
| SB | Senate Bill |
| USAD | Utility Special Assessments District |
| Utility | Operator of IGU/FNG combined utility (also IGU in this document) |
| VISTA | Volunteers in Service to America |

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# EXECUTIVE SUMMARY AND RECOMMENDATIONS

This Interior Gas Utility (IGU) Conversion Program Tactical Plan (Plan) defines the tactical approach and recommendations for continued development and implementation of the IGU Conversion Program. As such, the Plan presents the base conditions and assumptions that define the scope of the Conversion Program. Additionally, the Plan presents summaries of work conducted to develop the Conversion Program, as well as makes recommendations for further action.

The IGU and Fairbanks Natural Gas (FNG) are natural gas distribution utilities in Fairbanks, Alaska. IGUs goal is to distribute natural gas, provided by others to the residential and commercial properties within its Regulatory Commission of Alaska (RCA)-defined service area. FNG, currently operating as a separate entity recently obtained by the Alaska Industrial Development and Export Authority (AIDEA), distributes natural gas from Cook Inlet liquefied at the Titan Plant at Point McKenzie and trucked to Fairbanks. It is expected that the two utilities will be combined into a single operating entity, or Utility. The Utility will have responsibility for implementing the Conversion Program as presented in this Plan.

Under the guidance of the IGU Board, General Manager, Project Manager, and Conversion Team, the Conversion Program framing goals, objectives, boundaries, and assumptions were identified. They include:

- Focusing on residential customer in-home heating unit and water heater conversions and connections.
- Developing a Conversion Program that encourages and supports as many residential conversions as possible.
- Delineating utility responsibility to include mains, distribution lines, service lines, and meters.
- Recognizing the potential groups of customers as:
  - 1/3 are likely self-financing.
  - 1/3 are likely to require burner replacements.
  - 1/3 would likely take advantage of a loan solution, if attractive.
- Developing a facilitated financing program with an on-bill loan repayment option.
- Utilizing grant funding, as available, to support conversions.
- Streamlining the conversion and connection processes.
- Providing strong “one stop” customer service to promote customer engagement and decisions to convert.
- Initially targeting IGU Phases 1 through 3, and the FNG service area, with initial focus on those areas with distribution lines.
- Focusing efforts on Years 1 through 6 following gas availability.

As more is known regarding the availability and price of gas, the Conversion Program can be further refined and execution timing specified. The implementation schedule for the Conversion Program is dependent on the availability of gas and adequate storage, when those and other Interior Energy Project (IEP) elements get established; the Conversion Program schedule can be better defined.

Anticipated conversion rates are based upon work conducted by Northern Economics in 2013 and Cardno ENTRIX in 2014 (updated in 2015). In these studies, conversion rates over time were developed using the price of fuel oil as the controlling variable. The results are presented in Section 6 and serve as the conversion rate forecast for the Conversion Program – where the 2014 work represents the higher end of the range and the 2015 work the low end of the range.

Recommendations include continuation of the development components of the Conversion Program and refinement of the respective operational needs. This includes:

- Continuing to develop the Conversion Program in concert with the evolution of the IEP and Utility operational strategy.
- Developing a Request for Information for issuance to lending institutions seeking information relative to the establishment of an IGU-facilitated financing program.
- Coordinating the development of operational plans, policies, procedures, and practices with operating entity.
- Continuing the development of the program management strategy for the Conversion Program.
- Continuing development of the Plan and associated plans.
- Continuing evaluation of the needs of the Income Restricted and renters.

The Conversion Program as defined by IGU is robust, to meet the needs of IGU to promote as many conversions as possible. To do this, resources are needed to continue with the development of the Plan as outlined. The planning process is a form of risk management. Through timely development and efficient execution of the Conversion Program, much can be learned and pitfalls can be avoided.

# 1 INTRODUCTION

The purpose of this Interior Gas Utility (IGU) Conversion Program Tactical Plan (Plan) is to provide the means to facilitate customer heating unit conversion to natural gas, while minimizing financial risk to the utility.

This document is organized as follows:

- Section 1.1 through Section 4.0 discuss: the history, purpose, and need for the Interior Energy Project (IEP); potential customer base and demographics; responsibilities of the Conversion Program Team (Conversion Team); and the primary framing elements of the Conversion Program.
- Section 5.0 specifically addresses stakeholders with vested interest in the success of the Conversion Program.
- Section 6.0 describes possible funding mechanisms to support customer conversion.
- Section 7.0 presents the Plan with recommended methods and management strategy to support successful implementation of the Conversion Program.

The information described in Section 1.1 through Section 6.0 provided the framework and basis for developing this Plan. The Plan will be periodically revised as the Conversion Program evolves and new information becomes available (e.g., date of gas availability).

## 1.1 Interior Energy Project

Residential homes and businesses of Alaska's Interior do not have access to clean-burning natural gas. As a result, the majority of heating systems burn fuel oil or wood. As the cost of fuel oil increases, residents opt to burn wood, because it is available and can be more affordable. The particulates generated from some heating systems that burn wood create a serious air quality issue. The U.S. Environmental Protection Agency (EPA) has listed Fairbanks as an area of non-attainment for particulate matter size 2.5 micrometers (PM 2.5); this signifies the potential for a serious health issue to residents.

To address high energy costs and poor air quality in the Fairbanks area, on April 12, 2013, the Alaska Legislature passed the IEP (Senate Bill [SB] 23). The IEP legislation was executed in Fairbanks on May 24, 2013. The IEP is intended to bring affordable natural gas to residential and commercial customers in the Fairbanks North Star Borough (FNSB). Per this legislation, the IEP includes: 1) construction of a liquefied natural gas (LNG) facility on Alaska's North Slope to provide LNG to Interior Alaska, 2) assistance in financing, 3) LNG storage, 4) re-gasification, and 5) piped natural gas distribution systems. At the time of the legislation, it was anticipated that the resulting IEP would deliver gas to support the 2015-2016 heating season.

Since the passage of SB 23, the 29$^{th}$ Legislature passed House Bill 105, which allows for procurement of gas supply sources for the IEP from anywhere in Alaska, not just the North Slope.

## 1.2 Interior Gas Utility and Fairbanks Natural Gas

IGU is a municipal utility formed by the FNSB in late in 2012 to deliver natural gas to the customers within the service area, including the perimeter of the City of Fairbanks, City of North Pole, and surrounding areas (**Appendix A**). This regulatory approval allowed IGU to form a utility to distribute natural gas to the Regulatory Commission of Alaska (RCA)-defined service area. On December 20, 2013, the RCA awarded IGU a Certificate of Public Convenience and Need (Certificate No. 753).

The RCA-defined service area includes approximately 15,000 residential properties (MWH, 2014) not currently served by natural gas. IGU has the responsibility to develop a distribution network and operational framework to support connections by residential and commercial customers. With funding from the Alaska Industrial Development and Export Authority (AIDEA), IGU completed Phase 1 of distribution line installation within the North Pole area during the 2015 construction season.

In addition to IGU, the Fairbanks area is served by Fairbanks Natural Gas (FNG), an independent private natural gas utility company. FNG provides natural gas to approximately 1,100 customers within the City of Fairbanks. AIDEA also provided funding to FNG to support distribution line installation within the FNG service area during 2014 and 2015.

The distribution line installation has positioned both utilities to support customer connections when gas is available in necessary quantity and at $15 per thousand cubic feet (mcf), the target price that is acceptable to the utilities.

IGU and FNG are currently separate entities. However, AIDEA and the utilities are working to combine them into a single utility managed by a Local Control Entity (Utility), which may ultimately be IGU. For the purposes of this document, the terms IGU and Utility are used interchangeably.

There are few details known about the timing to combine the utilities and the structure of the Utility, but a major milestone was reached in October 2015 when AIDEA and Pentex Alaska Natural Gas Company (Pentex) closed a sale agreement under which AIDEA purchased the Pentex assets. In addition to the FNG distribution network, Pentex assets included the Point Mackenzie LNG Plant, also known as the Titan Plant. The Titan Plant receives approximately 0.95 billion cubic feet (bcf) of natural gas annually under contract with Hilcorp, LLC for liquefaction and truck transport to FNG facilities in Fairbanks.

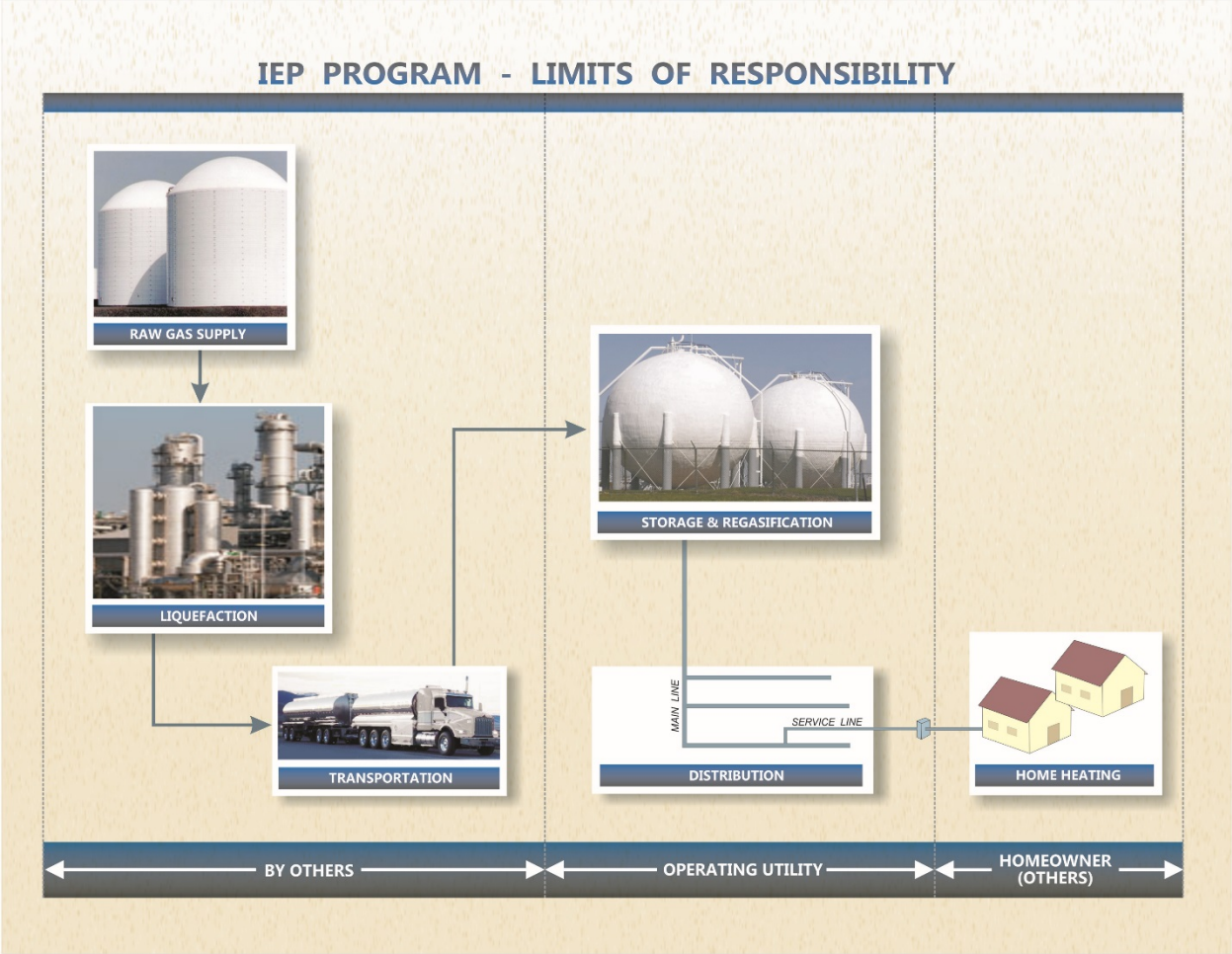
## 1.3 Gas Supply

According to FNG, the volume of gas available from the Titan Plant is not sufficient to serve the whole FNG service area. Therefore, for both IGU and FNG to support customer connections, additional gas is needed. At this time, the two utilities are working with AIDEA to secure a gas supply. Securing the gas supply is an element of the IEP, which is the responsibility of AIDEA, but the utilities are fully involved in the selection process.

Through the selection process, two potential sources have been identified. One of the options is on the North Slope and the other is from Cook Inlet. The gas supply is anticipated to support the 2018-2019 heating season.

**Figure 1-1** depicts the elements of the IEP, as well as the limits of responsibility.

**Figure 1-1 Interior Energy Project**




## 1.4 Conversion Program Goals and Objectives

The primary goal for the Conversion Program is to facilitate safe connection to the gas distribution system for as many customers as possible. Prior to connecting to the distribution line and obtaining service, customers must have the appropriate type of heating unit, which requires conversion of the existing heating unit either by complete replacement or by burner replacement.

There is no provision for funding residential or commercial heating unit conversion in either SB 23, the original backbone of funding for the IEP, or House Bill 105. As a result, AIDEA, FNSB,

IGU, and the Fairbanks community sought to develop an extensive Conversion Program to promote and support customers' decisions to convert heating units to use natural gas. This includes creating an effective Conversion Program that meets the goals and objectives not only of the IGU, its governing board, and AIDEA, but also those of the potential consumers.

Early in the planning process, IGU enlisted the services of Northern Economics to conduct a community survey. The purpose was to obtain an understanding of the willingness to convert. The survey included results from 800 respondents within FNSB. Northern Economics reported that although residents are interested in natural gas, the costs associated with conversion along with energy cost savings temper the enthusiasm. **Table 1-1** depicts the impact of cost on willingness to convert.

**Table 1-1 Projected Conversion Rates Using Conversion Cost and Annual Savings**

| Annual Savings($) | Percent Conversions per Conversion Cost ($) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2,000 | 4,000 | 6,000 | 8,000 | 10,000 | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 |
| 5,000 | >95 | >95 | 88 | 76 | 67 | 59 | 53 | 48 | 43 | 38 |
| 4,500 | >95 | >95 | 85 | 74 | 64 | 57 | 51 | 45 | 40 | 36 |
| 4,000 | >95 | >95 | 83 | 71 | 62 | 54 | 48 | 42 | 37 | 33 |
| 3,500 | >95 | >95 | 79 | 68 | 58 | 51 | 45 | 39 | 34 | 30 |
| 3,000 | >95 | 92 | 76 | 64 | 55 | 47 | 41 | 35 | 31 | 26 |
| 2,500 | >95 | 88 | 71 | 60 | 50 | 43 | 37 | 31 | 26 | 22 |
| 2,000 | >95 | 83 | 66 | 54 | 45 | 38 | 31 | 26 | 21 | 17 |
| 1,500 | >95 | 76 | 59 | 47 | 38 | 31 | 24 | 19 | 14 | 10 |
| 1,000 | 95 | 66 | 50 | 38 | 29 | 21 | 15 | 9 | <5 | <5 |
| 500 | 78 | 50 | 33 | 21 | 12 | 2 | <5 | <5 | <5 | <5 |

Key:
> – greater than
< – less than
$ – U.S. dollars

*Source*: Northern Economics, Inc. 2013 from Ivan Moore Research, 2013.

The decision to convert is a personal- or business-related financial decision, and cannot be mandated. Therefore, IGU seeks to facilitate and, to the extent practical, streamline the conversion process for customers. With the intent of creating a "one-stop-shop" Conversion Program, IGU has strived to better define the conditions under which customers within the IGU service territory would choose to convert their heating units to burn natural gas.

To encourage customers to participate in a Conversion Program, the following program objectives were identified:

1. Easy participation in the Conversion Program.
2. Immediate energy cost savings – natural gas energy costs need to be low, such that after payment of conversion costs, including financing costs, customers still realize immediate savings on their energy costs.

3. Provide access to grants and low interest loan opportunities to support conversion costs.
4. Offer a rebate or other participation incentive, to be sponsored by equipment manufacturers.
5. Offer an on-bill loan repayment option.

## 1.5 Purpose of Conversion Program Tactical Plan

Predicated on traditional program and project management practices, purpose of this Plan is to define the tactical approach and recommendations for the IGU Conversion Program. The Plan provides IGU, its board, the community, and vested agencies an overall view of requirements for successful development and implementation of a Conversion Program.

This Plan was developed with focus on high-level elements, using clear base assumptions and identified drivers for each element. This Plan presents the initial strategy and framework for the Conversion Program and will be updated and revised, as needed, to present the most up-to-date information relevant to the Conversion Program. Updates and changes will be noted in subsequent versions of this Plan to maintain clarity.

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# 2 CONVERSION PROGRAM SCOPE OF WORK

This section provides information specific to the potential customers of the Utility and the rate at which they might connect to the gas distribution system.

## 2.1 Potential Customers

Potential Utility customers include residential, commercial, and industrial customers within the service areas of IGU and FNG. The demographics pertaining to these categories have been studied and previously presented by others. This Plan is based on the data originally reported in 2014 by Cardno ENTRIX (Cardno), as presented in **Table 2-1** (Cardno, 2014). The Conversion Program will focus on residential participants, including single-family homeowners and renters.

**Table 2-1 Natural Gas Distribution System Customer Base**

| Build-out Phase | Miles of Pipeline | Residential | Multi-Family Structures | Commercial | | | Industrial | Total Structures |
|---|---|---|---|---|---|---|---|---|
| | | | | Small | Midsize | Large | | |
| 1[a] | 143.4 | 6,026 | 370 | 292 | 384 | 84 | 21 | 7,177 |
| 2 | 140.8 | 3,758 | 59 | 52 | 42 | 2 | 2 | 3,915 |
| 3 | 127.3 | 2,667 | 39 | 51 | 50 | 3 | 0 | 2,810 |
| 4 | 122.5 | 2,396 | 193 | 132 | 14 | 0 | 0 | 2,735 |
| 5 | 143.4 | 2,850 | 22 | 36 | 19 | 1 | 1 | 2,929 |
| 6 | 105.4 | 2,380 | 38 | 13 | 8 | 1 | 0 | 2,440 |
| Total | 782.8 | 20,077 | 721 | 576 | 517 | 91 | 24 | 22,006 |

Key:
a – Phase 1 Fairbanks Natural Gas build-out.

*Source*: Cardno, 2014 – *Fairbanks LNG Distribution System Demand Analysis* Table.

Ultimately, the Conversion Program will include residential participants from all build-out phases (geographic areas). However, it is anticipated that the first 6-year period of the program would focus on the more densely populated residential areas of Phases 1, 2, and 3 (**Appendix B**).

Study and data gathering work to date has primarily been done during times of high oil prices, when the IEP sought to deliver gas to Interior Alaska to support the 2015-2016 heating season. This included the entire IGU and FNG service areas. Due to economic factors, development of the program has slowed such that gas will likely not be available until the 2018-2019 heating season. This slow down included installation of distribution lines. At this time, there are distribution lines in the North Pole area (IGU Phase 1) and the City of Fairbanks (FNG) and these areas will likely be served first, upon availability of additional gas.

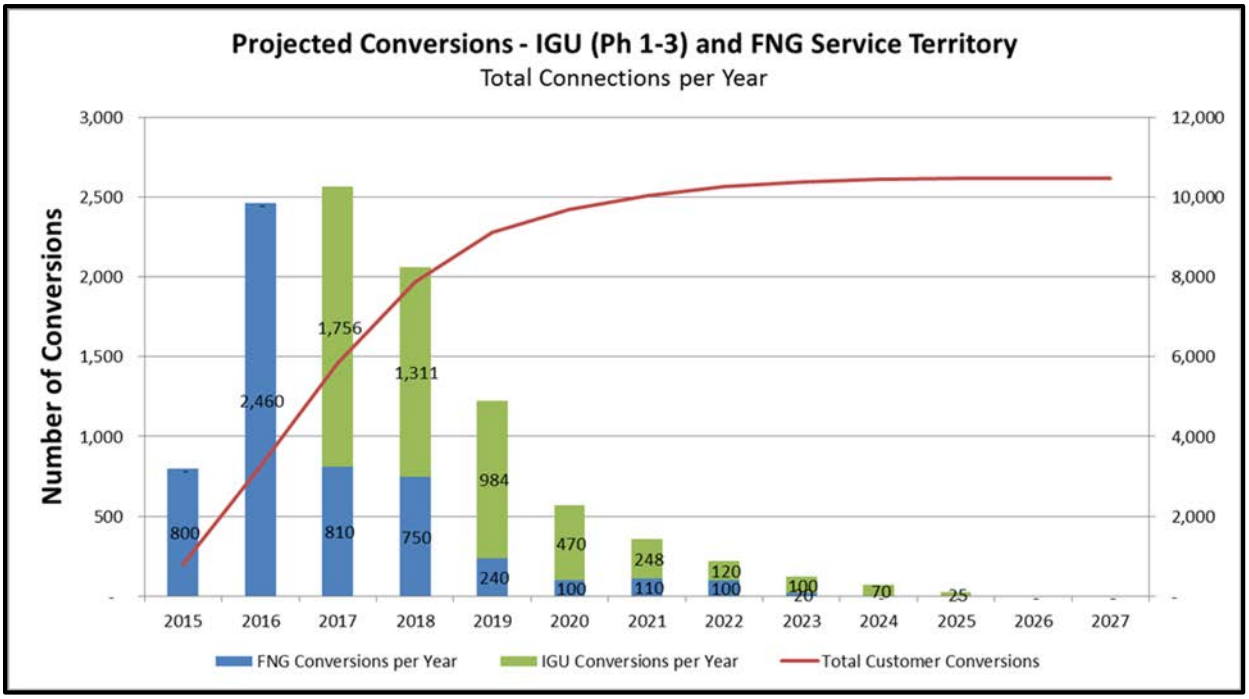
Current business planning efforts for IGU determined that, with the distribution mains installed during 2014 and 2015 in the areas of IGU and FNG, a total customer base of 5,614 could be initially supported by the Utility (IGU, 2016).

Under proposed legislation, commercial properties may benefit from the establishment of a Property Assessed Clean Energy (PACE) program. The merits of PACE programs are not discussed in this Plan, but are provided in **Attachment 1**. An important component of any PACE program, implemented by the FNSB to assist businesses, is to create a repayment structure that attaches to individual commercial property tax obligations. By doing so, compliance requirements of the Consumer Financial Protection Bureau will not be triggered.

## 2.2 Forecasted Conversion Rate

IGU business and operating plans are based upon the projection that residential conversion will occur over a period of years, with a higher number of conversions in the early years following gas availability for each phase. Conversion rates have been modeled to provide an understanding of customer behavior given certain conditions (Cardno, 2014). **Figure 2-1** depicts the projected rate of conversion (in 2014) for IGU Phase1 through Phase 3 and FNG service territory, assuming high $4/gallon fuel oil price and gas availability in 2015. Figure 2-1 indicates that, with high fuel oil prices, conversion demand could range between roughly 800 and 2,500 for the initial 6-year period.

**Figure 2-1 Projected Conversion – IGU (Phases 1 through 3) and FNG Service Territory**



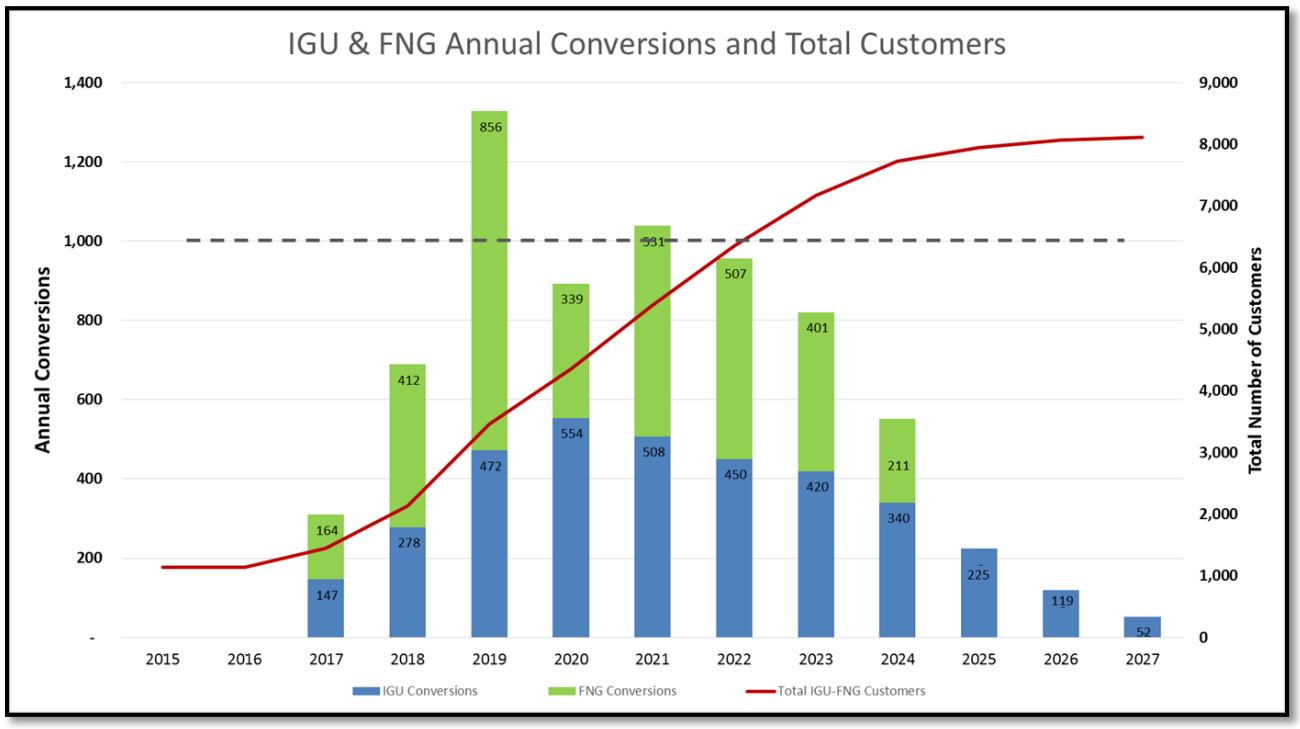

*Note:* Assumes $4/gallon fuel oil price and gas availability in 2015.
*Source:* Cardno, 2014

However, changing market conditions and delays present challenges to the overall IEP planning efforts, including conversion rate forecasting. As a result of reduced fuel oil (i.e., heating oil)

prices to about $2.50/gallon in 2015, AIDEA requested Cardno to prepare an update to the 2014 conversion rate forecast to address various heating oil prices.

Cardno conducted a sensitivity analysis to estimate the effect of lower fuel oil prices on rate of conversion. Cardno calculated conversion rates using various fuel oil prices and compared the resulting conversion rates to the baseline analysis presented in 2014. The results indicate that, if fuel oil prices stay relatively low, conversion rates can be expected to be dramatically slower and numbers of conversion reduced (Cardno, 2015). **Figure 2-2** depicts the projected customer conversion rates, as estimated in December 2015, for residential customers within IGU and FNG service territories for Phases 1 through 3. Initiating in 2017, conversion rates are forecasted to range from approximately 300 to 1,325 for the first 6 years, with Year 2 presenting the highest demand for conversion. This is a significant reduction from what was forecasted with higher oil prices.

**Figure 2-2 Projected Conversions for IGU (Phases 1 through 3) and FNG Service Territory**



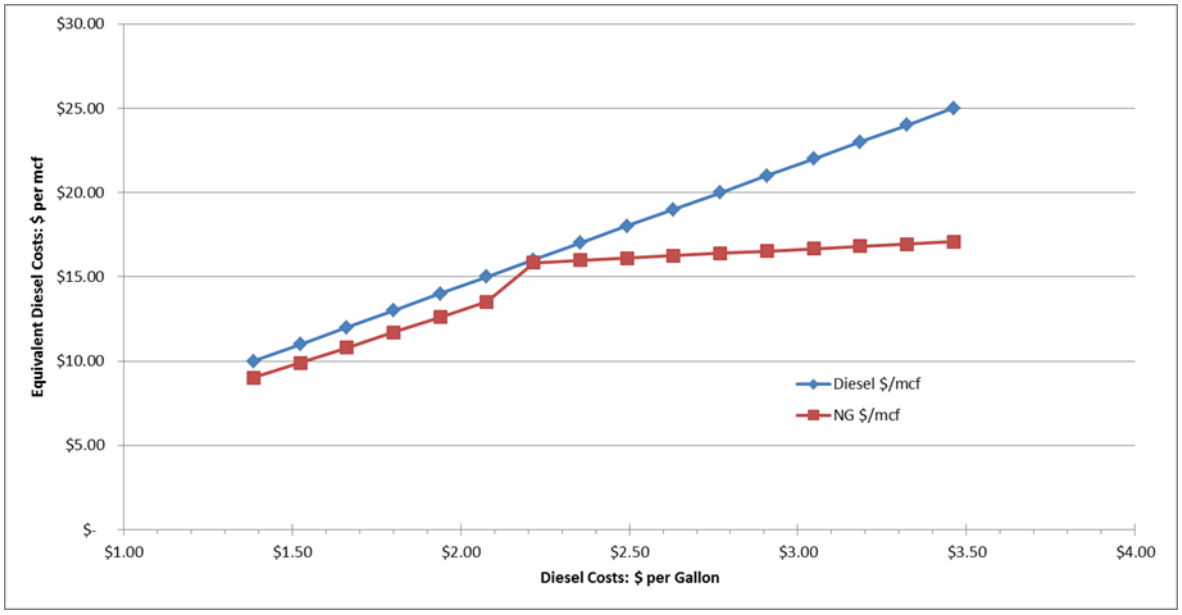

*Note:* Analysis is based on Cardno Scenario #3 as most likely to occur.
*Source:* Cardno, 2015 – Table 5-11 and conversion rates LE (IGU-FNG) – Excel

Considering the variability from year-to-year, as well as construction limitations, a leveled approach to conversion, and connection logistics is anticipated. Currently, a maximum of 1,500 installations per season is expected. Doing so will promote consistency and predictability during program implementation.

This Plan is predicated upon the availability of gas to the utilities in the 2018 timeframe. As the IEP is developed, conversion rates will be revisited and reassessed, as needed, to address changes in the approach to the IEP that could delay gas availability or revise assumptions about the price of gas.

During 2016 business planning efforts, IGU evaluated the impact of lower oil prices and the consumer's willingness to convert. With current economic conditions, the cost differential between fuel oil (diesel) and natural gas at $15 per mcf is low. At this time, with fuel oil prices in the $2 per gallon range, IGU is targeting to provide natural gas at an initial 10 percent price differential (IGU, 2016). This is down from the 50 percent differential anticipated when fuel oil prices were in the $4 per gallon range. **Figure 2-3** depicts proposed natural gas pricing as compared to fuel oil (diesel) equivalent. The goal of $15 per mcf range remains.

**Figure 2-3 Proposed Natural Gas Pricing Compared to Diesel Fuel Costs**




*Source:* Draft IGU Business Plan (IGU, 2016)

In addition to evaluating the cost impact of oil prices, IGU evaluated the potential installation rates associated with service lines and heating units. Through this process, it was determined that during a single construction season, approximately 1,500 new customers could be accommodated (IGU, 2016). This will be used for the development of the conversion program.

# 3 FACILITATING CONVERSION

Established operating utilities, such as FNG, typically do not have a facilitated process for conversion or connection support. Customers are responsible for obtaining funds necessary to pay for the upgrade or replacement of heating units, and they coordinate connection with the utility, which installs the service line and meter. Typically, the costs associated with service line installation and meters are billed to the customer.

This is also the case of the existing Conversion Program associated with the newly installed natural gas distribution system within the City of Homer (Homer). Homer and the gas operator, ENSTAR Natural Gas Company (ENSTAR) developed an extensive communication and outreach program to educate the consumer regarding the benefits of natural gas.

In 2012, Homer created a Utility Special Assessments District (USAD) to allow Homer to finance construction costs associated with distribution lines and assess a portion of those costs to each of the lots within the assessment district. A portion of the main trunk line was funded through state grants. The rest of the capital needed to install the distribution infrastructure was funded through a loan program. Borrowed capital, including administrative fees and interest, is repaid by the property owners through an equivalent assessment for each qualifying lot. Qualifying lots are those with frontage on the mains.

In addition to the USAD assessment, property owners in Homer are charged for the installation of the service lines and meters. The estimated cost to the property owner is approximately $5,000 to bring gas to the meter and does not include the costs to convert in-home equipment and appliances to burn natural gas. Homeowners are encouraged to work with local plumbing and heating contractors to develop a strategy for in-home heating unit and appliance conversion. Determining and obtaining the source of funds for the costs associated with in-home heating systems and appliance changes are the responsibility of the homeowner.

As part of the IEP project, the State of Alaska is providing IGU and FNG funding options for distribution line construction. The source of funding may include grant or bond funds. Any principal or interest repayment by the utilities will be borne by the rate payers through the per unit price of gas. This structure will allow the utilities to spread the cost of borrowed money over a longer term and across a broad customer base, as well as lower the impact to the individual customer.

In addition to the funding support provided by the State for distribution line construction, much work has been done to develop a strategy to promote residential conversion decisions. The level of residential conversion facilitation proposed by the Conversion Steering Committee for approval by the IGU Board is unique and highlights many incentives for property owners to make the decision to convert heating units and water heaters.

To meet the primary goal for the Conversion Program, IGU desires to facilitate a program that allows the consumer to depend upon IGU for the following types of activities:

- Negotiating low interest loans or grants for heating unit or burner replacements.

- Facilitating the funding application process.
- Qualifying heating unit installation contractors.
- Facilitating the conversion contracting process.
- Providing an on-bill loan repayment option.
- Resolving supply chain logistical issues.
- Streamlining the conversion and connection processes.
- Providing a "one call" process for conversion and connection.
- Providing the first 100 feet of service line and meter.
- Messaging communication campaign and strategy promoting natural gas as a fuel source and announcing the IGU Conversion Program.

By providing this level of customer service, IGU seeks to positively impact consumer's decisions to convert in the early years of the Conversion Program. It is anticipated that this level of involvement and facilitated support will have a limited duration. The IGU-facilitated Conversion Program may be terminated after the program goals are met, sometime between Year 6 and Year 10. This limited offering may also incentivize consumers to convert earlier than they might otherwise.

# 4 CONVERSION PROGRAM APPROACH

This section addresses the components and actions of the IGU Conversion Team and the considerations and guidance used to develop the recommended Conversion Program.

## 4.1 Conversion Program Team

The IGU Conversion Team consists of IGU, its contractors, and a Conversion Steering Committee. The Steering Committee is comprised of Fairbanks area business and community leaders who served on the Steering and Logistics committees in 2014. To define and advance the framework for the Conversion Program, the Conversion Team met monthly during the third quarter of 2015.

Meeting dates and primary topics discussed are.

- July 22, 2015: Focus Meeting to re-establish the group and identify the framework for developing the tactical plan.
- August 19, 2015: Financing Strategy Meeting to discuss options for supporting homeowners who may choose to borrow funds to pay for heating unit conversion.
- September 22, 2015: Initial Risk Strategy Meeting to identify high level risks to residential conversion and program approach.

Section 4.2 presents Conversion Program guidance developed to date by the Conversion Team.

## 4.2 Conversion Program Guidance

Results of work conducted before or during 2014 and current economic conditions were considered by the Conversion Team to identify the core value, base program constraints, and assumptions that would govern the Conversion Program approach moving forward and define the team's focus areas.

The Conversion Team identified the primary framing elements for a Conversion Program. These framing elements are described in greater detail in the remainder of this section and include:

- Core Value
- Program Constraints
- Base Assumptions
- High Level Risks
- Consumer Financing Strategies

### 4.2.1 Core Value

The IGU Conversion Program will be developed to ensure safe installation to as many residences and businesses as possible.

### 4.2.2 Program Constraints

This Plan was developed based on the current understanding of the inherent constraints that will impact the Conversion Program. The program constraints were identified by the Conversion Team during work sessions conducted in 2015. These constraints will be revisited and revised, as appropriate, as the Conversion Program and its Plan area further developed. The constraints identified include:

- IGU scope of work and, by extension, the IGU Conversion Program limits of liability and control include the provision of distribution and service lines and service connections (i.e., responsibility of the utility stops at the meter).
- Homeowners and business owners (or third-party contractors) are responsible for the heating unit conversion scope.
- IGU Conversion Program seeks to fully *facilitate* the residential conversion process (i.e., as many as possible as fast as possible), but will not perform the heating unit conversion.
- Conversion Program focus will be constrained to *primary heaters/boilers* and water heaters, as opposed to all in-home/garage appliances.
- Seasonal constraints impact service line installation, which may drive timing of home service connections:
  - Service line installation window: Mid-May (thawed ground conditions) through October 1, and thought to be limited to 1,500 per year.
  - Boiler replacements will likely be limited to timing before October 31 (this could be a soft constraint). Boiler conversions are thought to be limited to 1,500 per year.
- Lender Constraints (yet to be identified, and is an action item).
- Logistics Constraints (yet to be identified, and is an action item).

### 4.2.3 Base Assumptions

Base assumptions were used guide development of the Conversion Program and recommendations. These base assumptions are periodically reviewed for continued applicability and will be modified, as appropriate, in subsequent drafts of the Conversion Program Plan. The base assumptions include:

- Natural gas will be the fuel provided by the IEP as the replacement for fuel oil or wood for residential home heating.
- Facilitation of the Plan is intended to result in a community solution, including service areas of IGU and FNG.
- Availability of gas and adequate gas storage are crucial to the Conversion Program, prior to the first customer conversion and connection.
- Service lines will not be installed before a natural gas supply is available to the Utility (IGU and FNG).
- The Utility will fund the first 100 feet of service line for all residential connections.

- To support timely connection to gas, service lines will be scheduled and installed by the Utility in advance of (during the same heating season), or at the same time as, individual in-home heating unit conversion.
- Service line installation is anticipated to be limited to 1,500 services per year and this is a limiting factor to annual connections.
- IGU will install meters to measure and record gas consumption rates.
- Construction is generally expected to be limited to summer months because of sub-freezing temperatures in winter in the Fairbanks area.
- Homeowners are less likely to convert primary heaters/boilers during the winter.
- Although not mutually exclusive, the IGU customer base consists roughly of the following demographics:
  - 1/3 of consumers who will self-pay for conversion.
  - 1/3 of residential heating units will require burner change-outs.
    - Current estimated cost of burner replacements is approximately $2,500.
  - 1/3 of consumers will take advantage of a loan solution, if attractive.
    - Current estimated cost per household for full change-out is $6,000 to $10,000.
  - There is also a segment of the population that does not have credit worthiness nor the funds necessary to pay for heating unit conversion. The percentage of the population represented by this segment is not currently known.
- The Utility is interested in supporting identification and participation in grant funding opportunities for conversions.
- The Utility is interested in supporting the development of a financial lending package with an on-bill repayment plan to support individual homeowner(s) in obtaining low interest loans to support higher conversion rate.
- Potential customers interested in loan program(s) are also interested in on-bill repayment option.
- IGU wants to negotiate attractive loan interest rate(s) and terms with lender(s).
- Backstop option: To obtain an acceptable interest rate, a loan guarantee or backstop is needed. This can be provided as a loan to IGU by FNSB or through IGU funding/revenue sources. Repayment of the backstop would be by rate payers through a small rate component.
- Backstop option: Regarding a backstop or financing strategy, AIDEA would take the risk; IGU will not backstop the consumer (i.e., the consumer debt would not be IGU debt).
- Any loan program identified or defined by IGU will focus on homeowners, landlords, and property owners, as opposed to renters. Providing support for renters may be evaluated separately or through Volunteers in Service to America (VISTA) program participation.

- Current PACE legislation, if enacted and program(s) established, will support commercial heating system conversion and not residential.
- For planning purposes, the date of availability of adequate storage and gas is assumed to be June 30, 2017.

### 4.2.4 High Level Risks

The primary high level risks identified by the Conversion Team are:

- *Undefined timeline for gas availability*: AIDEA has responsibility for identifying the source of gas and for providing a timeline for development and availability. This is not expected to be known until February 2016, at the earliest. Until AIDEA provides a definitive date, the base assumptions listed above will serve as the basis for planning.
- *Undefined timeline for storage capacity and availability*: The provision of storage is not in the Conversion Program scope. Therefore, until such time when a definitive date and strategy for providing storage to the IGU (and FNG) service area is known, the base assumptions above will serve as the basis for planning.
- *Price of oil stays low (reduced cost of energy savings)*: The differential between the price of fuel oil/wood and natural gas may be too small for homeowners to justify the upfront cost of conversion. The result would be delayed connections to the Utility and slow financial returns.

  Mitigation plans include:
  - Promoting conversion through development of lending programs in cooperation with lending institutions.
  - Updating the conversion forecasting model with current fuel pricing scenarios.
  - Advancing the dialogue of benefits, especially for air quality reduction efforts.
- *Limited availability of labor:* It is anticipated that in order to complete the number of conversions (1,500 to 2,000 annually) there may not be enough contractors or workers to perform the work. Also, depending upon the timing of connection and conversion work, there may competition for trade labor from other IEP projects – including distribution build-out. A mitigation plan is needed.
- *Limited availability of inventory*: Managing the flow of materials being used to accommodate the high numbers of connections and conversion, may prove problematic. A mitigation plan is needed.
- *Limited availability of equipment*: Managing the flow of equipment needed to accommodate the high numbers of connections and conversion may prove problematic. A mitigation plan is needed.
- *Inspections/inspectors process*: Prior to connecting a residence to the utility system, the in-home mechanical work will require an inspection to confirm compliance with applicable codes and safety standards. Currently, there are limited resources available in the FNSB area to provide these inspections. A process needs to be developed to determine certification or acceptance of in-home installations.

- *Cost of conversion is too high*: If the upfront cost of in-home heating unit conversion is too high, consumers may be less likely to make the change.

  Strategies for mitigating the effect of high costs on conversion choice include:

  - Promoting Alaska Housing Finance Corporation's (AHFC's) Home Energy Rebate Program, which provides grants to homeowners for eligible energy efficiency upgrades, including boilers/heaters.
  - Facilitating a consumer loan program for utility customers.
  - Working with vendors and contractors to keep pricing low by utilizing economies of scale.

- *Financial Backstop*: If a loan program is implemented, a certain level of defaults can be expected. To ensure as low an interest rate as possible, a loan guarantee (i.e., backstop) may be necessary. This could be held by IGU or the FNSB.

  FNSB may provide backstop funding in the form of a line of credit to IGU; the value of the backstop is estimated to be $500,000. Repayment of the backstop would be made by utility rate payers, as opposed to borough tax payers.

- *Too much success*: This would result if more people signed up for conversion and connections than could be accommodated during a given year. A mitigation plan is needed.

- *Statewide budget shortages*: The current economic conditions in Alaska present uncertainty relative to future funding availability.

- *Erosion of public opinion and confidence*: Sensitivity to providing inconsistent or frequently changing messages to the community regarding the timing of gas availability and IEP as a whole.

### 4.2.5 Consumer Financing Strategies

Based on work performed during and before 2014, the consensus among members of the Conversion Team is that, in order to maximize the number of natural gas connections, IGU would need to support and potentially facilitate financing options, including the potential for grant funding, for residential conversions. The goal of the Conversion Team is to develop a strategy and present it to the IGU Board for consideration.

The Conversion Team discussed the details relative to a loan program and on-bill financing options in the context of what role IGU would play in executing those features. To support better understanding of the financing options, representatives from Alaska USA Federal Credit Union participated in the discussions. The team focused on the differences between a commercial lending solution and consumer lending solution. Both solutions included the provision of on-bill repayment.

Following the discussions, the Conversion Team concluded that the extent of the unknowns was too great for the Conversion Team to productively continue. It was recommended that a Request for Information (RFI) from lending institutions be prepared on behalf of, and as approved by, the IGU Board.

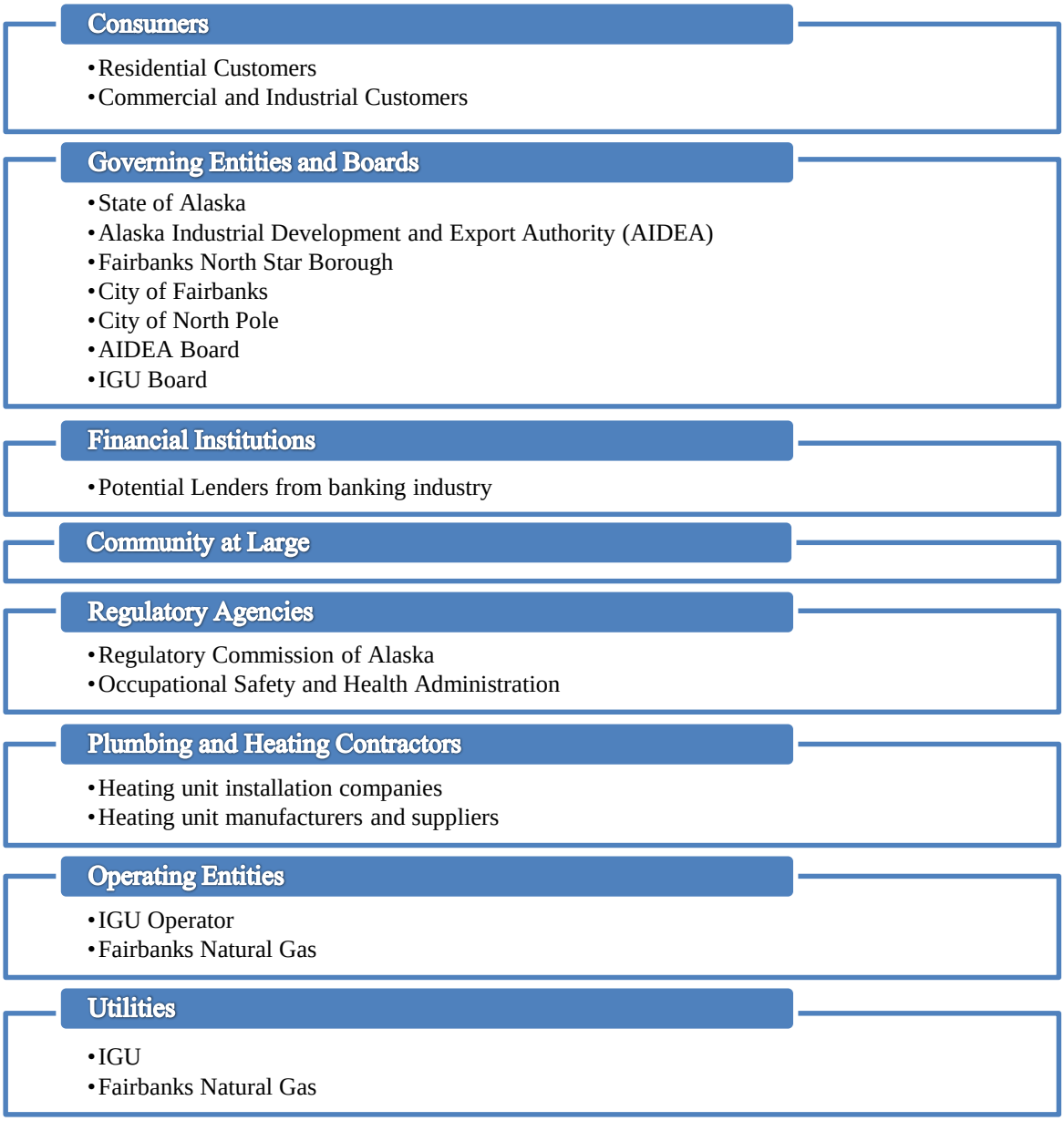
In general, the RFI would apply to following types of information from lenders:

- Interest and experience in providing lending programs (commercial and consumer) to support residential (energy) improvements and on-bill repayment options.
- Creditworthiness requirements:
  - Utility (commercial)
  - Individual (consumer)
- Ability and costs to administer and support on-bill repayment program:
  - Commercial (low involvement)
  - Consumer (high involvement)
- Interest rate calculation process(s) with and without loan guarantee or backstop:
  - Commercial
  - Individual
- Suggested repayment terms/duration:
  - Commercial
  - Individual
- Sample agreements (with terms) and loan application forms.

# 5 PROGRAM STAKEHOLDERS

The Conversion Program has many stakeholders, entities, or individuals who have a vested interest or role in the program. Consistent and timely communication and coordination are essential for project planning and execution success. **Figure 5-1** depicts the Conversion Program stakeholders.

**Figure 5-1 Conversion Program Stakeholders**




Key:
IGU – Interior Gas Utility

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# 6 CUSTOMER FUNDING OF CONVERSION

This section introduces the available funding mechanisms, or those that may be considered, for residential conversion. Through interviews of homeowners in North Pole, Agnew::Beck reported that cost is the number one factor in the decision of conversion. This includes costs associated with installation and operation (Agnew::Beck, 2014). For conversion planning purposes, it is estimated that approximately one-third of the residential customers will self-finance the cost of heating unit conversion. For those who cannot afford to self-finance, and who can qualify, low interest loan programs are appealing. Those who could not self-finance or qualify for a loan program would likely delay or forgo conversion. Additional work is needed to determine the demographics and better define the proportions of customers who would take advantage of a loan program or delay due to financial restrictions.

For planning purposes, an estimated range in number of customers by funding mechanism is needed to quantify the potential demand for funding support. This range is developed by applying the demographic stated above to the projected number of conversions by year, for Year 1 through Year 6, from Figure 2-1 and Figure 2-2 (high and low fuel oil price scenarios, respectively). The resulting ranges are presented in **Table 6-1**. Table 6-1 also introduces the impact of an installation limitation of 1500 services and conversions per season.

**Table 6-1 Range of Projected Conversion by Funding Source**

| Year | Total Conversion (Figure 2-2) | Total Conversion (Figure 2-1) | Total Conversion Range w/ 1,500 limit | Self-Finance (1/3 of Total w/ 1,500 limit) | Borrow or Delay Conversion |
|---|---|---|---|---|---|
| **1** | 311 | 800 | 311-800 | 104-267 | 208-533 |
| **2** | 690 | 2,640 | 690-1500 | 230-500 | 460-1000 |
| **3** | 1,328 | 2,566 | 1328-1500 | 443-500 | 886-1000 |
| **4** | 893 | 1,224 | 893-1500 | 298-500 | 596-1000 |
| **5** | 1,039 | 570 | 1039-1500 | 346-500 | 692-1000 |
| **6** | 957 | 358 | 957-1500 | 319-453 | 638-1000 |
| **Total** | **5,218** | **8,158** | **5,218-8,158** | **1,740-2,720** | **3480-5440** |

Because the price of fuel oil at the time of gas availability is unknown, the Conversion Program will utilize the ranges above for program development and planning purposes. Based upon the analysis conducted to date, it seems reasonable to assume that, at the time of gas availability, conversion rates will fall within these ranges. Therefore, the following can be said regarding IGU Phases 1 through 3 and FNG service territory for Years 1 through 6 after gas availability:

- Approximately 1,740 to 2,720 customers are expected to fund in-home heating unit conversion by self-financing or borrowing.
- Approximately 3,480 to 5,440 potential customers will not be able to afford self-funding and will either defer conversion or seek support through financing or grant programs.

It is assumed that those who can afford to pay for conversion will do so when convenient and/or cost-effective. It is also assumed that an IGU-facilitated loan program will provide little incentive to make the decision. Similarly, for those who cannot attain creditworthiness or otherwise meet loan requirements, as defined by the utility, an IGU-facilitated loan program may be of little incentive. Therefore, a financing program supported by IGU can expect to meet the needs of the remaining potential customers who choose to convert their in-home heating unit.

# 7 IGU CONVERSION PROGRAM PLAN

The information described in Section 1.1 through Section 6.0 provide the framework and basis for developing this Plan. This section comprises the Plan and includes: management philosophy, organizational structure, potential financial support mechanisms, and implementation guidance to facilitate a successful Conversion Program.

The Conversion Program scope of work is based upon the guidance provided by the Conversion Team (Section 4.1). This Plan was prepared with focus on creating an environment that makes the decision to convert heating units and connection to the distribution system easy for consumers, while minimizing risk to the Utility.

This section describes the actions and activities recommended for Conversion Program implementation. **Appendix C** depicts the Conversion Program framework and serves as the organizational basis for the Conversion Program and Plan.

For the Conversion Program to be successful, the Utility must have operational systems in place to support the facilitated approach recommended in this Plan. System needs, such as on-bill loan repayment, are identified here; however, implementation is expected to be through cooperation with the combined system operating entity. It is assumed that by combining IGU and FNG, the operational systems can be modified, as needed, to meet the needs of the Conversion Program across the entire service area.

## 7.1 Program Management

The Conversion Program is an element of the Utility; as such, the Utility management philosophy guides the Conversion Program development and provides the basis for implementation. As part of the overall utility, the Conversion Program is led by the IGU General Manager (GM). For successful implementation, the Conversion Program is integrated within the operational structure of the combined utility. Policies, procedures, and practices in place or under development include consideration of the Conversion Program and its implementation plan.

The Conversion Program is managed by the Program Manager (PM) as directed by the GM. The PM, through the Conversion Program Lead (CPL), is responsible for day-to-day development and execution of the Plan. The CPL, as directed by the PM, is also responsible for coordination with other discipline leads to ensure a comprehensive plan that integrates with other Utility development and operational plans.

In addition to the GM, PM, and CPL, there are several other key roles that are pivotal to the successful integration and execution of the Plan. Those roles, along with the high-level actions, are identified in the Responsible, Approve, Consult, and Inform (RACI) chart presented in **Table 7-1**.

## Table 7-1 IGU Conversion Program RACI Chart

| Activities, Roles, and Accountabilities | FNSB | AIDEA/ AIDEA Board | IGU Board | IGU/Utility General Manager | Program Manager | IGU/ Utility Conversion Lead | IGU/ Utility Operations Lead | IGU/ Utility Financial Lead | IGU/ Utility Communications Lead | IGU/ Utility Legal Liaison | Steering Committee | VISTA Volunteer |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conversion Program Plan | | I | I | A | A | R | C | C | C | C | C | I |
| Operational Plan | | I | I | A | A | C | R | C | I | C | I | I |
| Risk Management Plan | | I | I | A | C | R | C | C | C | C | C | I |
| Financial and Commercial Plan | | I | A | A | A | C | C | R | I | I | | I |
| Grant Application | R | | I | A | A | C | C | C | I | | | I |
| Grant Administration | I | | I | A | A | C | R | C | I | I | | I |
| Public Outreach and Communication Plan | | I | I | A | A | C | C | C | R | | | I |
| Income Restricted Program | | I | I | A | A | C | I | I | I | I | I | R |
| Customer Service Plan | | I | I | A | A | C | R | I | C | I | | I |
| Installations Support Plan | | I | I | A | A | C | R | I | I | I | C | I |
| Quality Control Plan | | I | I | A | A | C | R | I | C | I | | I |

Key:
A – Approve
AIDEA – Alaska Industrial Development and Export Authority
C – Consult
FNSB – Fairbanks North Star Borough
I – Inform
IGU – Interior Gas Utility
Utility – Operator of combined utility (IGU and Fairbanks Natural Gas)
R – Responsible
RACI – Responsible, Approve, Consult, Inform
VISTA – Volunteers in Service to America

The roles identified in Table 7-1 are limited to those roles with responsibility for the Utility deliverables, and are not intended to include all stakeholders. Aside from the Steering Committee and VISTA representative, who are volunteers, the roles identified in Table 7-1 are employed or board positions dedicated to the development and execution of the IEP. Note that not all roles have responsibilities for all actions and that this RACI chart will be updated with more detail as the Conversion Program develops.

## 7.2 Financial Plan

The Conversion Program financial plan will focus on the definition and costs of those elements specific to the Conversion Program as a component of the Utility financial plan.

Much work has been done by IGU and AIDEA to determine that consumers would likely convert their heating units sooner if a financing program with low interest loans and on-bill repayment terms were available. The default rate for this type of program has been estimated to be approximately 1 to 1.5 percent (Cardno, 2014). To obtain a low interest rate, the program is seeking to provide a loan guarantee or backstop against defaults. Doing so would provide lenders with a greater assurance of payment, because the default risk would be borne by others.

As previously noted, the details of such a lending program are not yet known and would require focused coordination between lending institutions and the Utility. Two primary financing options are being considered: Option 1 – Utility as Borrow/Lender and Option 2 – Consumer as Borrower. These financing options are described below and shown on **Figure 7-1** and **Figure 7-2**, respectively.

### 7.2.1 Option 1 – Utility as Borrower/Lender

Option 1 is the situation where the Utility is the loan administrator, utilizing funds provided by a lender against a line of credit (Figure 7-1). For this Option, applications are made by homeowners to the Utility. Loans are approved based upon credit worthiness criteria defined by Utility and the conversion cost estimate prepared by an accepted Contractor.

Following proof of acceptable completion of the work and final cost, the Utility would issue payment to the Contractor. The customer may opt to participate in the on-bill repayment plan. Should there be defaults in this situation; the backstop funding would be available to the Utility in order to make payment to the lender on the line of credit. Collection of defaulted funds is the responsibility of the Utility. Any program of this nature would need to be developed such that compliance requirements of the Consumer Financial Protection Bureau are not applicable. This may require on-bill financing to be structured as a tariff charge subject to existing utility bill collection procedures and not consumer lending procedures.

The high-level operational activities, roles, and responsibilities associated with development of the financing program for Option 1, where the Utility is the loan administrator, are provided in **Table 7-2.**

**Figure 7-1 Option 1 – Utility as Borrower/Lender**

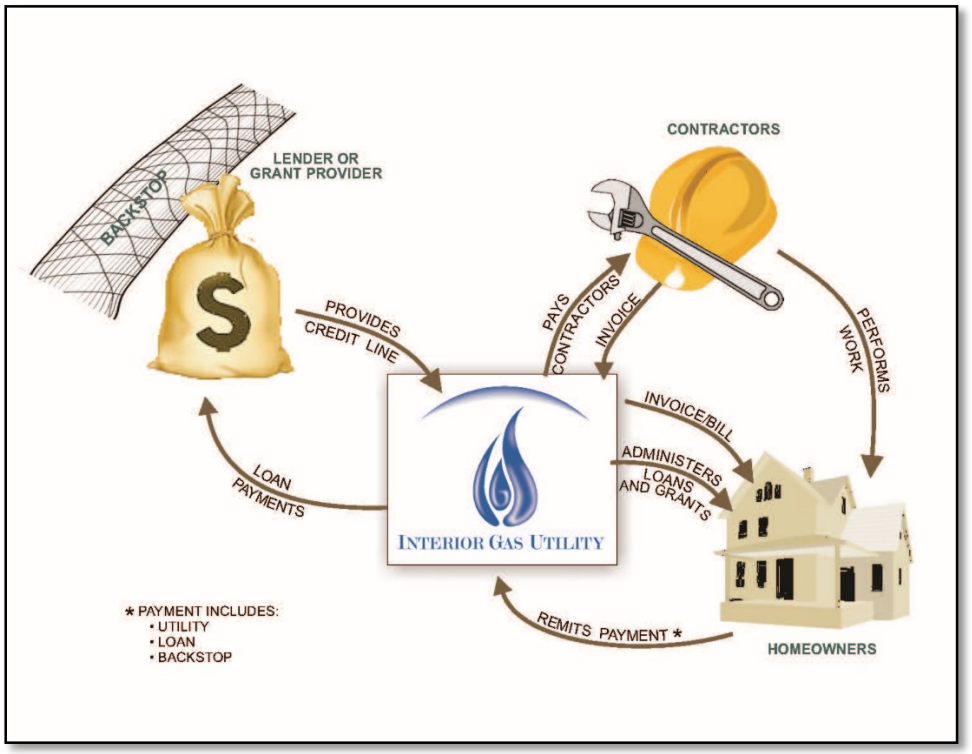



**Figure 7-2 Option 2 – Consumer as Borrower**

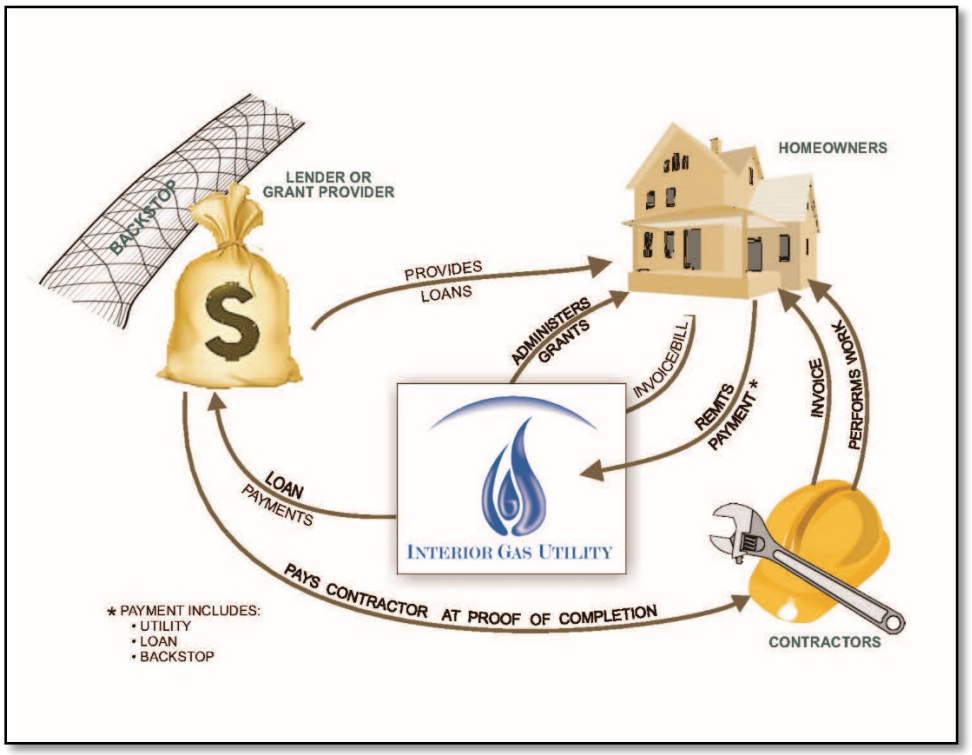


**Table 7-2 Option 1: Activities, Roles, and Responsibilities**

| Activity No. | Activity Description | Utility | Lender(s) | Backstop Provider |
|---|---|---|---|---|
| 1 | Define financing program. | • | | |
| 2 | Negotiate terms of backstop, including repayment provision. | • | | • |
| 3 | Execute terms of backstop as appropriate. | • | | • |
| 4 | Develop requirements and conduct lender selection process. | • | | |
| 5 | Negotiate terms of line of credit. | • | • | |
| 6 | Execute terms of line of credit. | • | • | |
| 7 | Determine terms of consumer loans. | • | | |
| 8 | Determine customer creditworthiness requirements for financing. | • | | |
| 9 | Develop application and processing processes. | • | | |
| 10 | Develop and implement on-bill repayment system, including backstop repayment. | • | | |
| 11 | Develop and implement line of credit payment reconciliation system. | | • | |
| 12 | Develop payment reconciliation process. | • | • | |
| 13 | Develop contractor approval for payment procedure. | • | | |
| 14 | Develop and implement response to default policy and procedure. | • | | |
| 15 | Develop and implement contractor payment systems and procedures. | • | | |
| 16 | Develop loan default collection policy. | • | | |

Key:
Utility – Operator of combined utility (Interior Gas Utility and Fairbanks Natural Gas)

### 7.2.2 Option 2 – Consumer as Borrower

In Option 2, the lender is the loan administrator providing individual consumer loans to homeowners (Figure 7-2). This option is similar in nature to obtaining a car loan, with the exception of the backstop provision by the Utility to secure lower interest rates. In this action, the Utility is facilitating the issuance of low interest lows.

In Option 2, applications are made by homeowners to the Utility, as the loan guarantor and facilitator. Loans are approved based upon credit worthiness criteria defined by Utility. The value of each loan is determined by a conversion cost estimate prepared by an accepted Contractor. Upon approval, applications are forwarded to the lender in defined groups or tranches. Interest rates for each tranche is negotiated based upon the current established loan

rates. As a result, each group of loans would have the same interest rate, and interest rates could vary between tranches.

Following proof of acceptable completion of the work and final cost, the lender issues payment to the Contractor. As in Option 1, the customer may select to utilize the on-bill repayment plan to repay the loan. Should there be defaults in this situation, the backstop funding would be available to the Utility in order to make payment to the lender. Collection of defaulted funds is the responsibility of the Utility.

The high -level operational activities, roles, and responsibilities associated with development of the financing program for Option 2, where the Utility is the loan facilitator, are provided in **Table 7-3.**

**Table 7-3 Option 2: Activities, Roles, and Responsibilities**

| Activity No. | Activity Description | Utility | Lender(s) | Backstop Provider |
|---|---|---|---|---|
| 1 | Define financing program. | • | | |
| 2 | Negotiate terms of backstop, including repayment provision. | • | | • |
| 3 | Execute terms of backstop as appropriate. | • | | • |
| 4 | Develop requirements and conduct lender selection process. | • | | |
| 5 | Develop tranche schedule and attributes. | • | • | |
| 6 | Negotiate terms of loan tranches. | • | • | |
| 7 | Execute terms of tranches. | • | • | |
| 8 | Determine customer creditworthiness requirements for financing. | • | | |
| 9 | Develop application and processing processes. | • | | |
| 10 | Develop and implement on-bill repayment system, including backstop repayment. | • | | |
| 11 | Develop and implement loan payment reconciliation system. | | • | |
| 12 | Develop payment reconciliation process. | • | • | |
| 13 | Develop contractor approval for payment procedure. | | • | |
| 14 | Develop and implement response to default policy and procedure. | • | | |
| 15 | Develop and implement contractor payment systems and procedures. | | • | |

Key:
Utility – Operator of combined utility (Interior Gas Utility and Fairbanks Natural Gas)

Table 7-2 and Table 7-3 are similar, but there are differences in the level of effort by the Utility. Option 2 moves payment of contractors to the lender. Because this situation is similar to the lender consumer lending programs, lenders already have the systems in place to issue, track, and reconcile the accounts. Depending upon what entity is selected as the Operator for the Utility, the financial systems, as well as the on-bill repayment system features, may need to be developed or modified.

As can be seen, regardless of which option is selected, a significant effort is needed to define and develop the lending program. At this time, there is not enough known regarding the pros and cons of the two options to make a recommendation between them. The next step is to develop and conduct a RFI process to identify interested lenders, and to obtain information necessary to better define the program and the administrative needs. Then a cost estimate is needed to provide transparency to the resource needs and potential costs associated of each option.

### 7.2.3 Income Restricted

In addition to those who will self-finance the cost of conversion and those who will obtain financing, there is a third segment of the population; those who cannot afford to self-finance and cannot demonstrate creditworthiness to obtain financing. For the purposes of the Conversion Program, this segment is identified as being "income restricted" (IR).

Survey and study work to date has not focused on the needs or limitations of this segment of the customer population. To better understand the size and demographics of this group, IGU partnered with the University of Alaska Fairbanks to enlist the assistance of VISTA. The 3-year program was initiated in summer 2015 and will consist of three volunteers. Each VISTA volunteer will serve for 1 year of the 3-year program. The VISTA volunteers will work within IGU offices and are included in the Conversion Team.

The goal of the first VISTA volunteer, during the first year, is to identify the scope of the IR program and develop the IR Program Plan. This includes:

- Defining the term "IR."
- Collecting data from available sources.
- Working with and learning from other agencies which have energy efficiency programs that focus on the needs of lower income households.
- Identifying potential funding sources to assist the IR population with in-home conversion costs.
- Identifying application and funding source administrative and match requirements.
- Developing the IR Program Plan to document activities to date and for implementation by future VISTA volunteers.

The current draft of the IR Program Plan is included in this Plan as **Attachment 2.** The IR Program Plan will be updated and actions will be integrated in the overall Conversion Program Plan as the programs develop.

## 7.3 Operational Planning

Operational planning includes identifying and developing documents that define policies, procedures, and practices necessary to accomplish the program goals. Policies are governing guidance documents; procedures (or processes) are the means to obtain and document policy compliance; and practices are day-to-day activities that are consistent with meeting the policy intentions. The resulting documents would be integrated into the overall IGU Operational Plan and Policy and Procedures Manual.

Work conducted in 2014 resulted in the development of an *IGU Customer Participation Workflow* diagram (CSG, 2015), provided as **Appendix D**. The work flow diagram presents the type of activities that can be anticipated in the facilitated program desired by IGU. Utilizing the diagram as a basis for identifying operational needs, **Table 7-4** lists policies, procedures, and practices needed to establish program boundaries and define the methodology for meeting program objectives. This list is not exhaustive, but provides a high-level snapshot of the types of tasks associated with developing the facilitated program.

**Table 7-4 Conversion Program Operational Needs**

| No. | Description | Policy | Procedure(s) | Practice |
|---|---|---|---|---|
| 1 | Facilitated Conversion Program Approach | • | | |
| 2 | Customer Connection Requirements | • | | |
| 3 | Loan Guarantee and On-Bill Pay Policy | • | | |
| 4 | Residential Financing Support | • | | |
| 5 | Customer Information and Documentation Privacy | • | | |
| 6 | Protecting Customer Information | | • | |
| 7 | Technical and Safety Requirements | | • | |
| 8 | Safe Installation Verification Process | | • | |
| 9 | Residential Application Process | | • | |
| 10 | Commercial Application Process | | • | |
| 11 | Customer Connection Prioritization | | • | |
| 12 | Financing Program Development | | • | |
| 13 | Loan Program Participation | | • | |
| 14 | On-Bill Payment Plan | | • | |
| 15 | Contractor Qualification | | • | |
| 16 | Customer Service | | • | |
| 17 | Communication Strategy | | | • |
| 18 | Internal Reporting | | • | |
| 19 | Risk Assesment Review | | | • |

To maximize efficiencies, it is recommended that these guidance documents be developed utilizing gas utility (or other) standards, to the extent practical. Doing so would bring efficiencies to the development of the Conversion Program. The policies and procedures specifically

developed for the Conversion Program would be in conjunction with the management plans being developed or modified for use by the Utility. This coordinated effort will provide a means to minimize the duplicative effort associated with creation of new documents.

## 7.4 Risk Management Plan

Managing risk is an essential part of program management. Risk management is the process of assessing the potential impacts of unknowns on a program. The process begins with the Conversion Team brainstorming to identify potential risks to the project or program. A risk identification session serves as the initial session and foundation for development of mitigation strategies, as well as cost implication estimates.

Some risks to the Conversion Program are connected to some of the performance and delivery risks associated with the IEP and Utility. It is anticipated that consequential impact (risks) to the Conversion Program that may result from activities of the IEP or Utility (e.g., delay of gas availability) will be included in the respective risk management strategies developed for those elements. And that the resulting risk documentation for the IEP and Utility will be available to the Conversion Program.

The risk identification and management work described in this Plan focuses on risks that can be controlled by or mitigated directly through the Conversion Program.

Risk impacts every aspect of a program. Typical project categories and potential risks areas are shown on **Figure 7-3**.

Risk identification and management evolve as a program evolves. Risks identified early in the process may become better defined as the program is better defined, or risks may be eliminated as a result of mitigation through the program development phases.

Risks identified are captured in a risk register, which is a spreadsheet developed for the purpose of managing risk throughout a program. Risk statements are as specific as possible and include specific cause, risk, and effect on the program, followed by an impact.

For example:

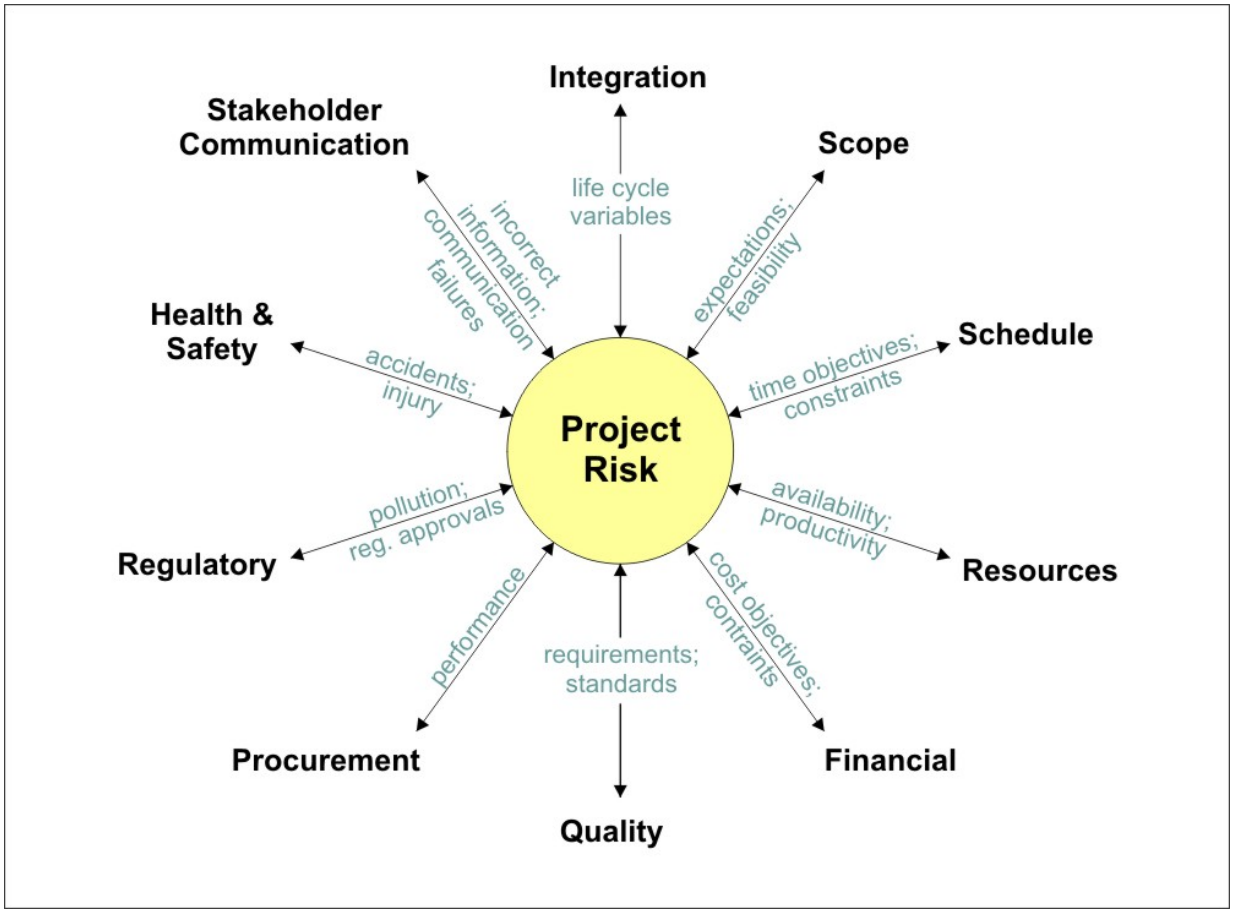
- Risk Statement: As a result of low fuel oil prices, initial conversion rates may be less than predicted.
- Impact: Slowed financial returns for the utility.

Specificity of each risk by the person who identified the risk is needed so that the Conversion Team is in alignment and agrees on risk definition and impact so that:

- Appropriate risk type can be identified.
- Appropriate response type and response plan can be determined.
- Probability of occurrence can be estimated.

- Impact type can be determined and costs estimated.
- Risk leading indicators can be identified.
- Action plan can be created.
- Individual risks can be monitored.

**Figure 7-3 Typical Project Risk Categories**




Not all risks have negative impacts to a program. There are some unknown circumstances that may benefit the Conversion Program. Consideration of potential beneficial circumstances in developing a management plan increases the probability of capitalizing on the benefits when they occur.

For example:

- Risk Statement: As a result of increased funding for energy efficiency projects by the federal government, funding is available to support those in lower income ranges for paying for in-home energy efficiency improvements, resulting in a higher rate of conversion.
- Impact: Increased financial returns for the utility.

As noted in Section 4.1, the Conversion Team participated in an initial risk identification workshop (September 22, 2015: Initial Risk Strategy Meeting). The results of the workshop are presented in a program risk register and included in this Plan as **Appendix E.**

As an integral element for achieving the highest degree of predictability and project success, risk management efforts, including identification, mitigation, and planning, is expected to: 1) continue for the duration of the Conversion Program, and 2) include coordination with and cooperation from those managing the risk associated with the IEP and Utility.

## 7.5 Conversion Program Schedule

A preliminary high-level schedule has been developed for the IGU Gas Distribution Project (GDP) (**Appendix F**). This overall schedule includes the tasks and actions associated with the Conversion Program, Task 11 of the GDP schedule. Review of the schedule provides the estimated timeline and visibility to the activities of the Conversion Program and how those activities are expected to relate to the overall GDP.

As of the data date, the GDP schedule only reflects the administrative work associated with the IGU program and does not address work associated with establishing the Utility or evaluation of FNG's assets, operation, and distribution programs.

In addition to the boundary conditions for the GDP schedule stated above, there are several primary assumptions associated with the development of the Conversion Program schedule, including:

- Natural gas will be available to IGU by June 30, 2017.
- The Conversion Program will consist of the following activities as defined in this Plan:
  - Developing program operational strategies.
  - Developing program policies, procedures, practices, etc.
  - Creating a financing option with on-bill repayment plan.
- There will be an operator, or similar, to facilitate development of the following:
  - Conversion Program scope of work.
  - Conversion Program implementation strategy.
  - Conversion Program financing strategy.
  - Conversion Program administration strategy.
  - Conversion Program customer service strategy.
- Resources will be committed to develop and execute the Conversion Program.

As the overall GDP continues to be developed, so will the Conversion Program and their development will be reflected in periodic schedule updates. These updates will provide greater detail and, as a result, the schedule will grow in complexity as the overall project grows.

## 7.6 Public Outreach and Communication Plan

Because the Conversion Program is customer centric, having a robust external public outreach and communication program is essential to program success. Development of the Conversion Program Public Outreach and Communication Plan (POCP) would be consistent with the methods and design standards identified the IGU Communication Plan used by IGU. As the precedent document, the IGU Communication Plan will provide the structure, format, boundaries, and guidance for the Conversion Program POCP, which will be developed to meet the specific objectives and goals of the Conversion Program.

The objectives of the public outreach and communication efforts for the Conversion Program include:

- Inform potential residential customers regarding the Conversion Program.
    - Conversion process.
    - Financing option(s).
    - How to participate.
- Direct the potential customers to the IGU website for details.
- Generate interest and participation in the Conversion Program.
- Promote the decision to convert heating units.

Externally facing communication elements may include: website posting, social media campaigns, mailers, and face-to-face functions – such as open house meetings. A campaign effort may include one or more media methods that convey a single message. It is anticipated that there will be two primary types of communication-related campaigns: 1) associated with a milestone of the Conversion Program; and 2) directly promote participation in the Conversion Program. Initiation of the second type of communication would likely coincide with the timing of gas availability.

Each communication campaign will be developed utilizing a work-plan approach, which would include:

- Campaign purpose, definition, or scope.
- Objective to be met.
- Associated budget.
- Identification of target audience and related demographics.
- Campaign execution schedule.
- Campaign success determination factor.

To determine campaign effectiveness and cost benefit, goals will be identified for each campaign effort. The goals will be measureable, realistic, time-bound, and will be tied to the overarching goals established for the Conversion Program.

There are benefits and efficiencies to be learned from others who have implemented a program similar to that proposed by IGU. To gain insight and avoid pitfalls, information regarding other natural gas Conversion Program communication efforts will be sought and utilized, as appropriate, to create the Conversion Program POCP.

## 7.7 Customer Service Plan

Considering the community-wide impact of the IEP, it is reasonable to assume that people are following the status and development of the project. In addition, it is likely they are talking about it with their friends and neighbors. Because of the high degree of potential impact to the individual customer, the Conversion Program can expect to experience a high degree of focused attention on program delivery success. Therefore, customer service is high on the priority list – perhaps more important than cost.

As noted in Section 7.6, the Conversion Program is customer centric. The decision whether or not to convert a heating unit, while financially based, is an individual one. To effectively meet the needs of IGU customers, the Conversion Program representatives must fully understand those needs. The primary goals, assumptions, and boundaries associated with the Conversion Program reflect the understanding of the customer needs with respect to pricing, financing options, and ease of participation. The Conversion Program is predicated upon input from the community, and to continue with this model, a detailed inclusive customer service plan is recommended.

Inclusive program-wide customer service is the means to promote and achieve customer satisfaction and overall Conversion Program success. This includes not only high quality service from those representing the utility, but also from contractors, distributors, inspectors, financiers, and other entities that may be involved in the conversion process.

Similar to the communication planning effort, customer service for the Conversion Program will need to be coordinated with the overall IGU Customer Service Plan, and not duplicate it. The attributes and focus areas of the Conversion Program Customer Service Plan (CSP) are expected to be the processes and activities associated with conversion facilitation that lead up to meter connection. Customer service needs associated with meter acceptance, service line installation and activation, and billing are expected to be elements of the CSP.

For the Conversion Program development period, customer service associated with the program will likely be limited to periodic updates, as per the POCP. As the Conversion Program develops and initiates, it is anticipated that customer service will transition to an active program that encourages customer engagement and responses to customer experiences.

Currently, fuel oil prices are low and the impetus for residential customers to invest in conversion is also low. When gas is available and the Conversion Program is implemented, customer satisfaction may be the key to whether or not there is increase in program participation.

Planners should consider the impact on the conversion rate if the statistics depicted on **Figure 7-4** and **Figure 7-5** were applied. The Conversion Program seeks to impact as many residential and commercial properties as possible within the service area. Any customer program experience will likely be shared with another potential customer. The success of IGU and the Conversion Program may hinge on those experiences so they must be positive.

**Figure 7-4 Customer Service Experience Sharing Statistics**


**Figure 7-5 It Takes 12**


Development of the CSP will be an evolutionary process and integral to the IGU/Utility customer service plan. It will likely include the following customer service attributes:

- Philosophy and Strategy
- Features and Benefits
- Customer Relationships

- Customer Feedback Response and Integration
- Customer Service Representatives:
  - Roles and Responsibilities
  - Empowerment
  - Training Needs
- Program Policies and Procedures
- Lessons Learned Practices

As with the communications planning effort, there are benefits and efficiencies that can be gained from learning from others and, to the extent practical, using existing applicable information. To gain insight and avoid pitfalls, information regarding other natural gas Conversion Program customer service efforts will be sought and utilized, as appropriate, to create the Conversion Program CSP.

## 7.8 Installations Support Plan

To distinguish between the criteria and goals associated with the homeowner's decision to convert and the work associated with installing the conversion related equipment and materials, the term installation is being used. Similar to the financing strategy, options regarding installation support provided by the Utility were discussed by the Conversion Team, but a clearly defined solution was not identified. To provide a successfully facilitated Conversion Program, the level of involvement of the Utility with the Contracting community to facilitate in-home equipment and material installation needs to be well defined. This element of the Conversion Program will be presented in an Installation Support Plan (ISP). The focus of the ISP will be to determine the extent to which the Utility will facilitate and support in-home installations, without taking on the inherent risks associated with construction on private property.

To provide context for installation support, the Conversion Program Team identified several approaches that may facilitate and streamline the in-home installation process including: Market Driven Approach, Block Approach, and Facilitated Approach. These approaches are described in the following paragraphs.

### 7.8.1 Market Driven Approach

The Market Driven Approach reflects application of typical business practices, where customers reach out to prospective contractors for quotes and then select a contractor of choice to complete the work. For each heating unit change-out and boiler installation, this is very much an individual and often unique process. As such, the typical demand is low, and does not require the bulk purchase of boilers or burners.

The high level activities and respective responsibilities associated with using a market driven approach to installations is illustrated in **Table 7-5**.

Although the risk to the Utility is minimal, the Conversion Program Team identified a high potential of delivery risk for the Conversion Program. Reliance upon the typical Market Driven

Approach may result in fewer than anticipated connections, as a result of inefficiencies and supply chain delays.

**Table 7-5 Market Driven Approach: Activities, Roles, and Responsibilities**

| Activity No. | Activity Description | Utility | Contractor | Homeowner |
|---|---|---|---|---|
| 0 | Service Line Installation | • | | • |
| 1 | Obtain quote(s) for services | | | • |
| 2 | Conduct initial walk-through and prepare estimate | | • | |
| 3 | Secure financing/funding | | | • |
| 4 | Select contractor | | | • |
| 5 | Enter agreement/Purchase Order | | • | • |
| 6 | Schedule work | | • | • |
| 7 | Purchase equipment and materials | | • | |
| 8 | Coordinate with Homeowners | | • | |
| 9 | Complete installation | | • | |
| 10 | Installation acceptance prior to hook-up | • | | |

Key:
Utility – Operator of combined utility (Interior Gas Utility and Fairbanks Natural Gas).

### 7.8.2 Block Approach

One unique element of this Conversion Program is that a significant and unprecedented demand for heating unit conversions is anticipated. Also, the Utility seeks as many connections as possible as quickly as possible. As a result, the Conversions Team identified the Block Approach as an option that may mitigate some of the issues associated with relying on the Market Driven Approach.

The Block Approach seeks to streamline the contracting process for individual consumers and installation contractors. Through the Block Approach, the Utility would subdivide the gas service area(s) into "blocks." Each block containing a similar number of residential properties located along a natural gas distribution main. In an order determined by the Utility, the blocks would be delineated and prioritized in anticipation of a competitive bid process, also conducted by the Utility. The purpose of the bid process is to achieve greater certainty regarding the costs associated with individual conversions.

The Utility would prepare Invitation to Bid (ITB) Documents for issuance to pre-qualified plumbing and heating contractors. Contractors would develop estimates for all of the homes within the block for submittal to the Utility. The Utility would conduct a selection process and notify contractors and affected homeowners of the results. Homeowners may opt out of the Block Approach and select a contractor of their choosing.

To minimize the time associated with obtaining boilers and associated piping materials, the Utility could order "standard" replacement boilers based upon initial estimates and then warehouse the equipment for use by selected contractors. Specific details are unknown at this time (e.g., specific models required, or necessary quantity to be purchased).The intent would be to help capitalize on the economy of scale pricing.

The high level activities and corresponding responsibilities associated with the Block Approach are presented in **Table 7-6**.

**Table 7-6 Block Approach: Activities, Roles, and Responsibilities**

| Activity No. | Activity Description | Utility | Contractor | Homeowner |
|---|---|---|---|---|
| 1 | Define block areas. | • | | |
| 2 | Prepare preliminary estimates for all blocks (in order of priority). | • | | |
| 3 | Establish communication strategy. | • | • | |
| 4 | Establish homeowner participation process. | | | |
| 5 | Prepare ITB documents, including cost estimate and estimate of quantities. | | • | |
| 6 | Prepare equipment procurement documents. | • | | |
| 7 | Develop response to ITB. | | • | |
| 8 | Procure ancillary piping, equipment, and materials. | | • | |
| 9 | Select Block Contractor. | • | | |
| 10 | Execute agreements. | • | • | |
| 11 | Notify homeowners. | • | | |
| 12 | Coordinate with homeowners. | | • | • |
| 13 | Homeowner agreements. | | • | • |
| 14 | Installation schedule. | | • | |
| 15 | Homeowner coordination. | | • | |
| 16 | Installation acceptance. | • | | |

Key:
ITB – Invitation to Bid
Utility – Operator of combined utility (Interior Gas Utility and Fairbanks Natural Gas).

The Block Approach seeks to address several of the supply chain-related risks identified by the Conversion Team for the Market Driven Approach, but doing so would increase risk to the Utility. For example: Pre-purchasing boilers may increase supply chain efficiencies, but would move supply risk from the installation contractors to the Utility.

It is assumed that homeowners would opt for the Block Approach-type of program and that inclusion would require a form of indemnification of IGU to mitigate risk. Otherwise, it appears

that the Utility would take responsibility for in-home installations, which is outside of the acceptable risk profile. This is because the Utility does not have ownership of, or is otherwise in control of, the properties within the blocks. Although complicated, the Block Approach may be suitable if: 1) appropriate indemnifications were in place, or 2) the Utility were funding the installations and providing in-home heating unit conversion as a service.

### 7.8.3 Facilitated Approach

As a result of the risks associated with the Market Driven and Block Approaches, it was determined that the Utility would continue to define the strategy for providing a facilitated approach to support installations. This is the strategy that will be presented in the ISP. Elements of the approach would likely include a coordinated effort between the Utility, installation contractors, and lending institutions on behalf of the consumer. Provisions may include the creation of a Utility-qualified Contractor program to build consumer confidence, promote participation, and facilitate Conversion Program execution efficiencies. Some of the incentives of the program may include:

- Priority scheduling to those customers using a Utility-qualifying installation Contractor.
- Identification of specific models of boilers and burners, with faster delivery times.
- Integration with financing package.
- Implementation consistency
- Inclusion in quality assurance program.

The Facilitated Approach would integrate with other elements of the Conversion Program, such as the financing strategy, operations, and risk management. By looking at the installations as an extension of the supply-gas-to customer system, the Utility would be better positioned to develop a holistic solution. The ISP will detail development and execution needs of this approach, and would include responses to supply chain related issues.

## 7.9 Resource Needs

To fully define the Conversion Program and further develop the Plan, a commitment to resources, including the identification of the Operator, is needed from IGU. At this stage in the development of the IEP and Utility, it is difficult to accurately estimate the timing and level of resource needs. Nonetheless, to advance the Conversion Program some assumptions can be made and priorities established to promote planning efficiency.

For the purpose of advancing the Conversion Program as presented in this Plan, an initial level of effort estimate is presented in **Table 7-7**. This table was developed using Table 7-1, which presented the activities, roles, and responsibilities associated with development of the Conversion Program, its Plan, and subordinate plans. Entries represent a portion of one full time equivalent (FTE) consisting of 2080 work hours annually, unless noted with an "I" – which represents an incidental effort (i.e., less than FTE). The estimate provides a level of effort expected for the identified tasks. At this time it is not tied to a schedule. Therefore should not be construed as an annual labor protection.

## Table 7-7 Conversion Program Resource Estimate

| Activities and Resource Needs | AIDEA/ AIDEA Board | IGU Board | IGU/Utility General Manager | Program Manager | IGU/Utility Conversion Lead | IGU/Utility Operations Lead | IGU/Utility Financial Lead | IGU/Utility Communications Lead | IGU/Utility Legal Liaison | IGU Total | VISTA Volunteer[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conversion Program Plan | I | I | I | 0.2 | 0.30 | 0.10 | I | I | I | **0.60** | I |
| Operational Plan | | I | I | I | 0.10 | 0.20 | I | I | I | **0.30** | I |
| Risk Management Plan | | I | I | I | 0.05 | I | I | I | I | **0.05** | I |
| Financial and Commercial Plan | | I | I | I | 0.10 | 0.10 | 0.10 | I | 0.05 | **0.35** | I |
| Admin. Grant | | I | I | I | 0.10 | 0.20 | 0.05 | I | I | **0.35** | 1 |
| Public Outreach and Communication Plan | | I | I | I | I | 0.10 | I | 0.10 | | **0.20** | I |
| Income Restricted Program | | I | I | I | 0.05 | 0.10 | 0.05 | I | I | **0.20** | 0.8 |
| Customer Service Plan | | I | I | I | 0.10 | 0.10 | I | 0.05 | | **0.25** | 0.05 |
| Installations Support Plan | | I | I | I | 0.15 | 0.10 | I | I | I | **0.25** | 0.05 |
| Quality Control Plan | | I | I | I | 0.05 | 0.05 | I | I | | **0.10** | 0.10 |
| **Total** | **I** | **I** | **I** | **0.20** | **1.00** | **1.05** | **0.20** | **0.15** | **0.05** | **2.65** | **1.0** |

Key:
1 – As agreed by IGU and University of Alaska Fairbanks as cooperating entities.
AIDEA – Alaska Industrial Development and Export Authority
I – Incidental effort, less than full time.
IGU – Interior Gas Utility
Utility – Operator of combined utility (IGU and Fairbanks Natural Gas).
VISTA – Volunteers in Service to America

*Note*: Individuals in roles identified may delegate to others in supporting roles, and not identified here.

It is expected that the Operator will have a key role in the development and execution of the conversion program elements. For those positions with primarily incidental involvement, an estimate for the total overall effort is provided. The resource needs identified and the corresponding levels of effort are anticipated to further define the Conversion Program.

Assuming gas availability to support 2018-2019 heating season, the following tasks, from the IGU GDP schedule, are program priorities:

- Define the financing program parameters.
- Evaluate strategies to support conversion of heating units in rental properties.
- Continue to develop the plan for an IR population.
- Develop logistics strategy.
- Define incentive strategies.
- Develop operating strategy.
- Define customer service needs.
- Define technical standards.
- Determine communication strategy.
- Determine service area strategy for conversions.

The deliverable for this next work effort is the continuation or next iteration of this Plan. The tasks for this would include further development of the following:

- Scope of Work:
  - Program Management
  - Consumer Financing Program
  - Operational Plan
  - Risk Management
  - Public Outreach and Communication Plan
  - Customer Service Plan
  - Installations Support Plan
- Resource Needs
- Schedule
- Estimated Costs

The duration of the proposed follow-on effort and the respective execution strategy is yet to be determined, because it is integral and dependent upon the continued development of the IEP and Utility. At this time, it is anticipated that a detailed scope of work and schedule for the continued development of the Conversion Program and subsequent Plan revision would be developed during 2016.

Should the overall IEP schedule be further delayed, it can be assumed that elements of the Conversion Program can similarly be delayed. With each advancement or change within the IEP

and Utility, evaluation of the impact to the Conversion Program is required as part of the risk management strategy.

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# 8 SUMMARY AND RECOMMENDATIONS

This Plan defines the tactical approach and recommendations to implement the IEP Conversion Program. The Conversion Program will focus on residential participants, including homeowners and renters. The number and rate of customer conversion is key to the success of the IEP. Therefore, key elements of the Plan address methods of facilitating the Conversion Program in an effective and efficient manner, while mitigating adverse risk.

## 8.1 IGU Conversion Program

IGU desires to provide a facilitated Conversion Program that allows the consumer to depend upon IGU for the following types of activities:

- Negotiating low interest loans or grants for heating unit or burner replacements.
- Facilitating loan application process.
- Qualifying heating unit installation contractors.
- Facilitating the conversion contracting process.
- Providing on-bill loan repayment option for loans.
- Resolving supply chain logistical issues.
- Streamlining conversion and connection processes.
- Providing a "one call" process for conversion and connection.
- Pay for the first 100 feet of service line and meter.
- Focused communication campaign and strategy promoting natural gas as a fuel source and Conversion Program messaging.

By providing this level of customer service, IGU seeks to positively impact consumers' decisions to convert in the early years of the Conversion Program. It is anticipated that this level of involvement and facilitated support will have a limited duration. The IGU facilitated program may be terminated after the program goals are met, sometime between Years 6 and 10. This limited offering may also incentivize consumers to convert earlier than they might otherwise.

Current business planning efforts for IGU determined that, with the distribution mains installed during 2014 and 2015 in the areas of IGU and FNG, a total customer base of 5,614 could be initially supported by the Utility. Installation rates are forecasted to be 1,500 per season (IGU, 2016).

The conversion program is driven by the preferences and needs of the community. Surveys and pilot studies conducted early in the IEP planning process form the basis for conversion program development. Results indicate that consumers are highly sensitive to the costs associated with conversion of in-home heating units. This sensitivity is not expected to vary significantly over time. However, as time goes by, heating units will continue to age and people may move from current residences.

Study and data gathering work to date has primarily been done during times of high oil prices, and to support rapid IEP development resulting in delivering gas to Interior Alaska to support the 2015-2016 heating season. This included the entire IGU and FNG service areas. Due to economic factors, development of the IEP program has slowed such that gas delivery is anticipated to support the 2017-2018 heating season.

With current economic conditions, the cost differential between fuel oil (diesel) and natural gas at $15 per mcf is low. At this time, with fuel oil prices in the $2 per gallon range, IGU is targeting to provide natural gas at a 10% price differential (IGU, 2016). This is down from the 50% differential anticipated when fuel oil prices were in the $4 per gallon range.

## 8.2 Recommendations

Conversion centric planning documents integrated with Utility-wide operational plans are recommended to:

- Develop Conversion Program elements timely and in cooperation with execution of other Utility actions.
- Support possible consumer financing mechanisms.
- Continue community involvement (e.g., Conversion Team).
- Manage risk.
- Inform and encourage customers to convert.
- Ensure consumer satisfaction through excellent customer service.

Effective program management will support high quality service from IGU, as well as responsible contractors, financial institutions, inspectors, and other entities that may be involved in the conversion process. Timing and execution of the conversion program is dependent on factors associated with the overall IEP, namely identification of Operator, availability of additional gas, and appropriate storage.

Recommendations include continuation of the development components of the Conversion Program and refinement of the respective operational needs. This includes:

- Continue work with community leaders through the Conversion Team.
- Develop a RFI for issuance to lending institutions seeking information relative to the establishment of an IGU-facilitated financing program.
- Coordinate the development of operational plans, policies, procedures, and practices with the operating entity.
- Continue the development of the program management strategy for the Conversion Program.
- Continue development of the Plan and associated plans.
- Continue evaluation of the needs of the IR and renters.

The Conversion Program, as defined by IGU, is robust, to meet the needs of IGU by promoting as many conversions as possible, and to meet the needs of the consumer by seeking to providing financing solutions to support help consumers afford the cost of conversion. To achieve the goals of IGU, resources are needed to continue with the development of the Plan.

If the supply of gas is further delayed, it is recommended that the Conversion Program schedule be re-evaluated and focus be given to those items that advance the organizational development of the Utility and those that can be accomplished to support and, ultimately, promote conversions. This includes identifying and developing funding sources and mechanisms, and recommending that when replacing aged boilers, residents purchase units that can easily be converted to burning natural gas.

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# 9 REFERENCES


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# APPENDIX A

*IGU Service Area*

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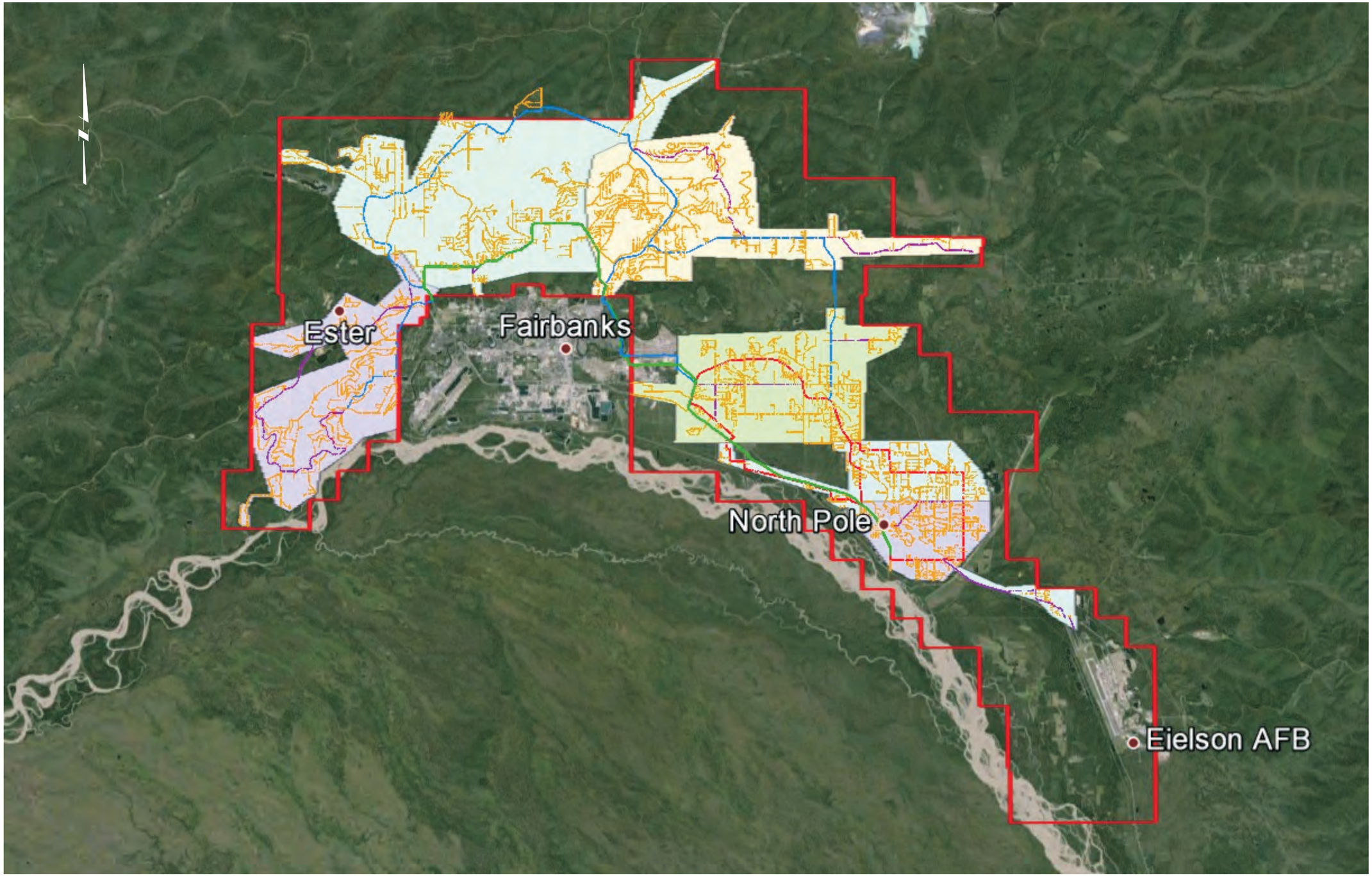


INTERIOR GAS UTILITY

IGU SERVICE AREA

APPENDIX
A
10507095.110101

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# APPENDIX B

*IGU Phases 1 to 6*

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INTERIOR GAS UTILITY

IGU PHASES 1 TO 6

APPENDIX B

10507095.110101

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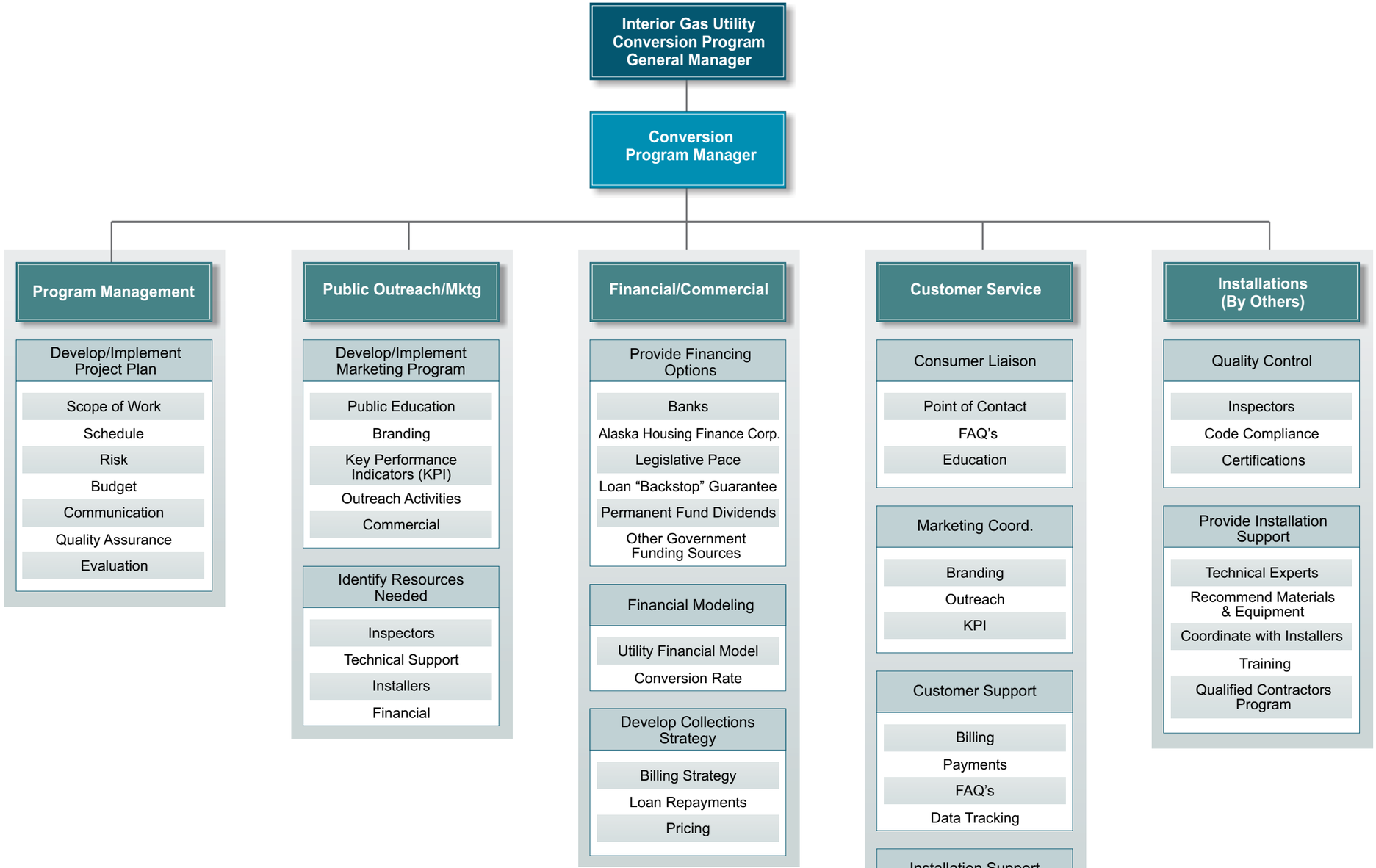
# APPENDIX C

*IGU Natural Gas Conversions Program*




**Current Assumptions:**

1. Gas pricing is pending supply by Others.
2. Gas Operator is providing support under contract with IGU.
3. Installers are independent certified mechanical contractors (CMC) hired directly by the homeowners.
4. Sufficient CMC are available to complete conversions as forecasted.
5. Some homeowners may elect to complete conversions on their own; a process will be required to define quality of installation and to limit liability to IGU.
6. Project risks will be identified and complied in project risk register.

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INTERIOR GAS UTILITY
NATURAL GAS CONVERSIONS PROGRAM

APPENDIX
C
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# APPENDIX D

*IGU Customer Participation Workflow*

# IGU Customer Participation Workflow

**Customer Solicitation, Eligibility Screening & Enrollment** | **Evaluation, Work Scope Development** | **Scheduling, Contracting, Conversions** | **Quality Assurance** | **Program & Financial Administration, Reporting**

***DRAFT 1/20/15***
***CSG CONFIDENTIAL***

**MARKETING** *Strategies360 & Implementer*

Consumer Marketing

**CONTACT CENTER** *Implementer*

Program & Financing Overview, Eligibility Screening, Schedule Customer Site Evaluation

CONTACTS CC

YES

Schedule Customers & Contractors for Conversions / "block scheduling"

CC Provides ongoing Customer Support, Collects Customer Feedback (+/-), Manages Complaints, Dispute Resolution Services

Perform Post-Installation Customer Satisfaction Surveys

**CUSTOMER**

Receives marketing

* Review Work Scope & Financing Options: Proceed Y/N?

NO

Customer End *future customer engagement*

Provide Feedback to Program on Customer Experience

Sign completion documents

**CONTRACTOR**

Submit qualifications & participation docs to Implementer

Implementer Coordinate Installation Schedule With Contractors & IGU

Conversion Scheduled

Gas Line to Home is installed

ONSITE QC - SAME DAY

Complete Conversion, Equipment Installation

Contractor Remediation ASAP

Submit Job Completion Documents

**FIELD SERVICES** *Implementer*

Verify Contractor Credentials, Enroll + Train Participating Contractors

Perform Site Evaluation, Develop Work Scope & Discuss Financing Options with Customer

Complete QC Field Inspection, review completion docs & equipment installed

FAIL

Re-inspection (Remain OnSite)

PASS

**IGU**

Run Gas Line To Home

Post-Installation Inspection, Hook up Meter

PASS

Turn on Gas to Home

**FINANCING $**

Contact Center discuss financing options w/ Customer

Contractor discuss financing options w/ Customer

Customer chooses financing option

Customer financing approved

*funds allocated upon job completion*

Customer financing / funds allocated

**ADMIN, REPORTING** *Implementer*

Submit Customer Financing application for approval

QC Final Admin Review Job Completion Docs & Financing Forms

Record Job Completion Data

**Reporting**

* **customer review of work scope & financing options, decision to proceed may take 1-30 days**

QC Administrative Review will be performed on 100% of applications and jobs submitted for processing

# APPENDIX E

*Program Risk Register*

# Project Risk Register

## *RISK REGISTER*

**Project Name:** IGU Conversions Program
**PM Name** David Prusak
**File path:**

**Date Prepared:** Conceptual
**Dates Updated:** 9/22/2015

| ID # | Date Identified | Risk Author | Risk Statement (Cause, Risk, Effect) | Impact | Project Lifecycle Phase | Risk Type | Status | Response Type | Response Plan | Indicators | Action Date | Action Description | Active Date | Duration of Risk (Workdays) | Data Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 | *22 Jul 2015* | Team | As a result of low oil prices, initial conversion rates may be less than predicted. | Slowed financial returns for the utility. | Conceptual | Financial | Identified | | | | | | | | |
| 1.1 | *22 Jul 2015* | Team | As a result of successful conversions program, initial conversion rates may be higher than predicted, resulting in a demand that cannot logistically be met. | Slowed connections and financial returns for the utility. | Conceptual | Logistical | Identified | | | | | | | | |
| 1.2 | *22 Jul 2015* | Team | As a result of the cost of conversions, some homeowners may not be able to afford the cost. resulting in lower conversion rates and slowed financial returns. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | Financial | Identified | | | | | | | | |
| | *22 Sep 2015* | Jim | As a result of high demand for conversions during a limited construction season, Contractor and worker availability may be limited. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | Avoid/mitigate/enhance/ exploit | | | | | | | |
| | *22 Sep 2015* | Jim | As a result of uncertainty of the state economy in Alaska, project funding is at risk and progress may be slowed. | Project delays and slowed conenctions that could ultimately result in higher prices for gas and conversions. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | Jim | As a aresult of the remaining unanswered what questions- when? how? how much? Consumer decisions are difficult to pin down. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | Jim | As a reusit of the fluctuating price of fuel oil, which was recently $2.23 for #1 and really cheap right now, Homeowners may delay or not do conversions. | Lower conversion and connection rates and lower financial returns than expected. | | | | | | | | | | | |
| | *22 Sep 2015* | Dave P. | As a result of limited availability of skilled labor force, Contractors may not be able to meet the demand for service line connections, or conversions. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | Dave P. | As a result of the State being unable to provide backstop financing, that could leave IGU (or FNSB) being responsible for consumer debt. | If we carry an additional $10 million in debt, the impact would be an increase in the price of gas, say from $15.5 mcf gas to $17.5 mcf. Would almost need legislation to protect the utility. | Conceptual | Financial | | Accept or Transfer to the Borough. | | | | | | | |
| | *22 Sep 2015* | Dave P. | As a result of maximum installation of service lines, conversions are unable to keep up with the service lines; i.e., live gas going to houses that are not burning gas. We can install 1500 service lines in a summer, but can't do that many conversions. We have 100 days for construction. | Reduced financial returns to the utility. An effective reduction in conversion rate. | Conceptual | Logistical | | Avoid | Try to mirror conversion program to installation program (max 1500 services/year, based on starting in the spring through mid-September | | | | | | |
| | *22 Sep 2015* | Brown T. | Conversion forecast curve indicates widely varying numbers from year to year, which may strain resources and reduce predictability for program participants and installation contractors. | Resulting in the inability to adequately schedule conversions and connections, and thus fewer connections and poor customer service. | Conceptual | Logistical | | Avoid | Work to identify primary limiting factor and level other activitied to match it. Prepare a predictable and acheivable plan. | | | | | | |
| | *22 Sep 2015* | Dave P. | As a result of maximum conversions, the risk is we end up with more old boilers than we know what to do with. | No impact - may be an issue instead of a risk. It may cost $150 for the contractor to dispose of old boiler componenets. To the extent possible, utilize the Borough scrap metal recycling program at the landfill. | Conceptual | Logistical | | Accept | | | | | | | |
| | *22 Sep 2015* | John D. | Cost of gas at the burner tip is too high, and consumer's choose not to convert or do so at a slower rate. | Slowed connections and financial returns for the utility. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | John D. | The results of the current IEP program selection process are yet unknown, there is the potential that a cost effective solution is not proposed and the project is delayed again. There are 5 potential projects now (AIDEA projects) - e.g., if Salix gets the nod and starts working and financials go south, we go back to square one and have to go out to RFP again. | Project delays and slowed conenctions that could ultimately result in higher prices for gas and conversions. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | John D. | As the result of early identification of a major gas line project, either on north slope or locally, the IGU may see a negative impact. | Gap between IEP and major project may be reduced to the point where cost effectiveness is a greater issue. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | John D. | Election of a mayor opposed to IGU/IEP. | Might try to withdraw Borough participation and providing backstop/financial arrangements. | Conceptual | | Identified | | | | | | | | |
| | *22 Sep 2015* | John D. | Global financial downturn, peoples' perception of risk may change and impact decisions to incur costs. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | John D. | Supply shortage of boilers and furnaces has the potential to impact the ability ofcontractors to meet the anticipated demands for conversion related materials and equipment. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | | | | | | | | |
| | *22 Sep 2015* | Karl | Not coordinating conversions for materials, pipe fittings, burners, could result in conversion delay and bottlenecks. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | Logistics | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Karl | Not having conversion layout and with aspect of FNG coming in, there are other alternatives. Would overcommit the installers. | Lower conversion and connection rates and lower financial returns than expected. | Conceptual | | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Karl | As a result of not training/having a planning concept for installers with installers to install correctly/properly, and inspections. | Hazardous conditions. | Conceptual | | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Karl | Delayed implementation of strategy for provinding storage (and required reserves) could result in a delay of getting gas to users. (reserves are a minimum requirement of 5-days per customer) | Project delays and slowed conenctions that could ultimately result in higher prices for gas and conversions. | Conceptual | | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Gene | Without proper backstop, financial need would be high and customer demand would be low. Borough contribution to backstop could be stopped. | Lower conversion and connection rates due to costs and utlimately lower financial returns. | Conceptual | Financial | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Gene | Conversion pricing will increase which could diminish demand, because boilers are not available or workforce is not available. If demand is high, prices could go up. | Lower conversion and connection rates due to costs and utlimately lower financial returns. | Conceptual | Logistics | | Mitigate/Capitalize | Determine if it's possible to buy bulk boilers; ensure sufficient competition to avoid price gouging. | | | | | | |
| | *22 Sep 2015* | Gene | Without approval of financing mechanisms that would impact customer demand; consumers would have to go to the bank. | Could delay and slow rates of conversion and connection, and ultimately slow financial returns. | Conceptual | Financial | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Dave C. | As a result of increased funding for energy efficiency projects by the federal government, funding is available to support those in lower income ranges pay for in-home energy efficiency improvements, resulting in a higher rate of conversions. | Increased financial returns for the utility. | Conceptual | Financial | | Mitigate/Capitalize | | | | | | | |
| | *22 Sep 2015* | Dave C. | As a result of underestimated price of conversion, consumers could be surprised by actual costs. | Could delay and slow rates of conversion and connection, and ultimately slow financial returns. | Conceptual | | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Dave C. | Plan has built in 6 conversion phases. If oil cost stays low and there's low conversion rate initially, then oil cost increases after Phase 6 is done, you may have the whole area wanting to convert at once. i.e., delayed interest in initial conversion, followed by wide demand for conversion. | Inability to meet demands and delays may result, impacting the price of gas and utilmately impacting the ability to meet financial expectations. | Conceptual | | | Mitigate | | | | | | | |
| | *22 Sep 2015* | Dave P. | Phases 4-6 may not have financing. Financial models are only through Phase 3, when SETS money runs out. If you use bond funds, the price at the meter is huge. | Areas 4-6 wouldn't get served. Economy of scale falls, price of gas goes up. | Conceptual | | | | | | | | | | |

# Project Risk Register

## *RISK REGISTER*

**Project Name:** IGU Conversions Program
**PM Name** David Prusak
**File path:**

**Date Prepared:** Conceptual
**Dates Updated:** 9/22/2015

| ID # | Date Identified | Risk Author | Risk Statement (Cause, Risk, Effect) | Impact | Project Lifecycle Phase | Risk Type | Status | Response Type | Response Plan | Indicators | Action Date | Action Description | Active Date | Duration of Risk (Workdays) | Data Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *22 Sep 2015* | Dave C. | Number of people who can self-finance conversion may have been overestimated. | Lower conversion rates and slowed financial returns | Conceptual | | | Transfer | Attach debt to the property so they can spread the debt out . | | | | | | |
| | *22 Sep 2015* | Mindy | As a result of IGU not requiring safety inspection past the meter home safety could be compromised. | Hazardous conditions. | Conceptual | | | Transfer | IGU could require inspections be done; requrie certification/training. Tie reimbursement to meeting safe installation requirements. Would be better to have someone other than installer perform final inspection. | | | | | | |
| | *22 Sep 2015* | Mindy | As a result of heating system conversions not meeting code and safety standards, connections could be slowed. | Lower financial returns than expected. | Conceptual | | | Transfer | Utilize current regulations for code/safety issues (i.e., adopt City of Fairbanks building codes) | | | | | | |
| | *22 Sep 2015* | Mindy | Delayed gas supply or failure to obtain gas. | Lose community trust and good will built up over the last 2 years. | Conceptual | | | Transfer | IGU doesn't have the responsibility to provide gas to the IEP, through AIDEA the State does. | | | | | | |

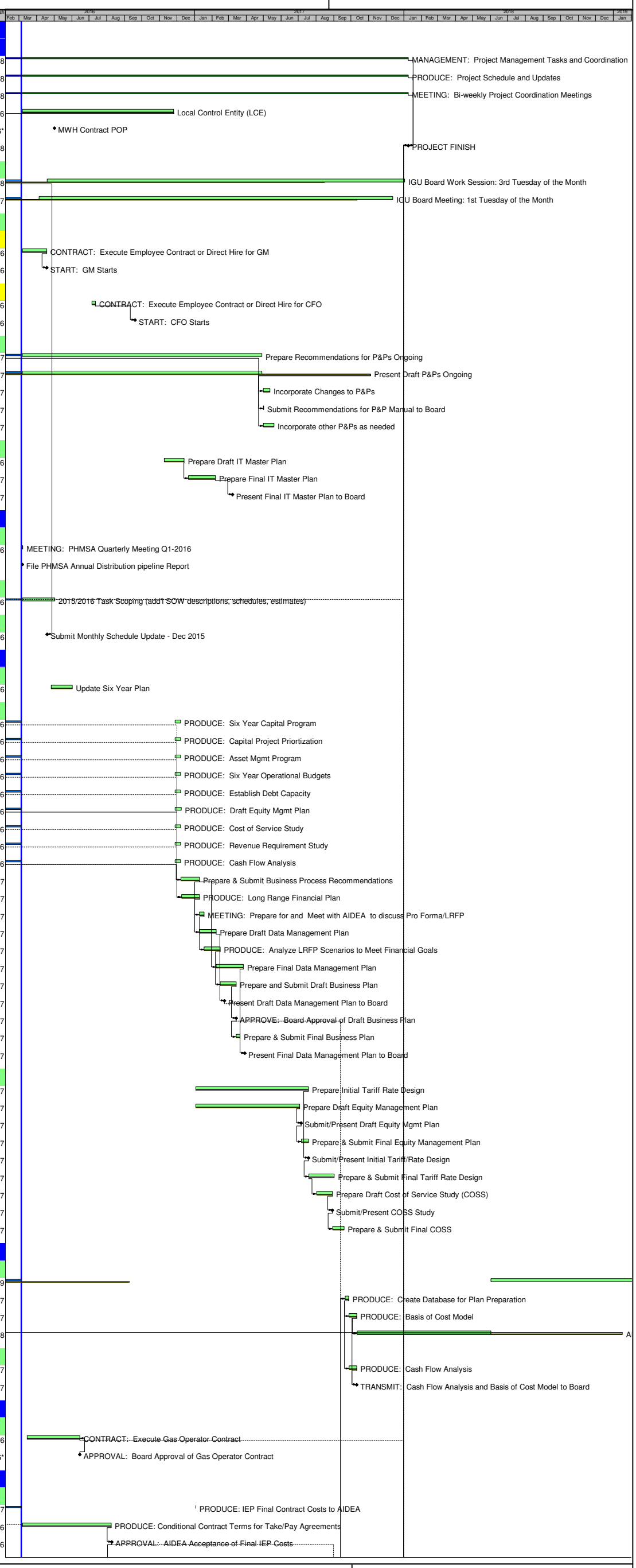
# APPENDIX F

*IGU Gas Distribution Project Schedule*

# IGU Gas Distribution Project Schedule_Updated_Data Date_05Mar16

Data Date 05-Mar-16 Printed 10-Mar-16

| ID | Activity Name | Activity % Complete | Duration | Start | Finish |
|---|---|---|---|---|---|
| | **IGU IGU Gas Distribution Project Schedule_Updated_Data Date_05Mar16** | | | | |
| | **IGU.1 IGU Support** | | | | |
| A1050 | MANAGEMENT: Project Management Tasks and Coordination | 5.66% | 1006 | 18-Jan-14 A | 08-Jan-18 |
| A1180 | PRODUCE: Project Schedule and Updates | 5.66% | 1006 | 21-Jan-14 A | 08-Jan-18 |
| A1190 | MEETING: Bi-weekly Project Coordination Meetings | 5.66% | 1006 | 21-Jan-14 A | 08-Jan-18 |
| A1175 | Local Control Entity (LCE) | 0% | 186 | 07-Mar-16* | 25-Nov-16 |
| A1520 | MWH Contract POP | 0% | 0 | | 01-May-16* |
| A1040 | PROJECT FINISH | 0% | 0 | | 08-Jan-18 |
| | **IGU.1.1 Board Meetings** | | | | |
| A5480 | IGU Board Work Session: 3rd Tuesday of the Month | 15% | 27 | 17-Nov-15 A | 02-Jan-18 |
| A5470 | IGU Board Meeting: 1st Tuesday of the Month | 15% | 28 | 01-Dec-15 A | 12-Dec-17 |
| | **IGU.1.5 Hire IGU Management** | | | | |
| | **IGU.1.5.1 Hire GM** | | | | |
| A3280 | CONTRACT: Execute Employee Contract or Direct Hire for GM | 0% | 31 | 07-Mar-16* | 18-Apr-16 |
| A3620 | START: GM Starts | 0% | 0 | | 18-Apr-16 |
| | **IGU.1.5.2 Hire CFO** | | | | |
| A4040 | CONTRACT: Execute Employee Contract or Direct Hire for CFO | 0% | 5 | 06-Jul-16 | 12-Jul-16 |
| A4050 | START: CFO Starts | 0% | 0 | | 19-Sep-16 |
| | **IGU.1.6 P&P Manual** | | | | |
| A5520 | Prepare Recommendations for P&Ps Ongoing | 27% | 486 | 01-Jun-15 A | 28-Apr-17 |
| A5540 | Present Draft P&Ps Ongoing | 27% | 486 | 01-Jun-15 A | 28-Apr-17 |
| A5550 | Incorporate Changes to P&Ps | 0% | 10 | 01-May-17 | 12-May-17 |
| A5560 | Submit Recommendations for P&P Manual to Board | 0% | 1 | 01-May-17 | 01-May-17 |
| A5590 | Incorporate other P&Ps as needed | 0% | 15 | 01-May-17 | 19-May-17 |
| | **IGU.1.7 IT Master Plan** | | | | |
| A5570 | Prepare Draft IT Master Plan | 0% | 24 | 09-Nov-16* | 13-Dec-16 |
| A5630 | Prepare Final IT Master Plan | 0% | 30 | 21-Dec-16 | 06-Feb-17 |
| A5640 | Present Final IT Master Plan to Board | 0% | 0 | | 08-Mar-17 |
| | **IGU.2 Progam / Project Management** | | | | |
| | **IGU.2.1 Coordination with PHMSA** | | | | |
| A5680 | MEETING: PHMSA Quarterly Meeting Q1-2016 | 0% | 1 | 07-Mar-16* | 07-Mar-16 |
| A5690 | File PHMSA Annual Distribution pipeline Report | 0% | 0 | 07-Mar-16* | |
| | **IGU.2.2 Task Scoping** | | | | |
| AA3770 | 2015/2016 Task Scoping (add'l SOW descriptions, schedules, estimates) | 45% | 289 | 16-Mar-15 A | 02-May-16 |
| | **IGU.2.3 Update Project Schedule** | | | | |
| A5850 | Submit Monthly Schedule Update - Dec 2015 | 0% | 0 | | 19-Apr-16 |
| | **IGU.3 Business Plans** | | | | |
| | **IGU.3.1 Six Year Plan** | | | | |
| A1530 | Update Six Year Plan | 0% | 26 | 26-Apr-16* | 01-Jun-16 |
| | **IGU.3.2 Business Plan** | | | | |
| A1930 | PRODUCE: Six Year Capital Program | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A1940 | PRODUCE: Capital Project Priortization | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A1950 | PRODUCE: Asset Mgmt Program | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A1960 | PRODUCE: Six Year Operational Budgets | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A1970 | PRODUCE: Establish Debt Capacity | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A1980 | PRODUCE: Draft Equity Mgmt Plan | 55% | 630 | 17-Jun-14 A | 08-Dec-16 |
| A1990 | PRODUCE: Cost of Service Study | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A2000 | PRODUCE: Revenue Requirement Study | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A2010 | PRODUCE: Cash Flow Analysis | 60% | 629 | 17-Jun-14 A | 07-Dec-16 |
| A2060 | Prepare & Submit Business Process Recommendations | 0% | 20 | 08-Dec-16* | 09-Jan-17 |
| A2020 | PRODUCE: Long Range Financial Plan | 0% | 19 | 09-Dec-16 | 09-Jan-17 |
| A2024 | MEETING: Prepare for and Meet with AIDEA to discuss Pro Forma/LRFP | 0% | 5 | 09-Jan-17 | 17-Jan-17 |
| A5600 | Prepare Draft Data Management Plan | 0% | 20 | 09-Jan-17* | 07-Feb-17 |
| A2030 | PRODUCE: Analyze LRFP Scenarios to Meet Financial Goals | 0% | 20 | 17-Jan-17 | 14-Feb-17 |
| A5620 | Prepare Final Data Management Plan | 0% | 34 | 07-Feb-17 | 27-Mar-17 |
| A2050 | Prepare and Submit Draft Business Plan | 0% | 20 | 14-Feb-17 | 14-Mar-17 |
| A5610 | Present Draft Data Management Plan to Board | 0% | 0 | | 22-Feb-17 |
| A2071 | APPROVE: Board Approval of Draft Business Plan | 0% | 0 | | 14-Mar-17 |
| A2081 | Prepare & Submit Final Business Plan | 0% | 5 | 14-Mar-17 | 21-Mar-17 |
| A5650 | Present Final Data Management Plan to Board | 0% | 0 | | 29-Mar-17 |
| | **IGU.3.3 Rate Design** | | | | |
| A2550 | Prepare Initial Tariff Rate Design | 0% | 138 | 03-Jan-17* | 18-Jul-17 |
| A2580 | Prepare Draft Equity Management Plan | 0% | 128 | 03-Jan-17* | 03-Jul-17 |
| A2590 | Submit/Present Draft Equity Mgmt Plan | 0% | 0 | | 05-Jul-17 |
| A5890 | Prepare & Submit Final Equity Management Plan | 0% | 9 | 06-Jul-17 | 18-Jul-17 |
| A2600 | Submit/Present Initial Tariff/Rate Design | 0% | 0 | | 18-Jul-17 |
| A5880 | Prepare & Submit Final Tariff Rate Design | 0% | 33 | 19-Jul-17 | 01-Sep-17 |
| A2120 | Prepare Draft Cost of Service Study (COSS) | 0% | 20 | 02-Aug-17 | 29-Aug-17 |
| A2630 | Submit/Present COSS Study | 0% | 0 | | 29-Aug-17 |
| A5900 | Prepare & Submit Final COSS | 0% | 13 | 30-Aug-17 | 18-Sep-17 |
| | **IGU.4 Financial Planning** | | | | |
| | **IGU.4.2 Cost Modeling** | | | | |
| A2255 | NEGOTIATE: FNSB NG Converfsions Loan Backstop | 100% | 822 | 01-Dec-15 A | 28-Feb-19 |
| A2210 | PRODUCE: Create Database for Plan Preparation | 0% | 5 | 20-Sep-17 | 26-Sep-17 |
| A2230 | PRODUCE: Basis of Cost Model | 0% | 10 | 27-Sep-17 | 10-Oct-17 |
| A2245 | AIDEA Related Activities | 50% | 137 | 15-Nov-17 A | 01-Jun-18 |
| | **IGU.4.3 Cash Flows / Data Management Plan** | | | | |
| A2220 | PRODUCE: Cash Flow Analysis | 0% | 10 | 27-Sep-17 | 10-Oct-17 |
| A2240 | TRANSMIT: Cash Flow Analysis and Basis of Cost Model to Board | 0% | 0 | | 10-Oct-17 |
| | **IGU.5 Gas Operator** | | | | |
| | **IGU.5.1 Gas Operator Selection** | | | | |
| A1910 | CONTRACT: Execute Gas Operator Contract | 0% | 65 | 15-Mar-16 | 15-Jun-16 |
| A1900 | APPROVAL: Board Approval of Gas Operator Contract | 0% | 0 | | 15-Jun-16* |
| | **IGU.6 Gas Supply, Transport, Delivery** | | | | |
| | **IGU.6.1 AIDEA Gas Supply / Delivery to FNSB** | | | | |
| A1573 | PRODUCE: IEP Final Contract Costs to AIDEA | 100% | 57 | 30-Sep-14 A | 03-Jan-17 |
| A1550 | PRODUCE: Conditional Contract Terms for Take/Pay Agreements | 0% | 109 | 07-Mar-16* | 08-Aug-16 |
| A1574 | APPROVAL: AIDEA Acceptance of Final IEP Costs | 0% | 0 | | 09-Aug-16 |



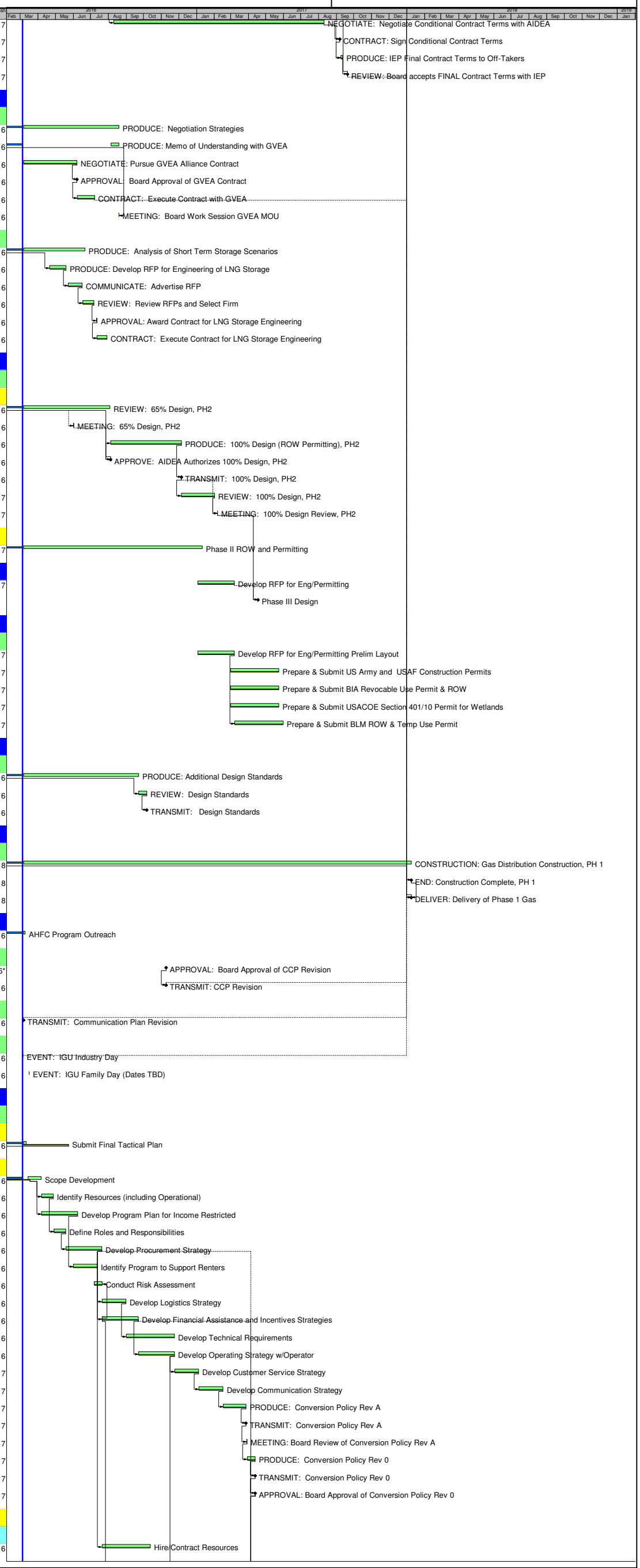

Remaining Level of Effort
Actual Level of Effort
Primary ...
Actual W...

FIle: IGU Layout: IGU Schedule Review
TASK filters: IGU Special Filter no HIRE CFO, NE Complete.

# IGU Gas Distribution Project
# Schedule_Updated_Data Date_05Mar16

Data Date 05-Mar-16 Printed 10-Mar-16

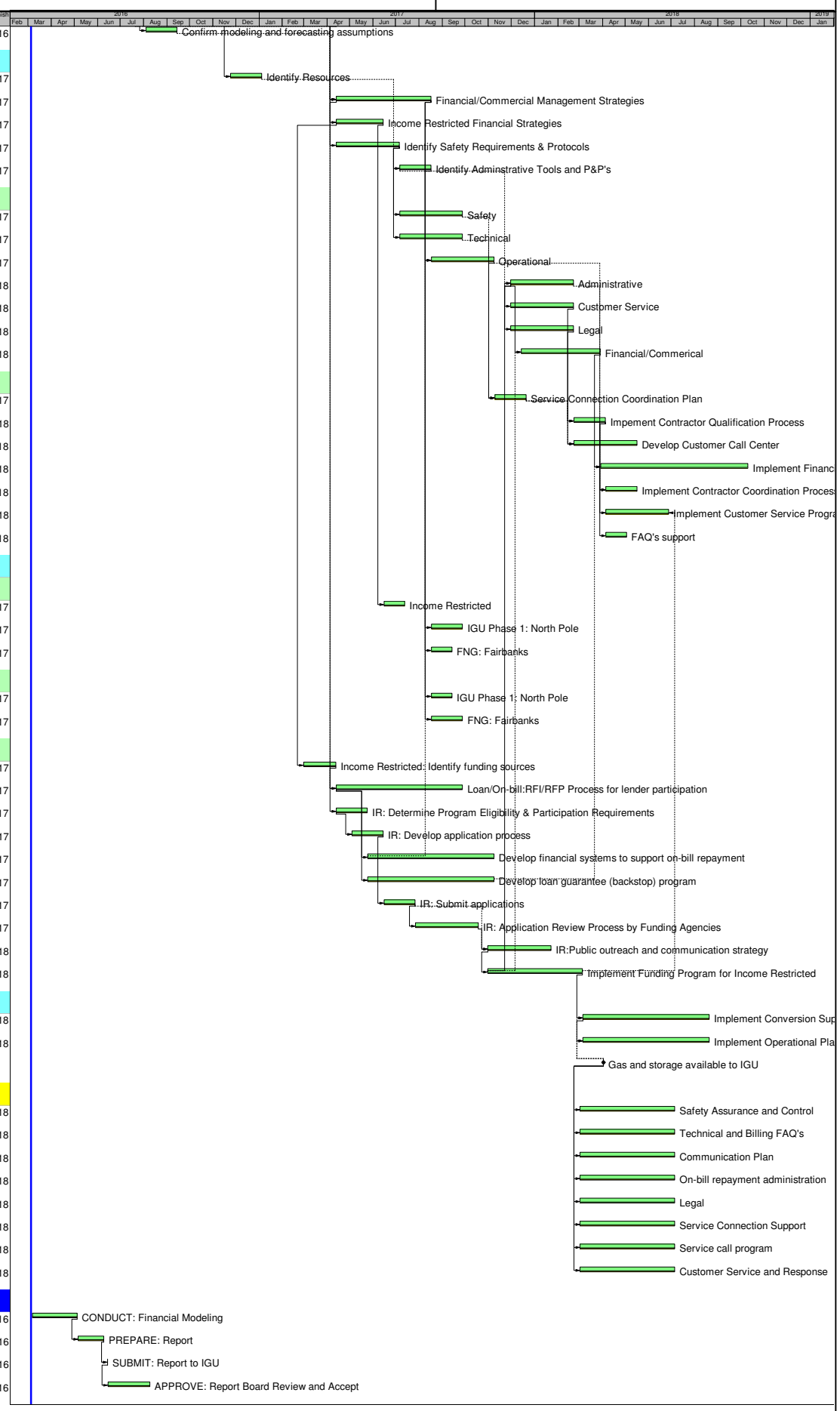
| ID | Activity Name | Activity % Complete | Duration | Start | Finish |
|---|---|---|---|---|---|
| A1570 | NEGOTIATE: Negotiate Conditional Contract Terms with AIDEA | 0% | 255 | 10-Aug-16 | 10-Aug-17 |
| A1571 | CONTRACT: Sign Conditional Contract Terms | 0% | 0 | | 06-Sep-17 |
| A1575 | PRODUCE: IEP Final Contract Terms to Off-Takers | 0% | 2 | 08-Sep-17 | 11-Sep-17 |
| A1576 | REVIEW: Board accepts FINAL Contract Terms with IEP | 0% | 0 | | 19-Sep-17 |
| **IGU.7 LNG Storage, Trucking, Regas** | | | | | |
| **IGU.7.Task 4 LNG Truck Unloading, Storage & Re-gasification** | | | | | |
| A1750 | PRODUCE: Negotiation Strategies | 15% | 544 | 30-Jun-14 A | 19-Aug-16 |
| A1762 | PRODUCE: Memo of Understanding with GVEA | 5% | 499 | 03-Sep-14 A | 19-Aug-16 |
| A1770 | NEGOTIATE: Pursue GVEA Alliance Contract | 0% | 66 | 07-Mar-16* | 07-Jun-16 |
| A1780 | APPROVAL: Board Approval of GVEA Contract | 0% | 0 | | 07-Jun-16 |
| A1790 | CONTRACT: Execute Contract with GVEA | 0% | 21 | 08-Jun-16 | 07-Jul-16 |
| A1763 | MEETING: Board Work Session GVEA MOU | 0% | 1 | 19-Aug-16 | 19-Aug-16 |
| **IGU.7.4 LNG Storage Engineering** | | | | | |
| A2380 | PRODUCE: Analysis of Short Term Storage Scenarios | 95% | 433 | 07-Oct-14 A | 21-Jun-16 |
| A1860 | PRODUCE: Develop RFP for Engineering of LNG Storage | 0% | 21 | 21-Apr-16 | 19-May-16 |
| A2070 | COMMUNICATE: Advertise RFP | 0% | 18 | 23-May-16 | 16-Jun-16 |
| A2100 | REVIEW: Review RFPs and Select Firm | 0% | 12 | 17-Jun-16 | 06-Jul-16 |
| A2330 | APPROVAL: Award Contract for LNG Storage Engineering | 0% | 1 | 11-Jul-16 | 12-Jul-16 |
| A2350 | CONTRACT: Execute Contract for LNG Storage Engineering | 0% | 13 | 12-Jul-16 | 29-Jul-16 |
| **IGU.8 Design** | | | | | |
| **IGU.8.8.1 Phase II Design** | | | | | |
| **IGU.8.8.1.1 PH II Design** | | | | | |
| A4640 | REVIEW: 65% Design, PH2 | 20% | 320 | 30-Apr-15 A | 03-Aug-16 |
| A4650 | MEETING: 65% Design, PH2 | 0% | 1 | 01-Jun-16* | 01-Jun-16 |
| A4710 | PRODUCE: 100% Design (ROW Permitting), PH2 | 0% | 85 | 04-Aug-16 | 05-Dec-16 |
| A4810 | APPROVE: AIDEA Authorizes 100% Design, PH2 | 0% | 0 | | 04-Aug-16 |
| A4720 | TRANSMIT: 100% Design, PH2 | 0% | 0 | | 05-Dec-16 |
| A4730 | REVIEW: 100% Design, PH2 | 0% | 39 | 05-Dec-16 | 01-Feb-17 |
| A4740 | MEETING: 100% Design Review, PH2 | 0% | 1 | 06-Feb-17 | 06-Feb-17 |
| **IGU.8.8.1.2 PH II ROW and Permitting** | | | | | |
| A4890 | Phase II ROW and Permitting | 10% | 434 | 24-Apr-15 A | 10-Jan-17 |
| **IGU.8.2 Phase III Design** | | | | | |
| A5960 | Develop RFP for Eng/Permitting | 0% | 45 | 03-Jan-17* | 07-Mar-17 |
| A5950 | Phase III Design | 0% | 0 | 17-Apr-17 | |
| **IGU.8.3 Transmission Design** | | | | | |
| **IGU.8.3.Task 18 Permitting** | | | | | |
| A5980 | Develop RFP for Eng/Permitting Prelim Layout | 0% | 45 | 03-Jan-17* | 07-Mar-17 |
| A5920 | Prepare & Submit US Army and USAF Construction Permits | 0% | 60 | 01-Mar-17* | 23-May-17 |
| A5930 | Prepare & Submit BIA Revocable Use Permit & ROW | 0% | 60 | 01-Mar-17* | 23-May-17 |
| A5940 | Prepare & Submit USACOE Section 401/10 Permit for Wetlands | 0% | 60 | 01-Mar-17* | 23-May-17 |
| A5910 | Prepare & Submit BLM ROW & Temp Use Permit | 0% | 60 | 08-Mar-17* | 31-May-17 |
| **IGU.8.4 Design Standards** | | | | | |
| **IGU.8.4.1 Design Standards Development** | | | | | |
| A3530 | PRODUCE: Additional Design Standards | 25% | 409 | 13-Feb-15 A | 22-Sep-16 |
| A3540 | REVIEW: Design Standards | 0% | 10 | 22-Sep-16 | 06-Oct-16 |
| A3550 | TRANSMIT: Design Standards | 0% | 0 | | 06-Oct-16 |
| **IGU.9.1 Construction Contract Management** | | | | | |
| **IGU.9.1.1 Gas Distribution Construction, Phase 1 (PDC)** | | | | | |
| A3870 | CONSTRUCTION: Gas Distribution Construction, PH 1 | 93% | 681 | 01-May-15 A | 08-Jan-18 |
| A3890 | END: Construction Complete, PH 1 | 0% | 0 | | 08-Jan-18 |
| A3920 | DELIVER: Delivery of Phase 1 Gas | 0% | 0 | | 08-Jan-18 |
| **IGU.Task 10 Public Outreach** | | | | | |
| A5990 | AHFC Program Outreach | 48% | 133 | 31-Aug-15 A | 09-Mar-16 |
| **IGU.Task 10.1 Crisis Communication Plan** | | | | | |
| A3690 | APPROVAL: Board Approval of CCP Revision | 0% | 0 | | 09-Nov-16* |
| A3700 | TRANSMIT: CCP Revision | 0% | 0 | | 09-Nov-16 |
| **IGU.Task 10.3 Communication Plan** | | | | | |
| A3640 | TRANSMIT: Communication Plan Revision | 0% | 0 | | 07-Mar-16 |
| **IGU.Task 10.6 Public Events (Ongoing)** | | | | | |
| A3840 | EVENT: IGU Industry Day | 0% | 1 | 05-Mar-16* | 05-Mar-16 |
| A5490 | EVENT: IGU Family Day (Dates TBD) | 0% | 1 | 16-Mar-16* | 16-Mar-16 |
| **IGU.11 NG Conversions** | | | | | |
| **IGU.11.IGU Conversions IGU Conversion/Connection Program** | | | | | |
| **IGU.11.IGU Conversions.1 Tactical Plan** | | | | | |
| A5210 | Submit Final Tactical Plan | 85% | 40 | 15-Jan-16 A | 11-Mar-16 |
| **IGU.11.IGU Conversions.2 Program Plan Development (Detailed)** | | | | | |
| 1020 | Scope Development | 5.45% | 59 | 15-Jan-16 A | 06-Apr-16 |
| 1040 | Identify Resources (including Operational) | 0% | 15 | 07-Apr-16 | 27-Apr-16 |
| 1130 | Develop Program Plan for Income Restricted | 0% | 45 | 07-Apr-16 | 08-Jun-16 |
| 1050 | Define Roles and Responsibilities | 0% | 15 | 28-Apr-16 | 18-May-16 |
| 1060 | Develop Procurement Strategy | 0% | 45 | 19-May-16 | 20-Jul-16 |
| 1140 | Identify Program to Support Renters | 0% | 30 | 01-Jun-16 | 12-Jul-16 |
| 1085 | Conduct Risk Assessment | 0% | 10 | 07-Jul-16 | 21-Jul-16 |
| 1070 | Develop Logistics Strategy | 0% | 30 | 21-Jul-16 | 31-Aug-16 |
| 1080 | Develop Financial Assistance and Incentives Strategies | 0% | 45 | 21-Jul-16 | 21-Sep-16 |
| 1100 | Develop Technical Requirements | 0% | 60 | 01-Sep-16 | 23-Nov-16 |
| 1090 | Develop Operating Strategy w/Operator | 0% | 45 | 22-Sep-16 | 23-Nov-16 |
| 1110 | Develop Customer Service Strategy | 0% | 30 | 24-Nov-16 | 04-Jan-17 |
| 1120 | Develop Communication Strategy | 0% | 30 | 05-Jan-17 | 15-Feb-17 |
| A3760 | PRODUCE: Conversion Policy Rev A | 0% | 28 | 16-Feb-17* | 27-Mar-17 |
| A3780 | TRANSMIT: Conversion Policy Rev A | 0% | 0 | | 27-Mar-17 |
| A3790 | MEETING: Board Review of Conversion Policy Rev A | 0% | 1 | 29-Mar-17 | 29-Mar-17 |
| A3800 | PRODUCE: Conversion Policy Rev 0 | 0% | 10 | 30-Mar-17 | 12-Apr-17 |
| A3810 | TRANSMIT: Conversion Policy Rev 0 | 0% | 0 | | 12-Apr-17 |
| A3820 | APPROVAL: Board Approval of Conversion Policy Rev 0 | 0% | 0 | | 12-Apr-17 |
| **IGU.11.IGU Conversions.3 Conversions Program** | | | | | |
| **IGU.11.IGU Conversions.3.1 Develop Service Area Strategy** | | | | | |
| 2110 | Hire/Contract Resources | 0% | 60 | 21-Jul-16 | 12-Oct-16 |



# IGU Gas Distribution Project
# Schedule_Updated_Data Date_05Mar16

Data Date 05-Mar-16 Printed 10-Mar-16

| D | Activity Name | Activity % Complete | Duration | Start | Finish |
|---|---|---|---|---|---|
| 2120 | Confirm modeling and forecasting assumptions | 0% | 30 | 04-Aug-16 | 14-Sep-16 |
| | **IGU.11.IGU Conversions.3.2 Define Operations Program w/ Operator** | | | | |
| 2160 | Identify Resources | 0% | 30 | 24-Nov-16 | 04-Jan-17 |
| 2170 | Financial/Commercial Management Strategies | 0% | 90 | 13-Apr-17 | 16-Aug-17 |
| 2180 | Income Restricted Financial Strategies | 0% | 45 | 13-Apr-17 | 14-Jun-17 |
| 2190 | Identify Safety Requirements & Protocols | 0% | 60 | 13-Apr-17 | 05-Jul-17 |
| 2200 | Identify Adminstrative Tools and P&P's | 0% | 30 | 06-Jul-17 | 16-Aug-17 |
| | **IGU.11.IGU Conversions.3.2.4 Develop/Adopt Policies and Procedures** | | | | |
| 2440 | Safety | 0% | 60 | 06-Jul-17 | 27-Sep-17 |
| 2450 | Technical | 0% | 60 | 06-Jul-17 | 27-Sep-17 |
| 2430 | Operational | 0% | 60 | 17-Aug-17 | 08-Nov-17 |
| 2420 | Administrative | 0% | 60 | 30-Nov-17 | 21-Feb-18 |
| 2470 | Customer Service | 0% | 60 | 30-Nov-17 | 21-Feb-18 |
| 2480 | Legal | 0% | 60 | 30-Nov-17 | 21-Feb-18 |
| 2460 | Financial/Commerical | 0% | 75 | 14-Dec-17 | 28-Mar-18 |
| | **IGU.11.IGU Conversions.3.2.5 Develop Conversion Suppport Program** | | | | |
| 2490 | Service Connection Coordination Plan | 0% | 30 | 09-Nov-17 | 20-Dec-17 |
| 2500 | Impement Contractor Qualification Process | 0% | 30 | 22-Feb-18 | 04-Apr-18 |
| 2540 | Develop Customer Call Center | 0% | 60 | 22-Feb-18 | 16-May-18 |
| 2530 | Implement Financing Program | 0% | 140 | 29-Mar-18 | 10-Oct-18 |
| 2510 | Implement Contractor Coordination Processes | 0% | 30 | 05-Apr-18 | 16-May-18 |
| 2520 | Implement Customer Service Program | 0% | 60 | 05-Apr-18 | 27-Jun-18 |
| 2550 | FAQ's support | 0% | 20 | 05-Apr-18 | 02-May-18 |
| | **IGU.11.IGU Conversions.3.3 Develop Service Area Conversion Strategy** | | | | |
| | **IGU.11.IGU Conversions.3.3.1 Residential** | | | | |
| 2280 | Income Restricted | 0% | 20 | 15-Jun-17 | 12-Jul-17 |
| 2260 | IGU Phase 1: North Pole | 0% | 30 | 17-Aug-17 | 27-Sep-17 |
| 2270 | FNG: Fairbanks | 0% | 20 | 17-Aug-17 | 13-Sep-17 |
| | **IGU.11.IGU Conversions.3.3.2 Commercial** | | | | |
| 2290 | IGU Phase 1: North Pole | 0% | 20 | 17-Aug-17 | 13-Sep-17 |
| 2300 | FNG: Fairbanks | 0% | 30 | 17-Aug-17 | 27-Sep-17 |
| | **IGU.11.IGU Conversions.3.3.3 Develop Financing Solutions** | | | | |
| 2340 | Income Restricted: Identify funding sources | 0% | 31 | 01-Mar-17 | 12-Apr-17 |
| 2310 | Loan/On-bill:RFI/RFP Process for lender participation | 0% | 120 | 13-Apr-17 | 27-Sep-17 |
| 2350 | IR: Determine Program Eligibility & Participation Requirements | 0% | 30 | 13-Apr-17 | 24-May-17 |
| 2360 | IR: Develop application process | 0% | 30 | 04-May-17 | 14-Jun-17 |
| 2320 | Develop financial systems to support on-bill repayment | 0% | 120 | 25-May-17 | 08-Nov-17 |
| 2330 | Develop loan guarantee (backstop) program | 0% | 120 | 25-May-17 | 08-Nov-17 |
| 2370 | IR: Submit applications | 0% | 30 | 15-Jun-17 | 26-Jul-17 |
| 2380 | IR: Application Review Process by Funding Agencies | 0% | 60 | 27-Jul-17 | 18-Oct-17 |
| 2390 | IR:Public outreach and communication strategy | 0% | 60 | 31-Oct-17 | 22-Jan-18 |
| 2400 | Implement Funding Program for Income Restricted | 0% | 90 | 31-Oct-17 | 05-Mar-18 |
| | **IGU.11.IGU Conversions.3.4 Gas Available** | | | | |
| 2570 | Implement Conversion Support Programs | 0% | 120 | 06-Mar-18 | 20-Aug-18 |
| 2580 | Implement Operational Plans | 0% | 120 | 06-Mar-18 | 20-Aug-18 |
| 2560 | Gas and storage available to IGU | 0% | 0 | 02-Apr-18* | |
| | **IGU.11.IGU Conversions.4 Implement Post Support Plans** | | | | |
| 2590 | Safety Assurance and Control | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2600 | Technical and Billing FAQ's | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2610 | Communication Plan | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2620 | On-bill repayment administration | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2630 | Legal | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2640 | Service Connection Support | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2650 | Service call program | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| 2660 | Customer Service and Response | 0% | 90 | 02-Mar-18 | 05-Jul-18 |
| | **IGU.12 AIDEA (PENTEX) Due Diligence** | | | | |
| A6030 | CONDUCT: Financial Modeling | 0% | 43 | 07-Mar-16 | 04-May-16 |
| A6040 | PREPARE: Report | 0% | 24 | 06-May-16 | 09-Jun-16 |
| A6050 | SUBMIT: Report to IGU | 0% | 1 | 14-Jun-16 | 14-Jun-16 |
| A6060 | APPROVE: Report Board Review and Accept | 0% | 39 | 15-Jun-16 | 09-Aug-16 |



# ATTACHMENT 1

*Property-Assessed Clean Energy*


# SB 56 Property Assessed Clean Energy (PACE)

Gene Therriault, director energy policy and outreach
Senate Finance Committee
April 9, 2015

ALASKA ENERGY AUTHORITY

# What is Commercial PACE?

- PACE was named one of the top 20 “world-changing ideas by Scientific American magazine.”
- Commercial Property Assessed Clean Energy programs (PACE) allows property owners to finance qualifying energy efficiency improvements overtime through a voluntary assessment on the property tax bill.
  - Voluntary participation by municipalities AND commercial property owners
  - Mortgage holder consent is required before applications are approved and assessments are placed
  - Improvements can include lighting upgrades, renewable energy, conversion to natural gas, high-efficiency boilers, and additional energy efficiency improvements
- The repayment obligation transfers with the sale of property

# Benefits

- Energy efficiency upgrades are financed with capital secured by a primary lien on the property, lower-interest capital and favorable repayment terms can be raised from the private sector
- Allows for longer repayment periods allowing the building owner to recognize immediate operating savings while repaying the debt
- Can use traditional lending sources
- In Alaska, provides consistency with state energy policy, energy efficiency and renewable energy goals

# Creating a PACE Program

- 31 states have authorized PACE programs
- State legislatures must provide authority for local governments to establish and operate commercial PACE programs
- Municipalities to create the program and select financing models
- Resources: U.S. Department of Energy, PaceNow.org, C-Pace.com

# Potential PACE Models

- Local-government driven
  - Either property assessment office or a PACE office used as interface with commercial property owners and potential lenders
  - Bond financing
- Private-sector driven
  - Third-party administrator under contract with local government
  - Private financing
- Hybrid model
  - Smaller local governments can contract with other communities or regional organizations to administer the program
  - Identify all potential funding sources (bonds, revolving loan funds, private capital)

ALASKA ENERGY AUTHORITY

# Senate Bill 56

- SB 56 (HB 118): Muni Energy Improvement Assessments/Bonds
- Authorizing legislation for local governments who collect property taxes to choose to create a PACE program and allow commercial property owners to opt-in
- 24 eligible local governments with a total population of 639,314

# Senate Bill 56

- Section 1 amends AS 29 by adding a new chapter:
  AS 29.49: Municipal Property Assessed Clean Energy Act
- AS 29.49.020 Would allow for a property tax assessment to be added for financing of qualified projects on real property.
  - Improvements may not be made to vacant lots or property undergoing development at the time of assessment
  - Not to finance purchase of temporary products or anything not permanently fixed to real property
- AS 29.49.30 Would require a written contract between the local government and record owner of the real property

# Senate Bill 56

- AS 29.49.040 Establishes the program
  - Local government may enter into a contract with a property owner to impose an assessment. Financing can be provided by the municipality or a third-party
  - If third-party financing is used, the municipality, third-party financer and real property owner must all enter into a contract
  - The assessment imposed may cover some costs for the commercial property owner, including permit and lenders fees, administration, and project development and engineering costs
- AS 29.49.050 Designates the Eligible Region
  - The municipality's governing body may designate one or more area(s) of the municipality (within its jurisdiction) as a PACE-eligible region(s)

# Senate Bill 56

- AS 29.49.060 Defines the Procedure to Create the Program
  - If the municipality chooses to create a PACE program the governing body of a municipality must (in order):
    - 1) Adopt a resolution of intent that
      - shows that providing the PACE program serves a valid public purpose
      - includes a statement the municipality intents to make PACE available to commercial property owners
      - includes a description of qualified projects
      - describes the boundaries of the region
      - describes the available financing for qualified projects (i.e. bonds, local lenders, etc.)
      - describes the municipal debt servicing procedures if third-party financing is used
      - describes how the public can access the program report required by AS 29.49.070
      - identifies public contacts regarding the collection of the proposed contractual assessments

# Senate Bill 56

- AS 29.49.060 Defines the Procedure to Create the Program
  - The governing body of a municipality must:
    - 2) hold a public hearing with opportunity for public comment
    - 3) adopt a resolution establishing the program, including terms consistent with the publicly-available program report required by AS 29.49.070
      - the description of each aspect of the program can only be amended after another public hearing
  - The program can only be amended by resolution
  - A municipality may hire and set compensation for a program administrator, staff or contract for professional services
  - A municipality may impose fees to offset the costs of administering the program, to include an application fee and/or a component of the interest rate

# Senate Bill 56

- AS 29.49.070 Requires a Publicly-Available Program Report
  - The report must include:
    - a map of the program region boundaries
    - a form contract between the municipality and the property owner that specifies the terms of the assessment and any financing, including third-party and municipal
    - if appropriate a form contract between the municipalities and the third-party financer regarding the servicing of the debt through assessments
    - a description of qualified projects
    - a plan for ensuring sufficient capital
    - if bonds are used the report must include:
      - a maximum aggregate annual dollar amount for financing
      - a method for ranking requests from property owners
      - a method for determining the interest rate and maximum amount of an assessment
    - a method for ensuring the repayment period does not exceed the useful life of the qualified project

# Senate Bill 56

- AS 29.49.070 Requires a Publicly-Available Program Report (continued)
  - The report must include:
    - a description of the application process and eligibility requirements
    - a method for ensuring qualified applicants can demonstrate financial ability to fulfill financial obligations and verify the applicant is the legal owner of the property, is current on mortgage and property taxes and is not insolvent or in bankruptcy
    - an explanation of the assessment and collection process
    - an explanation of the lender notice requirement provided by AS 29.49.080
    - an explanation of the review requirement provided by AS 29.49.090
    - a description of the marketing and education services to be provided
    - a description of quality assurance and antifraud measures
    - collection procedures
    - a requirement for an appropriate ratio between the assessment and property value
  - The report must be available online and at the municipal offices

# Senate Bill 56

- AS 29.49.080 Notice to Mortgage Holder Required
- AS 29.49.090 Review Required
  - A third-party baseline energy audit and projected energy savings are required
  - Once a qualified project is complete, the municipality shall obtain third-party verification that the project was properly completed and operating as intended
- AS 29.49.100 Direct Acquisition by Owner
  - The property owner may be authorized to purchase directly the related equipment and materials or contract directly, including through lease, power purchase agreement or other service contract for the installation or modification of a qualified improvement

# Senate Bill 56

- AS 29.49.110 Contractual Assessment must be Noticed
  - Written notice of each contractual assessment shall be filed by the municipality in the real property records, including the assessment amount, legal description of the property, name of each property owner and the reference to the statutory assessment lien provided under this chapter
- AS 29.49.120 Contractual Assessments and any Interest or Penalties are Primary Liens on the Property
  - exceptions are municipal tax liens and special assessments
  - enforcement provided in AS 29.45.320-470
  - contractual assessment liens stay with the land and not eliminated by foreclosure
  - penalties and interest may be added to delinquent installments, as provided in AS. 29.45.250
  - municipalities may recover cost and expenses, including attorney fees to collect a delinquent installment
- AS 29.49.130 Collection of Assessments
  - Municipalities may contract with another governing body of another taxing unit to perform assessments collections

ALASKA ENERGY AUTHORITY

# Senate Bill 56

- AS 29.49.140 Municipalities may Issue Bonds or Notes to Finance Qualified Projects
  - These may **not** be general obligations bonds and must be secured by one or more of the following:
    - payments of the contractual assessments
    - municipal reserves from grants, bonds, or net proceeds and other lawfully available funds
    - municipal bond insurance, lines of credit, public or private guarantees, standby bond purchase agreements, collateral assignments, mortgages, or available means of providing credit support or liquidity
    - any other funds lawfully available for purposes consistent with this chapter
  - A municipal pledge of assessments, funds, or contractual rights in connection with the issuance of bonds is a first lien valid and binding against any other person, with or without notice
  - Bonds or notes issued must further an essential public and governmental purpose, including reducing energy costs, improving electrical reliability, reduction of energy demand on utilities, economic development, employment and enhancement of property values

# Senate Bill 56

- AS 29.49.150 Joint Implementation
  - Any combination of municipalities may agree to jointly implement or administer a program or contract with a third party. A public hearing as outlined in AS 29.49.060 is required.
- AS 29.49.160 Prohibited Acts
  - A municipality that establishes a PACE region may not compel a property owner to use PACE or, make any permit, license, or authorization contingent on a property owner using PACE.
- AS 29.49.900 Adds Definitions of Program, Qualified Improvement, Qualified Project, Real Property and Region.
- AS 29.49.995 Adds the Short Title “Municipal Property Assessed Clean Energy Act.”
- Section 2 Establishes an Immediate Effective Date

# AKEnergyAuthority.org

Department of Energy
Washington, DC 20585

# Guidelines for Pilot PACE Financing Programs

**May 7, 2010**

This document provides best practice guidelines to help implement the Policy Framework for PACE Financing Programs announced on October 18, 2009.[1] Property Assessed Clean Energy (PACE) financing programs allow state and local governments, where permitted by state law, to extend the use of land-secured financing districts to fund energy efficiency and renewable energy improvements on private property.[2] PACE programs attach the obligation to repay the cost of improvements to the property, not to the individual borrower. After consultation within the federal government and with other stakeholders, the Department of Energy has prepared the following Best Practices to help ensure prudent financing practices during the current pilot PACE programs.

These best practice guidelines are significantly more rigorous than the underwriting standards currently applied to land-secured financing districts. Especially in light of the exceptionally challenging economic environment and recovering housing market, the following best practice guidelines for pilot PACE financing programs are important to provide an extra layer of protection to both participants who voluntarily opt into PACE programs, and to lenders who hold mortgages on properties with PACE tax liens. These best practice guidelines may evolve over time as we learn more about the performance of PACE programs and are able to identify new best practices.[3] All pilot PACE financing programs are strongly encouraged to follow these best practice guidelines. This document is divided into two sections: Program Design Best Practice Guidelines and Assessment Underwriting Best Practice Guidelines.

[1] The Policy Framework for PACE Financing Programs is available here: http://www.whitehouse.gov/assets/documents/PACE_Principles.pdf.

[2] For more information on PACE programs, please visit: http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/PACE.html. PACE programs are paid through a tax lien on the property. Lien priority is a matter of state law, and these best practices do not (and cannot) pre-empt state law.

[3] These best practice guidelines are primarily for the residential market. Different standards may be appropriate in non-residential markets.

**Program Design Best Practice Guidelines:**

Local governments should consider the following program design features to increase the reliability of energy and economic performance for the benefit of program participants, mortgage holders, and investors.

### 1. Expected Savings-to-Investment Ratio (SIR) Greater Than One[4]

The primary rationale for PACE programs is to pursue a legally-defined "public purpose", which generally includes environmental, health, and energy independence benefits.[5] Although traditional land-secured assessment districts do not require projects to "pay for themselves", PACE financing should generally be limited to cost effective measures to protect both participants and mortgage holders until PACE program impacts become more widely understood.

The financed package of energy improvements should be designed to pay for itself over the life of the assessment. This program attribute improves the participant's debt-to-income ratio, increasing the participant's ability to repay PACE assessments and other debt, such as mortgage payments. Local governments should consider three program design features to ensure that the expected SIR is greater than one:[6]

- An energy audit and modeling of expected savings to identify energy efficiency and renewable energy property improvement measures that are likely to deliver energy and dollar savings in excess of financed costs over the assessment term. Local governments should limit investment to those identified measures.

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[4] SIR = [Estimated savings over the life of the assessment, discounted back to present value using an appropriate discount rate] divided by [Amount financed through PACE assessment]
Savings are defined as the positive impacts of the energy improvements on participant cash flow. Savings can include reduced utility bills as well as any payments for renewable energy credits or other quantifiable environmental and health benefits that can be monetized. Savings should be calculated on an annual basis with an escalator for energy prices based either on the Energy Information Agency (EIA) U.S. forecast or a substantiated local energy price escalator.

[5] Specific public purposes are defined by the state's enabling legislation, which may vary somewhat between states. Existing legislation is available here:
http://www.dsireusa.org/incentives/index.cfm?EE=1&RE=1&SPV=0&ST=0&searchtype=PTFAuth&sh=1

[6] These program options are not mutually exclusive and programs should consider deploying them in concert. In addition, these measures could be coordinated with the proposed HOMESTAR's Silver and Gold guidelines. More Information on HOMESTAR is available here:
http://www.whitehouse.gov/the-press-office/fact-sheet-homestar-energy-efficiency-retrofit-program

- In lieu of audits, programs may choose to limit eligibility to those measures with well-documented energy and dollar savings for a given climate zone. There are a number of energy efficiency and renewable energy investments that are most likely to yield a SIR of greater than one for most properties in a region.
- Encourage energy efficiency before renewable energy improvements. The economics of renewable energy investments can be enhanced when packaged with energy efficiency measures. The SIR should be calculated for the entire package of investments, not individual measures.

**2. The Term of the Assessment Should Not Exceed the Useful Life of the Improvements**

This best practice guidelines document is intended to ensure that a property owner's ability to repay is enhanced throughout the life of the PACE assessment by the energy savings derived from the improvements. It is important to note that the useful life of the measure often exceeds the assessment term.

**3. Mortgage Holder of Record Should Receive Notice When PACE Liens Are Placed**

Mortgage holders should receive notice when residential property owners fund improvements using a PACE assessment.[7]

**4. PACE Lien Non-Acceleration Upon Property Owner Default**

In states where non-acceleration of the lien is standard for other special assessments, it should also be standard for PACE assessments. After a foreclosure, the successor owners are responsible for future assessment payments. Non-acceleration is an important mortgage holder protection because liability for the assessment in foreclosure is limited to any amount in arrears at the time; the total outstanding assessed amount is not due in full.

**5. The Assessment Should Be Appropriately Sized**

PACE assessments should generally not exceed 10% of a property's estimated value (i.e. a property value-to-lien ratio of 10:1). In addition, because of the administrative requirements of administering PACE programs, assessments should generally not be issued for projects below a minimum cost threshold of approximately $2500. These measures ensure that improvements are "right-sized" for properties and for the administrative costs of piloting PACE programs. PACE programs may also choose to set the maximum assessment relative to median home values.

[7] A different standard may apply to non-residential properties.

**6. Quality Assurance and Anti-Fraud Measures**

Quality assurance and anti-fraud measures are essential protections for property owners, mortgage holders, investors, and local governments. These measures should include:

- Only validly licensed auditors and contractors that adhere to PACE program terms and conditions should be permitted to conduct PACE energy audits and retrofits. Where feasible or necessary, auditors and contractors should have additional certifications appropriate to the installed measures.
- Inspections should be completed on at least a portion of participating properties upon project completion to ensure that contractors participating in the PACE program are adequately performing work.
- If work is not satisfactorily completed, contractor payment should be withheld until remedied. If not satisfactorily remedied, programs should disqualify contractors from further PACE-related work.
- Property owners should sign-off before payment is issued for the work.

**7. Rebates and Tax Credits**

The total amount of PACE financing should be net of any expected direct cash rebates for the energy efficiency or renewable energy improvements chosen. However, other non-direct cash incentives can be more difficult to manage. For example, calculating an expected income tax credit can be complicated, as not all participants will have access to the tax credit and there will be time lags between project completion and tax credit monetization. Programs should therefore consider alternative structures for financing this gap, including assignment of rebates and tax credits to repay PACE assessments, short-term assessment additions, and partnering with third party lenders that offer short-term bridge financing. At the minimum, programs should provide full disclosure to participants on the implications and options available for monetizing an income tax credit.

**8. Participant Education**

PACE may be an unfamiliar financing mechanism to program participants. As such, it is essential that programs educate potential participants on how the PACE model works, whether it is a property owner's most appropriate financing mechanism, and the opportunities and risks PACE program participation creates for property owners. Programs should clearly explain and provide disclosures of the following:

- How PACE financing works

- Basic information on other financing options available to property owners for financing energy efficiency and renewable energy investments, and how PACE compares
- All program fees and how participants will pay for them
- Effective interest rate including all program fees, consistent with the Good Faith Estimate (GFE) of the Real Estate Settlement Procedure Act (RESPA) and the early and final disclosure of the Truth in Lending Act (TILA).
- PACE assessment impact on escrow payments (if applicable)
- Risk that assessment default may trigger foreclosure and property loss
- Information on transferring the assessment at time of sale
- Options for and implications of including tax credits in the financed amount

**9. Debt Service Reserve Fund**

For those PACE programs that seek third party investors, including investors in a municipal bond to fund the program, an assessment reserve fund should be created to protect investors from late payment or non-payment of PACE assessments.

**10. Data Collection**

Pilot programs should collect the data necessary to evaluate the efficacy of PACE programs. Examples of typically collected data would include: installed measures, investment amount, default and foreclosure data, expected savings, and actual energy use before and after measures installation. To the extent possible, it's important that programs have access to participant utility bills, ideally for 18 months before and after the improvements are made. The Department of Energy will provide more detailed information on collecting this data, obtaining permission to access utility bills, and how to report program information to enable a national PACE performance evaluation.

**<u>Assessment Underwriting Best Practices Guidelines:</u>**

Local governments should design underwriting criteria to reduce the risk of default and impairment to the property's mortgage holders. Many best practices for reducing these risks are included in the previous section. In addition, underwriting criteria for individual assessments should include the following:

**1. Property Ownership**

- Check that applicant has clear title to property and that the property is located in the financing district.

- Check the property title for restrictions such as details about power of attorney, easements, or subordination agreements.

**2. Property-Based Debt and Property Valuation**

- Estimated property value should be in excess of property owner's public and private debt on the property, including mortgages, home equity lines of credit (HELOCs), and the addition of the PACE assessment, to ensure that property owners have sufficient equity to support the PACE assessment. Local governments should be cautious about piloting the PACE model in areas with large numbers of "underwater" mortgages.
- To avoid placing an additional tax lien on properties that are in distress, have recently been in distress, or are at risk for distress, the following should be verified:
    - There are no outstanding taxes or involuntary liens on the property in excess of $1000 (i.e. liens placed on property for failure of the owner to comply with a payment obligation).
      Property is not in foreclosure and there have been no recent mortgage or other property-related debt defaults.
- Programs should attain estimated property value by reviewing assessed value. This is typically used in assessment districts. If assessed value appears low or high, programs should review comparable market data to determine the most appropriate valuation. If programs believe the estimated value remains inaccurate or there is a lack sufficient comparable market data to conduct an analysis, they should conduct a desktop appraisal.[8]

**3. Property Owner Ability to Pay**

PACE programs attach the obligation to repay the cost of improvements to the property (not to the individual borrower). The standard underwriting for other special assessments only consists of examining assessed value to public debt, the total tax rate, and the property tax delinquency rate. However, we deem certain precautions important due to the current vulnerability of mortgage lenders and of the housing market in many regions. These precautions include:

- A Savings-to-Investment Ratio (SIR) greater than one, as described above, to maintain or improve the property owner's debt-to-income ratio.
- Property owner is current on property taxes and has not been late more than once in the past 3 years, or since the purchase of the house if less than three years.[9]

[8] A desktop appraisal involves a licensed appraiser estimating the value of a property without a visual inspection. These appraisals cost approximately $100.

[9] Applicants that have purchased the property within 3 years have recently undergone rigorous credit analyses that compensate for the short property tax payment history.

- Property owner has not filed for or declared bankruptcy for 7 years.

These best practice guidelines will evolve over time with continued monitoring of the performance of pilot PACE financing programs.

SB 56- Muni Energy Improvement Assessments/Bonds

**DETAILED SECTIONAL ANALYSIS**

- Section 1: Amends AS 29 by adding a new chapter 48. Municipal Assessed Clean Energy Act and adds:
  - Sec 29.29.010, Exercise of Powers, which allows municipalities to exercise powers under AS 29.40.060 (Judicial Review).
  - Sec 29.49.020 Authorized Assessments, allowing for an assessment to be imposed to repay the financing of qualified projects on real property in the municipality or local government that adopts this program. Qualified projects do not include undeveloped lots or lots undergoing development at the time of assessment or the purchase of products or devises that are not a permanent part of the property.
  - Sec. 29.49.030, Written Contract for Assessment Required, requires a written contract between the municipality and record owner of the real property before the PACE mechanism can be utilized.
  - Sec. 29.49.040 Establishment of Program, authorizes municipalities to choose to establish a property assessed clean energy (PACE) program that would require a written contract with a record owner of real property. The financing for the PACE mechanism may be provided by a third party, or if authorized by the program, by a municipality. Repayment of third-party or municipal financing must be assured through a written contract with the property owner to finance the qualified project through a voluntary property tax assessment.

    The financing may include project costs, materials, labor, permit fees, inspection fees, lender's fees, program application and administrative fees, project development and engineering fees, third-party review fees, including verification review fees under AS 29.49.090 and any other fees that may be incurred by the property owner relating to the installation, modification, or improvement, as determined by the municipality.
  - Sec. 29.49.050 Designation of Region, allows the municipality to participate in the program and designate an area of the municipality for participation. This may include the entire municipality or more than one region, but each must be located wholly within the municipality's jurisdiction.
  - Sec. 29.49.060 Procedure for Establishment of Program, defines the necessary actions for a municipality to establish a property assessed clean energy finance program. These are:
    - Adopt a resolution of intent that includes:
      - a finding that financing of qualified projects through contractual assessments is a valid public purpose
      - a statement that the municipality intends to make contractual assessments to repay financing for qualified projects available to property owners
      - a description of the types of qualified projects
      - a description of the region boundaries

        - a description of any proposed arrangements for third-party financing or municipal financing
        - a description of the municipal debt servicing procedures if third-party financing is provided and assessments collected to service the third-party debt
        - reference on the proposed program required by AS 29.49.010 and identifying where the report is available to the public
        - identifying the time and place for a public hearing
        - identifying the local official and assessor-collector for the proposed contractual assessments with property taxes imposed on the assessed property
    - Hold a hearing where the public has the opportunity to provide comment, including on the report required in AS 29.49.070
    - Adopt a resolution establishing and defining the terms of the program, including:
        - each item included in the report under AS 29.49.070
        - a description of each aspect of the program that may only be amended after another public hearing
    - The resolution may incorporate the report or the amended version of the report as reference.
    - The program and terms may be amended by a resolution from the governing body of the municipality.
    - A municipality may hire a program administrator and program staff or contract for professional services to administer the program.
    - Fees may be assessed as an application fee, a component of the interest rate or a combination of both.
- Sec. 29.49.070 Report Regarding Assessment, defines the requirements of the municipality's publicly-available report on the program, as required by AS 29.49.060. The report must include:
    - a map showing the boundaries of the proposed region
    - a form contract between the municipality and property owner that specifies the terms of the assessment and either the third-party or municipal financing
        - If third-party financing is used, a form contract must be included regarding the servicing of the debt through assessments.
    - A description of the types of qualified projects and a plan for ensuring sufficient capital for third-party financing
    - If appropriate and municipal bond financing is used, the report must identify:
        - A plan for raising capital for municipal financing.
        - A maximum aggregate annual dollar amount for financing to be provided by the municipality

        - The method for ranking requests from property owners if requests will likely exceed the available municipal funding, and the method for determining the interest rate and maximum amount of an assessment.
    - A method for ensuring that the repayment schedule does not exceed the useful life of the qualified project.
    - A description of the application process and eligibility requirements
    - A method to ensure that property owners have the capacity to participate and repay the financing obligations.
    - A statement describing the assessment and collection process provided by AS 29.49.080.
    - A statement explaining the review requirement provided by AS 29.49.090.
    - A description of marketing and educational services to be provided.
    - A description of quality assurance and antifraud measures.
    - Collection procedures.
    - The method for ensuring the demonstration of financial ability must be based on appropriate underwriting factors, including verification that the property owner is the legal owner of the property, current on mortgage and property tax payments and is not insolvent or in bankruptcy proceedings. An appropriate ration of the assessment to the assessed value of the property must be maintained.
    - The municipality shall make the report publicly available online and at the primary governing office of the municipality.
- Sec. 29.49.080, Notice to Mortgage Holder Required for Participation, sets a series of requirements for the municipality before it may enter into a written contract with a record owner of real property:
    - The holder of any mortgage lien on the property must be given written notice within 30 days before the contract is executed.
    - And a written consent from the mortgage lien holder must be obtained.
- Sec. 29.49.090, Review Required, requires the third-party review of baseline energy conditions in a proposed qualified project and the projected energy savings. After project completion the municipality must obtain a third-party verification that the project was properly completed and is operating as intended.
- Sec. 29.49.100, Direct Acquisition by Owner, the proposed financing arrangements for a qualified project may authorize the property owner to directly purchase necessary equipment and materials, contract directly-including through lease- power purchase agreement or other service contract for the installation or modification of a qualified project.
- Sec. 49.110, Recording of Notice for Contractual Assessment Required, requires a municipality that authorizes financing through contractual assessments to file written notice of each contractual assessment in the real property records of the recording district in which the property is located. This notice must contain the amount of the assessment,

legal description of the property, name of each property owner and a reference to the statutory assessment lien.

- Sec. 29.49.120, Lien, states that contractual assessments as part of this program and any interest and penalties are liens on the assessed property and are prior and paramount to all liens except municipal tax liens and special assessments. Contractual assessment liens may be enforced as provided by AS 29.45.320- 29.45.470.
    - Contractual assessment liens are attached with the land and foreclosure of a property tax lien does not eliminate outstanding assessments.
    - Penalties and interest may be added to delinquent installments of the assessments, consistent with AS 29.45.250.
    - A municipality may recover costs and expenses, including attorney fees, if a suit is filed to recover delinquent installment of assessments, consistent with the delinquent property tax suit process.
- Sec. 29.49.130, Collection of Assessments, states that the governing body of a municipality may contract with the governing body of another taxing unit to collect assessments as outlined under this chapter.
- Sec. 29.49.140, Bonds or Notes, authorizes a municipality to issue bonds or notes to finance qualified projects.
    - Bonds issued under this section must be secured by one or more of the following:
        - payments of contractual assessments on benefited property in one or more specified regions
        - reserves established by the municipality from grants, bonds or net proceeds or lawfully available funds
        - municipal bond insurance, lines of credit, public or private guaranties, standby bond purchase agreements, collateral assignments, mortgages or any other available means of providing credit support or liquidity, and
        - any other funds lawfully available for purposes consistent with this chapter.
    - The governing body of the municipality must include this information in a resolution approving the bonds or notes.
    - The municipality's contractual rights in connection with the issuance of bonds or notes is a first lien on the property, without further action by the municipality. The lien is valid and binding against any other person, with or without notice.
    - Bonds or notes issues under this chapter further an essential public and governmental purpose, including the:
        - Improvement of the reliability of local electrical systems
        - Reduction of energy costs
        - Reduction of energy demand on local utilities
        - Economic stimulation and development
        - Enhancement of property values, and
        - Enhancement of employment opportunities.

- Sec. 29.49.150, Joint Implementation, any combination of municipalities may agree to jointly implement or administer a program under this chapter, or contract with a third-party. If two or more municipalities jointly administer the program, a public hearing is to be held by the cooperating municipalities sufficient to satisfy the requirements of AS 29.49.060.
- Sec. 29.49.160, Prohibited Acts, states that participation in the program must be voluntary. A municipality that establishes a region under this chapter may not require a real property owner in that region to participate in the assessment program outlined in this chapter in order to issue a permit, license or other municipal authorization, or otherwise compel a property owner in the region to enter into a written contract to repay the financing of a qualified project through contractual assessments.
- Sec. 29.49.900, Definitions, defines terminology included in the chapter.
- Sec. 29.49.995, Short Title, indicates this chapter may be cited as the Municipal Property Assesse Clean Energy Act.

➢ Section 2 sets an immediate effective date.

**CS House Bill 118 CRA - Muni Energy Improvement Assessments/Bonds**

**DETAILED SECTIONAL ANALYSIS**

Section 1: Amends existing AS 29.10.200 to add PACE financing to the list of items that Home Rule municipalities are allowed engage in.

Section 2: Amends AS 29.35.200(b) to add PACE financing to the list of items that first class boroughs are allowed to engage in on an area wide basis.

Section 3: Amends AS 29.35.210(b) to add PACE financing to the list of items that second class boroughs are allowed to engage in on an area wide basis.

Section 4: Amends AS 29 by adding a new chapter 48. Municipal Assessed Clean Energy Act and adds:

- Sec 29.29.010, Exercise of Powers, which allows municipalities to exercise powers under AS 29.40.060 (Judicial Review).

- Sec 29.49.020 Authorized Assessments, allowing for an assessment to be imposed to repay the financing of qualified projects on real property in the municipality or local government that adopts this program. Qualified projects do not include undeveloped lots or lots undergoing development at the time of assessment or the purchase of products or devises that are not a permanent part of the property.

- Sec. 29.49.030, Written Contract for Assessment Required, requires a written contract between the municipality and record owner of the real property before the PACE mechanism can be utilized.

- Sec. 29.49.040 Establishment of Program, authorizes municipalities to choose to establish a property assessed clean energy (PACE) program that would require a written contract with a record owner of real property. The financing for the PACE mechanism may be provided by a third party, or if authorized by the program, by a municipality. Repayment of third-party or municipal financing must be assured through a written contract with the property owner to finance the qualified project through a voluntary property tax assessment.

  The financing may include project costs, materials, labor, permit fees, inspection fees, lender's fees, program application and administrative fees, project development and engineering fees, third-party review fees, including verification review fees under AS 29.49.090 and any other fees that may be incurred by the property owner relating to the installation, modification, or improvement, as determined by the municipality.

**CS House Bill 118 CRA Sectional Analysis**

- Sec. 29.49.050 Applicability of Program, requires municipalities to implement PACE on an area wide basis if they choose to participate in the program. Cities within a borough are allowed to opt out of a borough program through passage of an ordinance. Cities may opt in to a borough program, by ordinance, if they previously opted out. A borough that assumes a city PACE program succeeds to all rights and obligations of the city program.

- Sec. 29.49.060 Procedure for Establishment of Program, defines the necessary actions for a municipality to establish a property assessed clean energy finance program. These are:
  - Adopt a resolution of intent that includes:
    - a finding that financing of qualified projects through contractual assessments is a valid public purpose;
    - a statement that the municipality intends to make contractual assessments to repay financing for qualified projects available to property owners;
    - a description of the types of qualified projects;
    - a description of the region boundaries;
    - a description of any proposed arrangements for third-party financing or municipal financing;
    - a description of the municipal debt servicing procedures if third-party financing is provided and assessments collected to service the third-party debt;
    - reference on the proposed program required by AS 29.49.010 and identifying where the report is available to the public;
    - identifying the time and place for a public hearing;
    - identifying the local official and assessor-collector for the proposed contractual assessments with property taxes imposed on the assessed property;

  - Hold a hearing where the public has the opportunity to provide comment, including on the report required in AS 29.49.070;

  - Adopt an ordinance establishing and defining the terms of the program, including:
    - each item included in the report under AS 29.49.070;
    - a description of each aspect of the program that may only be amended after another public hearing;

  - A municipality may hire a program administrator and program staff or contract for professional services to administer the program;

  - Fees may be assessed as an application fee, a component of the interest rate or a combination of both.

- Sec. 29.49.070 Report Regarding Assessment, defines the requirements of the municipality's publicly-available report on the program, as required by AS 29.49.060. The report must include:
  - A map showing the boundaries of the proposed region;

- A form contract between the municipality and property owner that specifies the terms of the assessment and either the third-party or municipal financing;

- A form contract, if third-party financing is used, that must be included regarding the servicing of the debt through assessments;

- A description of projects may qualify and a plan for ensuring sufficient capital for third-party financing;

- If municipal bond financing is used:
  - a plan for raising capital for municipal financing;
  - a maximum aggregate annual dollar amount for financing to be provided by the municipality;
  - the method for ranking requests from property owners if requests will likely exceed the available municipal funding, and the method for determining the interest rate and maximum amount of an assessment;

- A method for ensuring that the repayment schedule does not exceed the useful life of the qualified project;

- A description of the application process and eligibility requirements;

- A method to ensure that property owners have the capacity to participate and repay the financing obligations;

- A statement describing the assessment and collection process provided by AS 29.49.080;

- A statement explaining the review requirement provided by AS 29.49.090;

- A description of marketing and educational services to be provided;

- A description of quality assurance and antifraud measures;

- Collection procedures;

- The method for ensuring the demonstration of financial ability must be based on appropriate underwriting factors, including verification that the property owner is the legal owner of the property, current on mortgage and property tax payments and is not insolvent or in bankruptcy proceedings. An appropriate ration of the assessment to the assessed value of the property must be maintained;

- The municipality shall make the report publicly available online and at the primary governing office of the municipality.

- Sec. 29.49.080, Notice to Mortgage Holder Required for Participation, sets a series of requirements for the municipality before it may enter into a written contract with a record owner of real property:
    - The holder of any mortgage lien on the property must be given written notice within 30 days before the contract is executed;
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        - payments of contractual assessments on benefited property in one or more specified regions
        - reserves established by the municipality from grants, bonds or net proceeds or lawfully available funds
        - municipal bond insurance, lines of credit, public or private guaranties, standby bond purchase agreements, collateral assignments, mortgages or any other available means of providing credit support or liquidity, and
        - any other funds lawfully available for purposes consistent with this chapter.

    - The governing body of the municipality must include this information in a resolution approving the bonds or notes.

    - The municipality's contractual rights in connection with the issuance of bonds or notes is a first lien on the property, without further action by the municipality. The lien is valid and binding against any other person, with or without notice.

    - Bonds or notes issues under this chapter further an essential public and governmental purpose, including the:
        - Improvement of the reliability of local electrical systems
        - Reduction of energy costs
        - Reduction of energy demand on local utilities
        - Economic stimulation and development
        - Enhancement of property values, and
        - Enhancement of employment opportunities.

- Sec. 29.49.150, Joint Implementation, any combination of municipalities may agree to jointly implement or administer a program under this chapter, or contract with a third-party. If two or more municipalities jointly administer the program, a public hearing is to be held by the cooperating municipalities sufficient to satisfy the requirements of AS 29.49.060.

- Sec. 29.49.160, Prohibited Acts, states that participation in the program must be voluntary. A municipality that establishes a region under this chapter may not require a real property owner in that region to participate in the assessment program outlined in this chapter in order to issue a permit, license or other municipal authorization, or otherwise compel a property owner in the region to enter into a written contract to repay the financing of a qualified project through contractual assessments.

- Sec. 29.49.890, Allows the proposed PACE provisions to be available to home rule and general law municipalities.

- Sec. 29.49.900, Definitions, defines terminology included in the chapter.

- Sec. 29.49.995, Short Title, indicates this chapter may be cited as the Municipal Property Assesse Clean Energy Act.

Section 5: Sets an immediate effective date.

# ATTACHMENT 2

*Income Restricted Program Plan – Draft*

# Income Restricted Program Plan

DRAFT

*Prepared for:*

**Interior Gas Utility**
P.O. Box 70200
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*Prepared by:*

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January 2016

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## List of Acronyms

| | |
|---|---|
| % | percent |
| AHFC | Alaska Housing Finance Corporation |
| CDP | Census Designated Place |
| FCSU | Food, clothing, shelter, and utilities |
| FHA | Federal Housing Administration |
| FNG | Fairbanks Natural Gas |
| FNSB | Fairbanks North Star Borough |
| FPL | Federal Poverty Level |
| HUD | Housing and Urban Development |
| IEP | Interior Gas Project |
| IGU | Interior Gas Utility |
| IR | Income Restricted |
| LIHEAP | Low Income Home Energy Assistance Program |
| LNG | Liquefied Natural Gas |
| REAP | Rural Energy for America Program |
| SNAP | Supplemental Nutrition Assistance Program |
| VISTA | Volunteers in Service to America |

# 1 INTRODUCTION

## 1.1 PURPOSE AND GOALS OF THE PROGRAM

The purpose of an Income Restricted (IR) Program (program) is to generate interest and facilitate conversion to natural gas heating units for households with incomes qualified as "restricted" or restrictive. Section 1.4 describes the need for defining "income restricted" and how eligibility requirements may be determined.

Goals of the IR Program are:

- Identify the number of qualified households.
- Provide a 50 percent (%) energy cost reduction, once converted.
- Provide some form of financial assistance to qualified residential customers.

Households qualified as IR may not have the financial resources to convert heating units to burn natural gas. However, converting existing heating units to natural gas in these qualified households has the potential to reduce their energy costs and may help facilitate reduction of poverty in the service areas.

## 1.2 BENEFITS AND CHALLENGES OF THE PROGRAM

By including the IR residential customers in the Conversion Program, this population would be able to benefit from lower energy costs and contribute to improved air quality in the Fairbanks North Star Borough (FNSB).

Benefits include:

- An estimated net value of fuel cost savings of $835.1 million [1]
- Air emissions reduced by approximately 32%.[2]
  - Improvement in air quality could benefit the IR population in Fairbanks, especially when considering that the negative effects of pollution can over-proportionally toll those living in poverty.[3]
- Natural gas is the cleanest fossil fuel and is a highly efficient form of energy.

Challenges to conversion for IR residential customers include:

- Upfront cost of conversion is estimated to be between $6,000 and $10,000 for full replacement and about $2,300 for burner replacement.

[1] Cardno ENTRIX. (2014, January). *IEP Natural Gas Conversion Analysis: Fairbanks LNG Distribution System Demand Analysis.* Portland, OR: Lee Elder.

[2] *Ibid.*

[3] American Lung Association. (2015). *State of the Air: 2015.* Washington, DC.

- Future financing programs may have certain credit requirements that some IR residents do not meet.
- Inability to pay upfront or finance a conversion could prevent IR households from realizing future energy savings.
- Programs that provide rebates for energy improvements require the initial cost to be paid by the consumer, who is later reimbursed.
- Owners of rental properties housing IR residents may not be interested in conversion, if they do not expect to see return on their investment.

## 1.3 POSSIBLE STRATEGIES FOR FUNDING THE PROGRAM

Possible strategies to address the challenges described in Section 1.2 include:

- Grant-Based Funding— Conduct research and identify fund-granting institutions and programs for which Interior Gas Utility (IGU) would be eligible. This would include planning and presentation of a conversion cost assistance program that would be submitted through the granting institution's application process.
- Low Interest, Guaranteed Lending – Similar to the U.S. Department of Agriculture Rural Energy for America Program (REAP), a lending body could provide guaranteed loan financing and grant funding to qualifying IR residential customers.
- Partnering with local and/or state groups who service the IR population of the FNSB.

## 1.4 CRITERIA DEFINING INCOME RESTRICTED

### 1.4.1 Adopted Definition of Income Restricted

For the sake of functionality, the proposed IR Program adopts the Alaska Housing Finance Corporation (AHFC) definition of low to moderate income, as utilized by their Weatherization Program. To qualify for the Weatherization Program, a household must have an income lower than the area's median income (**Appendix A**, Fiscal Year 2015 Income Limits for Alaska). This definition can be responsibly used to define the IR population in the IGU buildout territory, because AHFC is, like IGU, an entity of the State of Alaska that works in the home energy industry.

The definition of IR will have large effects on the IR Program scope of work and execution. The term must be closely defined to be able to obtain an accurate count of households that may participate in an assistance program and, thus, determine the amount of funding that may be required to support the IR Program. By temporarily adopting the AHFC income limits used to qualify residents for their Weatherization Program, the number of eligible residential customers can be estimated at approximately 50% of the IGU service population, because the median income limits fall at approximately the center of the income distribution for the FNSB.

The definition of IR will be reevaluated as the Conversion Program is developed to determine if it is still relevant and reflects the values and goals of IGU.

### 1.4.2 Other Definitions Considered for Income Restricted

Other definitions of low income, poverty, or at-risk were considered, but not used as definitions for IR in the context of the Conversion Program including:

1. Federal Poverty Line (FPL) — The FPL is the minimum gross income that a family is deemed to require for food, clothing, transportation, shelter, and other necessities. In the U.S., the FPL is determined by the U.S. Department of Health and Human Services. FPL varies according to family size. The FPL is used to determine eligibility for programs like the Supplemental Nutrition Assistance Program (SNAP).

   Currently, an estimate of the total conversion cost for those below the FPL can be calculated by multiplying the number of individuals who have used Public Income Assistance or SNAP food benefits within the last 12 months (and live within one of the 11 Census Designated Places [CDPs] in the IGU service territory) (3,000 +/- 1,000 people[4]) by the estimated average cost of conversion ($6,000-$7,000[5]). The total estimated cost of conversion for this definition of IR is approximately $12 million to $28 million.

2. United Nations Development Program – The Multidimensional Poverty Index (MPI) complements the monetary measure of poverty by considering overlapping deprivations across three dimensions:
   a. Health
      i. Nutrition
      ii. Child Mortality
   b. Education
      i. Years of schooling
      ii. Children enrolled
   c. Standard of living

3. The Low Income Home Energy Assistance Program (LIHEAP) – The LIHEAP provides assistance with energy costs, specifically heating cost assistance for qualified households. Components of LIHEAP include:
   a. Income limit is $2,619 for a household of one, and increases by $928 per added member
   b. Grant amount is calculated using a point system based on: residing location in the state, fuel type, dwelling type, household size, and income.

4. Energy Poor – Eligibility defined by:
   a. Household is spending a specific dollar amount, or percentage of household income on home energy/heating.
   b. Energy efficiency of the home, measured by rating in-home technology and energy audit.

[4] U.S. Census Bureau, 2009-2013 5-Year American Community Survey

[5] Cardno ENTRIX. (2014, January). *IEP Natural Gas Conversion Analysis: Fairbanks LNG Distribution System Demand Analysis.* Portland, OR: Lee Elder.

5. Supplemental Poverty Measure – Eligibility defined by:
    a. Families, including any co-resident unrelated children who are cared for by the family (such as foster children) and any cohabiters and their relatives, or unrelated, non-cohabiting individuals.
    b. Geographic adjustments for differences in housing costs by tenure and a three-parameter equivalence scale for family size and composition.
    c. Five-year moving average of expenditures on food, clothing, shelter and utilities (FCSU).
    d. Sum of cash income, plus noncash benefits that families can use to meet their FCSU needs, minus taxes (or plus tax credits), minus work expenses, out-of-pocket medical expenses, and child support paid to another household.
6. Combination of factors, allowing for different scenarios to be eligible and still maintaining standards of eligibility, such as:
    a. Percent of income spent on housing.
    b. Debt to income ratio.
    c. SNAP or income assistance benefits.
    d. Medicaid recipients.
    e. Disability benefits.
    f. Eligibility in programs mentioned above, or other programs.
    g. Other metrics or combination of metrics.

## 1.5 "POVERTY-PLUS-$1" PHENOMENON

By adopting a measure of poverty that uses income limits, there is a risk of creating a virtually arbitrary barrier between those just above the designated income limit. The "Poverty-Plus-$1" phenomenon refers to situations in which those who make even just one dollar more than the income limit would not be eligible to receive any type of assistance. While there may be no ascertainable difference between the financial lifestyle of a residential customer who is just below the income limit and one who is just above, one would receive assistance and the other would not. A number of solutions to this problem will be analyzed as the IR Program and its definition of a qualified residential customer is further developed. Possible solutions may include:

- A scaled or prorated system of assistance, in which those who are above the income limit would receive reduced assistance accordingly.
- Multi-factored definition of "Income Restricted," allowing for many variations of personal financial ability to be included as eligible residents.

# 2 DEMOGRAPHIC DATA

This section outlines demographic data from the U.S. Census Bureau that reflects employment, income, and poverty rate with the FNSB for a 5-year period (2009 through 2013).

## 2.1 U.S. CENSUS BUREAU DATA

### 2.1.1 Employment and Income

There are several sources of demographic data regarding income levels of FNSB residents. The most reliable source of relevant data is the U.S. Census Bureau. The U.S. Census data for the FNSB reflects many factors that could affect a household's possible conversion preferences.

**Table 2.1** lists the employment status and incomes for residents of the FNSB for a 5-year period (2009 through 2013).

**Table 2.1 Employment Rate for FNSB based on U.S. Census Data**

| Employment Status | Number | Range | Percent |
|---|---|---|---|
| Population 16 years and Over | 76,010 | +/- 241 | 100 |
| In Labor Force | 55,496 | +/- 761 | 73.0 |
| Civilian Labor Force | 49,876 | +/-957 | 65.6 |
| Employed | 45,920 | +/- 992 | 60.4 |
| Unemployed | 3,956 | +/- 542 | 5.25.2 |
| Armed Forces | 5,620 | +/- 592 | 7.4 |
| Not in Labor Force | 20,514 | +/- 730 | 27.0 |

Key:
FNSB – Fairbanks North Star Borough

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey. 2014.

"Unemployed" is defined as:

> "All civilians 16 years old and over are classified as unemployed if they: (1) were neither "at work" nor "with a job but not at work" during the reference week, and (2) were actively looking for work during the last 4 weeks, and (3) were available to start a job."

Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, or were available for work except for temporary illness. Examples of job seeking activities are:

- Registering at a public or private employment office.
- Meeting with prospective employers.
- Investigating possibilities for starting a professional practice or opening a business.
- Placing or answering advertisements.
- Writing letters of application.

"Not in Labor Force" is defined as:

> "All people 16 years old and over who are not classified as members of the labor force. This category consists mainly of students, homemakers, retired workers, seasonal workers interviewed in an off season who were not looking for work, institutionalized people, and people doing only incidental unpaid family work (less than 15 hours during the reference week)."[6]

### 2.1.2 Poverty Rate

There are three geographic areas to consider when defining the poverty rate in the IGU service territory: (1) the City of North Pole – the first area to receive the IGU distribution system; (2) the City of Fairbanks – to be included in IGU's service territory if the acquisition of Fairbanks Natural Gas (FNG) is complete; and (3) the FNSB as a whole. Although the entire FNSB will not have access to liquefied natural gas (LNG), the demographic data gathered for the FNSB can be useful. **Table 2.2** lists poverty rates (2009-2013) for these areas.

**Table 2.2 Poverty Rates for North Pole, Fairbanks, and FNSB Overall**

| Geographic Area | Poverty Rate |
|---|---|
| North Pole | 8.5% |
| Fairbanks | 12.8% |
| FNSB | 8.4 % |

Key:
FNSB – Fairbanks North Star Borough

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey. 2014.

The U.S. Census Bureau lists 11 CDPs representing the smallest geographic areas within the Fairbanks area with available income data. The CDPs are relevant here because they roughly mirror the IGU buildout pattern. To maintain anonymity at a certain level of detail and protect those in IR, personal information is not reported. The CDPs represent the closest to "on the ground" scenarios as possible. **Table 2.3** lists poverty statistics for each CDP in the Fairbanks area. **Appendix B** depicts the boundaries of the CDPs.

Comparison of the poverty rates in the CDPs with the proportion of households that have used public income assistance, or SNAP, indicates there are generally more people living in poverty than there are taking advantage of assistance programs. Four factors may account for this disparity:

1. Strict eligibility requirements for assistance programs.
2. Lack of information on where to apply for assistance.
3. Inability to apply.
4. Choosing not to apply.

[6] U.S. Census Bureau, Labor Force Statistics, "Definitions".
http://www.census.gov/people/laborforce/about/acs_employ.html

These factors would likely affect rates of enrollment in an assistance program and should be considered by IGU in developing any future IR Program.

**Table 2.3 Summary of Fairbanks Area Poverty Statistics by CDP**

| CDP | Population | Housing Units | Poverty Rate | Public Assistance Income or SNAP in Past 12 Months (number of households) |
|---|---|---|---|---|
| Goldstream | 3,557 | 1,802 | 5.2% | 15 |
| Ester | 2,422 | 1,383 | 18.5% | 96 |
| Chena Ridge | 5,791 | 2,610 | 2.9% | 149 |
| College | 12,964 | 5,468 | 9.2% | 403 |
| South Van Horn | 558 | 272 | 32.1% | 63 |
| Farmers Loop | 4,853 | 1,534 | 3.7% | 61 |
| Fox | 417 | 396 | 4.5% | 0 |
| Fairbanks[1] | 31,535 | 13,254 | 12.8% | 1,342 |
| Steele Creek | 6,662 | 2,580 | 2.4% | 64 |
| Badger | 19,482 | 7,808 | 5.3% | 734 |
| North Pole[1] | 2,117 | 956 | 8.5% | 68 |

Key:
1 – Qualifies as both City and CDP.
CDP – Census Designated Place
SNAP – Supplemental Nutrition Assistance Program

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey. 2014.

# 3 PREVIOUS CONVERSION RESEARCH

This section describes and summarizes previous research by Agnew::Beck Consulting (Agnew::Beck):

- December 2013 – Focus Group Summary Report: Fairbanks Liquefied Natural Gas Demand and Distribution Analysis
- September 2014 – Natural Gas Conversion Research: Interview Summary Report.

In addition, Cardno ENTRIX conducted a demand analysis and prepared a report for the Fairbanks LNG distribution system for the Interior Energy Project (IEP) (January 2014). The Cardno ENTRIX report is noted as a source on the income distribution histograms provided in this section, and includes the Agnew::Beck Focus Group report (2013) as an Appendix.

## 3.1 AGNEW::BECK – FOCUS GROUP SUMMARY REPORT: FAIRBANKS LIQUEFIED NATURAL GAS DEMAND AND DISTRIBUTION ANALYSIS (DECEMBER, 2013)

The information gathered through a focus group study of 41 participants conducted by Agnew::Beck in December of 2013 offers reliable baseline information when discussing the Fairbanks conversion process with a wide perspective. However, the participants of the focus group did not include representation of the IR population in the FNSB. The report states:

"Compared to the general population, the focus group participants are older, have higher household income, and are all homeowners." (Agnew::Beck, p. 8; 2013). Over half of the participants (26 of the 41) have a household income of $80,000 or more.

**Table 3.1** presents U.S. Census Bureau data for household income for FNSB and **Table 3.2** lists Housing Tenure information relevant to the FNSB.

**Table 3.1 U.S. Census Bureau Estimated Household Income for FNSB, 2009-2013**

| Total | 35,558 |
|---|---|
| Less than $10,000 | 4.3% |
| $10,000 to $14,999 | 3.4% |
| $15,000 to $24,999 | 8.0% |
| $25,000 to $34,999 | 8.3% |
| $35,000 to $49,999 | 11.5% |
| $50,000 to $74,999 | 19.2% |
| $75,000 to $99,999 | 15.3% |
| $100,000 to $149,999 | 18.3% |
| $150,000 to $199,999 | 7.7% |
| $200,000 or more | 4.0% |
| Median Income (dollars) | 69,223 |

**Table 3.2 Housing Tenure Estimates, FNSB, 2009-2013**

| Housing Tenure | Number | Range | Percent |
|---|---|---|---|
| Occupied Housing Units | 35,588 | +/-637 | 100 |
| Owner-occupied | 21,082 | +/-639 | 59.2 |
| Renter-occupied | 14,506 | +/-747 | 40.8 |

Based on the data presented in Table 3.1 and Table 3.2:

- 15.7% of the population of the FNSB has a household income of less than $25,000.
- The FNSB has a 40% rate of renter-occupied housing.

The 2013 focus group study had two participants (6.9% of the total) with household incomes between $20,000 and $39,999, and no participants indicated income of less than $20,000. A large portion of the FNSB population was not represented by the participants in the focus group: both those with income less than $20,000 and those who are renters.

The results presented in the Focus Group Study Report indicate that 21.95% of the participants have primary heating units that are over 20 years old, and 12.2% have heating units that are 11 to

20 years old. Therefore, heating units that are over 10 years old would likely require complete replacement and incur higher costs[7].

Of those participating in the focus group, 61.54% stated they would convert within the year, with 35.9% of participants stating they would convert within 6 months. This suggests that the majority of this participation group has the financial flexibility to be able to pay or finance a conversion within a relatively short period of time. This is not necessarily true for IR residents, who may need a longer period of time to accumulate savings dedicated to the cost of conversion, or apply and qualify for assistance.

When participants were asked about how they would pay for conversion, 62.5% said they preferred to pay cash to a private loan, and 60% said they preferred paying cash over a low interest individual loan. This suggests the majority of the focus group had the ability to pay out-of-pocket for conversion at the time of the focus group meeting.

Every participant said they were at least "somewhat likely" to convert to natural gas, with 46.15% being certain they would and 28.21% being "very likely."

While the data gathered in the 2013 focus group can inform IGU about the conversion habits of those within similar income categories as those who participated, those conclusions cannot be responsibly applied to lower income populations that were not represented. The focus group study had three main objectives: (1) find rate of household conversion to natural gas, (2) identify factors impacting rate of household conversion, and (3) identify incentive programs that will increase the rate of conversion. Because conversion is a primarily financial decision, income level is an important metric when attempting to estimate conversion rates. If representatives from every income level are not included, one cannot accurately estimate conversion rates.

### 3.2 AGNEW::BECK – NATURAL GAS CONVERSION RESEARCH: INTERVIEW SUMMARY REPORT (2014)

In 2014, Agnew::Beck conducted another study similar to the focus group (Section 3.1), with primarily a new group of participants, posing slightly modified questions, and executed by conducting individual interviews. This study focused primarily on homeowners in North Pole, a subset of the FNSB, and the first area proposed to receive natural gas distribution piping.

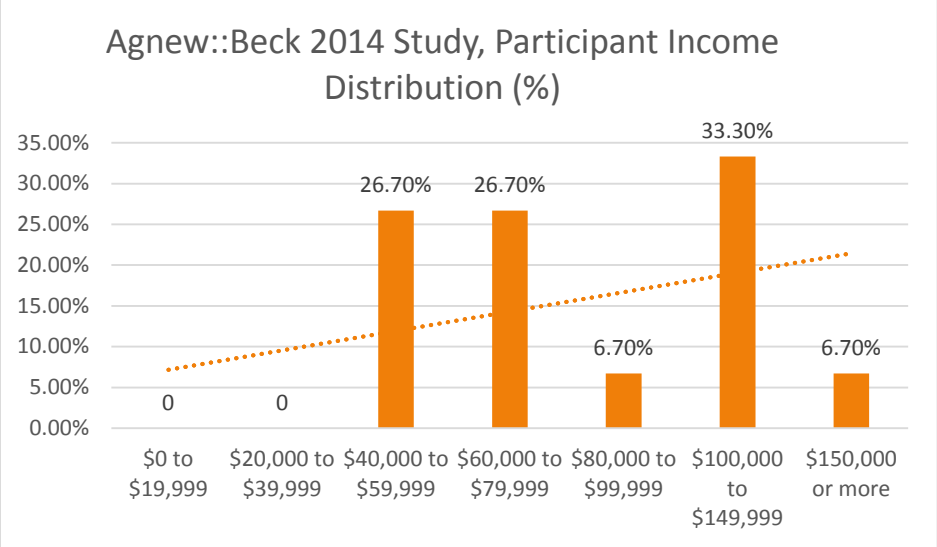
The 17 participants of the interview study included no one with a household income of less than $40,000. The City of North Pole has 24.2% of its population with a household income of $34,999 or less. This means, at the very least, 24.2% of North Pole's population was not represented in this study, with the likelihood of that number being even higher[8]. According to the interviewees, the largest obstacle to conversion is cost. It can be assumed that this would be an even larger factor

[7] *Ibid.*

[8] Because the survey conducted by Agnew::Beck has a different income categories than the U.S. Census Bureau uses, we cannot determine what proportion of the population sits between the $34,999 limit used by the Census and the $40,000 limit used by Agnew::Beck.

for IR households considering conversion. **Figure 3.1** depicts income distribution among the 2014 Interview Study participants.

**Figure 3.1 North Pole Agnew::Beck Interview Participants Income Distribution (2014)**




Source: Cardno ENTRIX. (2014, January). IEP Natural Gas Conversion Analysis: Fairbanks LNG Distribution System Demand Analysis. Portland, OR: Lee Elder.

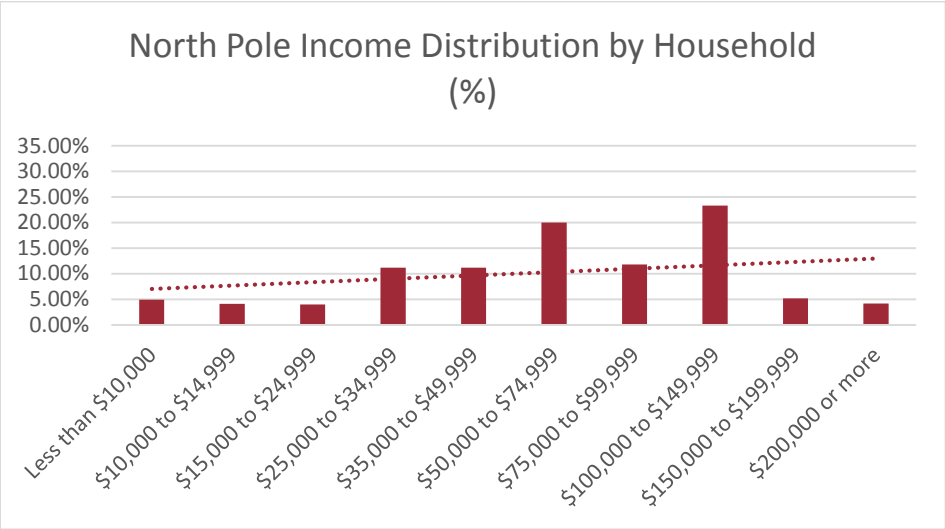
Because the Agnew::Beck 2014 interview study used different income categories than the U.S. Census Bureau data, direct numerical comparison cannot be made. However, by using percentages and trend lines, the general distribution across income categories becomes apparent. The trend line represents the frequency of participants in a particular income category. The higher the position on the trend line, the more frequent, or represented, that income category was in the interview study group. The upward trend in the graph depicted on Figure 3.1 indicates that interview participants with income toward the higher end had greater representation in the Agnew::Beck study than participants with income toward the lower end.

**Figure 3.2** graphically depicts U.S. Census Bureau income data and the trend for North Pole Households as a whole (2009 through 2013). In both Figure 3.1 and Figure 3.2[9], the trend line is slightly upward (suggesting that the higher income categories have more frequency than the lower income categories in the general North Pole population). However, on Figure 3.2 (based on U.S. Census Bureau data for ALL North Pole households), the trend line is shallower than the trend in the Agnew::Beck distribution (based on 17 participants in the interview study).

Comparison of the U.S. Census Bureau income data from North Pole (Figure 3.2) to the U.S. Census Bureau income data from the City of Fairbanks (**Figure 3.3**), indicates a more balanced distribution of incomes in the City of Fairbanks.

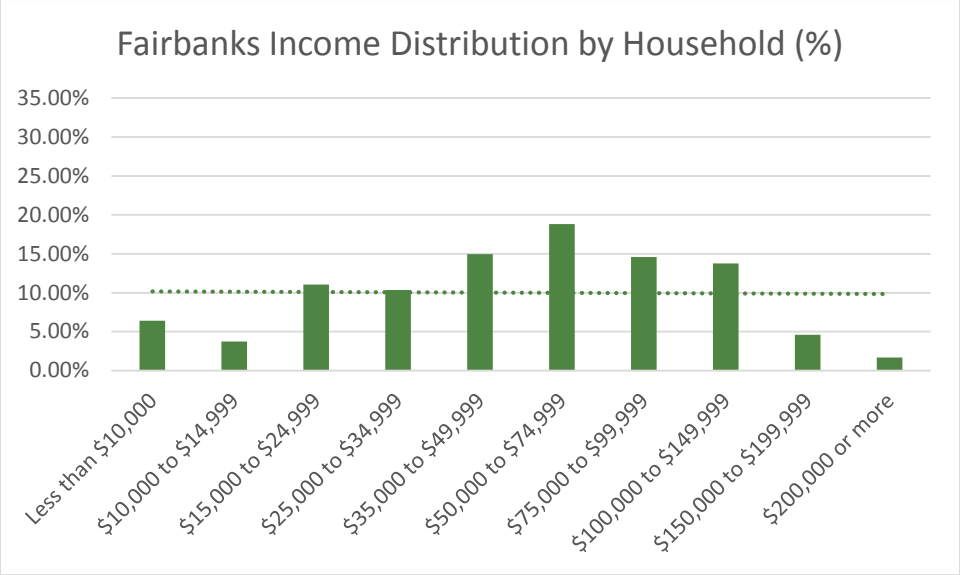
[9] Comparing these graphs must be in trend only and general distribution, the differing income limit categories make direct comparison impossible.

**Figure 3.2 North Pole Income Distribution by Household (2009 – 2013)**




Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

**Figure 3.3 Fairbanks Income Distribution by Household (2009 – 2013)**




Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

The income distribution trend lines indicate that the lower income categories were under-represented in the Agnew::Beck interviews, for both North Pole and the City of Fairbanks. This means that the income distribution data gathered by the Agnew::Beck interview studies were not representative of the North Pole or Fairbanks overall populations.

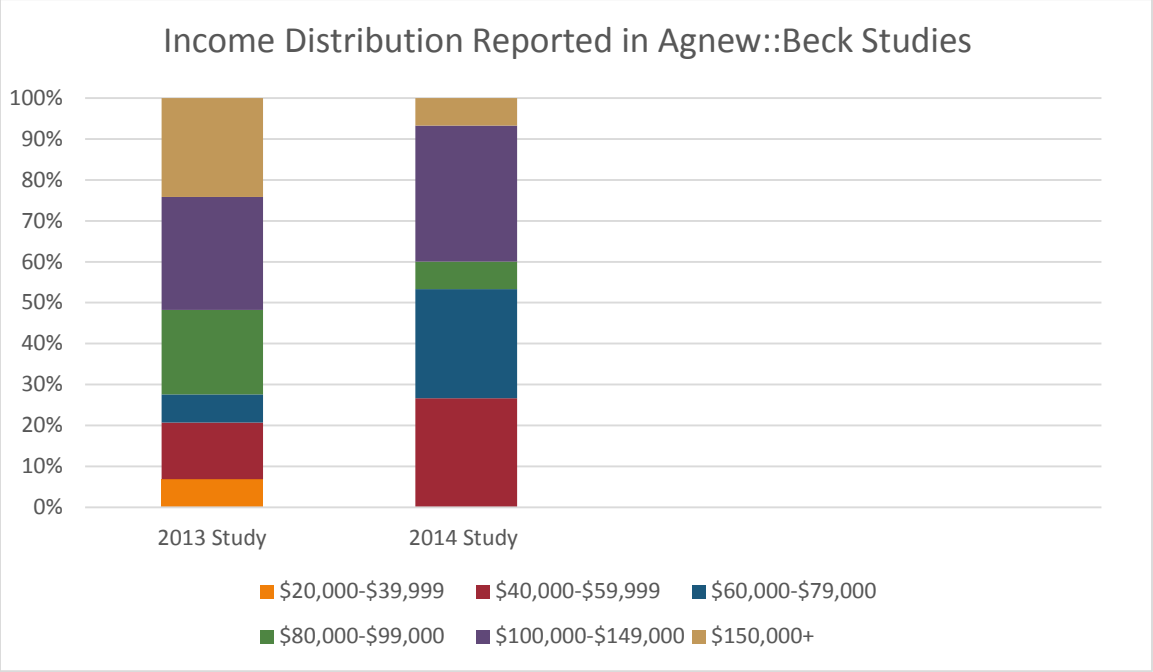
The demographics of the population within the City of Fairbanks will be an important consideration for a future IR Program established by IGU. Because of the acquisition of FNG, the

IR residential customers of Fairbanks will eventually fall into the IGU service territory. The larger proportion of those with low incomes in Fairbanks, as compared to those in the FNSB overall and North Pole, will greatly affect the number of IR eligible residential customers.

The Agnew::Beck 2014 interview report states the majority of participants said they would prefer to pay cash, but only up to a certain limit – typically in the $5,000 to $7,000 range. Beyond that cost, they said they would need to borrow money in some form. Considering the statistically high income of this group, IR residents would likely have a lower limit on how much they would be willing and/or able to pay upfront with cash (as compared to the $5,000 to $7000)[10]. Some of the participants in the Agnew::Beck interview survey were even concerned about qualifying for a loan program, referring to previous debt and credit scores as potential barriers. This would likely be true of IR residents, as well.

**Figure 3.4** depicts income distribution based on the two Agnew::Beck studies (the 2013 Focus Group and the 2014 Interviews).

**Figure 3.4 Income Distribution Reported in Agnew:: Beck Studies**




Sources: Agnew::Beck 2013; Agnew::Beck 2014

The 2014 study group income distribution was slightly higher than that indicated by the 2013 study, and the participants of the 2014 study have an average heating unit age of 7.75 years, while the 2013 study participants have an average heating unit age of 9.9 years. This relationship is congruent with the hypothesized negative correlation between income and heating unit age: as

[10] Cardno ENTRIX. (2014, p. 2-13), "Household income also indicates the ability of FNSB households to pay for the upfront capital cost of conversion."

income increases, age of heating unit decreases, suggesting that conversions will be more expensive for those with lower incomes. While this data and calculation is not reliable enough to determine this correlation with certainty, the pattern that emerges from previous research suggests the hypothesis will hold true with further study. Data to test this hypothesis is currently being gathered.

# 4 CURRENT ASSISTANCE PROGRAMS

Other organizations and programs exist to help individuals and households with weatherizing a home, energy efficiency upgrades, financing a mortgage, covering the cost of heating, and other project goals. There are also lessons to be learned from other LNG utilities and projects. Some of those programs and their parameters are discussed in this section. Identifying and learning from these programs can help IGU develop a possible IR Program.

## 4.1 ALASKA HOUSING FINANCE CORPORATION

### 4.1.1 Energy Efficiency Rate Reduction

To promote the energy efficiency of existing and newly constructed homes, AHFC offers interest rate reductions to homebuyers for properties meeting certain criteria.

AHFC offers interest rate reductions when financing new or existing energy efficient homes, or when borrowers purchase and make energy improvements to an existing home. Any property that can be energy rated and is otherwise eligible for AHFC financing may qualify for this program.

Interest rate reductions apply to the first $200,000 of the loan amount. A loan amount exceeding $200,000 receives a blended interest rate rounded up to the next 0.125 percent. The percentage rate reduction depends on whether or not the property has access to natural gas.[11]

### 4.1.2 Home Energy Rebate Program

The AHFC Home Energy Rebate Program, funded by the Alaska State Legislature, provides Alaska homeowners (regardless of income) up to a $10,000 rebate for pre-approved energy efficiency improvements, including materials and contracted labor.[12] The household must not have had improvements done through AFHC in order to qualify. The process begins with an energy audit and the rebate amount is determined by the level of efficiency increase in the home after the modifications. The amount of the rebate is calculated based on a point system for efficiency increases.

[11] AHFC, Energy Programs. https://www.ahfc.us/efficiency/energy-programs/energy-efficiency-rate-reduction/
[12] AHFC, Energy Programs. https://www.ahfc.us/efficiency/energy-programs/home-energy-rebate/

### 4.1.3 Second Mortgage for Energy Conservation

Borrowers may obtain financing to make energy improvements on owner-occupied properties. Borrowers select from the list of energy upgrades included with the energy audit of their home performed by an AKWarm Certified Energy Rater. All improvements must be completed within 365 days of loan closing (improvements not listed may not be included in the loan).[13]

A homeowner who has enrolled in this program, and then selected to participate in the Home Energy Rebate Program will have the rebate money put towards their outstanding loan.

### 4.1.4 Weatherization

Individuals who meet income limits may apply for the Weatherization Program through the weatherization service provider in their area. Homeowners and renters may apply. The weatherization provider will provide program services at no cost to qualified applicants.[14]

AHFC uses income limits based upon the median income of the region or town for this program (Appendix A).

## 4.2 U.S. Department of Agriculture

### 4.2.1 REAP – Renewable Energy & Energy Efficiency

REAP provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses to purchase or install renewable energy systems or make energy efficient improvements. Funds can be used for the development of: biomass, geothermal, hydropower, hydrogen, wind, solar, and ocean power generation. REAP can also be used for energy efficiency improvements to: heating, ventilation, and air conditioning systems; insulation; lighting; doors and windows; and replacement of energy inefficient equipment.

Loans are guaranteed for up to 75% of total eligible project cost and grants are available for up to 25% of total cost. Loans have a minimum $5,000 and maximum $25 million requirements, while grants have minimum $2,500 and maximum $500,000 requirements.

### 4.2.2 Single Family Home Loan Guarantees

This program assists approved lenders in providing low- and moderate-income households the opportunity to own adequate, modest, decent, safe and sanitary dwellings as their primary residence in eligible rural areas. Eligible applicants may build, rehabilitate, improve, or relocate a dwelling in an eligible rural area. The program provides a 90% loan note guarantee to approved lenders in order to reduce the risk of extending 100% loans to eligible rural homebuyers.

[13] AHFC, Energy Programs. https://www.ahfc.us/efficiency/energy-programs/second-mortgage-energy-conservation/

[14] AHFC Energy Programs. https://www.ahfc.us/efficiency/energy-programs/weatherization/

Funds can be used for essential household equipment such as refrigerators, ovens, and heating units. Funds can also be used for purchasing and installing measures to promote energy efficiency.

### 4.3 U.S. Department of Housing and Urban Development

#### 4.3.1 Federal Housing Administration, Energy Efficiency Mortgage Program

The Federal Housing Administration (FHA) Energy Efficiency Mortgage Program helps homebuyers or homeowners finance the cost of adding energy efficiency features to a new or existing house as part of their FHA-insured home purchase or refinancing mortgage. The FHA insures these mortgage loans, encouraging lenders to make credit available to borrowers who would not otherwise qualify for conventional loans, like first time home buyers and those in underserved neighborhoods.

To be eligible for inclusion in the mortgage, the energy efficient improvements must be cost effective, meaning that the total cost of the improvements is less than the total present value of the energy saved over the useful life of the energy improvement.

#### 4.3.2 Title I Home and Property Improvement Loans

The U.S. Department of Housing and Urban Development (HUD) insures private lenders against loss of property improvements they make. The applicant must have a good credit history and the ability to repay the loan in regular monthly payments. Both large and small improvements can be financed. Maximum loan for a single family house is $25,000, with a maximum term of 20 years.

### 4.4 Alaska Department of Health and Social Services, Division of Public Assistance

**Heating Assistance Program**

Heating assistance helps households pay a portion of home heating costs. The program is open from October through April. Income limits are $2,619 (gross) for a one person household and increase by $928 for each additional household member. Eligibility is not solely based on income. Grants are calculated using a point system based on: the area of the state where you live, fuel type, dwelling type, and household size.
a single family dwelling.

# 5 INCOME RESTRICTED PROGRAM ACTIVITIES AND TIMING

The schedule of activities or events described below works in congruence with the larger IEP timeline and shares project deadlines. The activities and their timing presented below address: 1) tasks that are ongoing throughout the life of the IR Program (all three Volunteer in Service to America [VISTA] years, Section 5.1) and 2) Activities specific to each VISTA year. Individually, the VISTA Years are generally comprised of three tasks:

- VISTA Year 1 – Develop IR Program Plan (Section 5.2)
- VISTA Year 2 – Grant Applications (Section 5.3)
- VISTA Year 3 – Operate and Implement IR Program (Section 5.4).

## 5.1 ALL VISTA YEARS – CONTINUAL OUTREACH STRATEGIES

Coordination with partners and complementary organizations:

- Continuous throughout life of the project.
- Continue updating partners on progress and next steps.
- Opportunities for new or continued collaboration.

Outreach to General Public:

- Alaska Health Fairs, and other concentrations of low income residents; events, organizations, services, etc.
  - Use these outlets to inform public of the mission of the IGU project, progress of the project, publicize updates on timeline, opportunities for involvement, etc.
  - Gain community feedback on the IR Program design and next steps.

## 5.2 VISTA YEAR 1 – DEVELOP RESTRICTED INCOME PROGRAM PLAN

**IR Program Plan: 2 months**

- Outreach
  - Community needs assessment.
  - Conduct survey of low income residents.
  - Analysis of community feedback will be used to inform creation and design of the IR Program.

**Research IR Population: 3 months**

- Data gathering: 2 months
- Data analysis and report: 1 month

**IR Program Design: 6 to 9 Months**

- Develop application and tracking systems: 1 month
- Determine parameters and scope of IR Program: 2 months
- Develop and create systems needed for sustainable use of IR Program (e.g., financial systems, filing methods, customer service practices, contractor relationships, etc.): 6 months
- Outreach:
  - Collaborate with partners to improve IR Program design via conversions committee.
  - Public release of IR Program design plan.

## 5.3 VISTA YEAR 2 – GRANTS APPLICATION

**Grant Applications: 12 months**

- Should begin 12 to 18 months prior to hookup date.
- Grant program identification: 3 months.
- Gather and compile application(s) requirements: 6 months.
- If selected, coordination with granting institution: 3 to 6 months.
- Program execution (duration of funds).
- Outreach:
  - Collaboration with partner organization in:
    - Identifying funding opportunities.
    - Application process for grants.
    - General fund raising.
- Grant Processes:
  - Entity Eligibility:
    - Confirmation from grant administrators.
    - Identify partners, if necessary.
    - Proven ability and capacity to successfully complete the IGU Project.
    - Assess resources required by IGU vs. likelihood of grant selection.
  - IGU Project
    - Outline needs and goals:
      - Problem statement.
      - Research and lessons learned.
      - Previous knowledge/information gaps.
    - Design Project:
      - Manager/ management system.
      - Schedule.
      - Reporting, method and frequency.
      - Resources, needed and available (i.e., money, time, etc.).
      - Accounting.
      - Risks.
    - Project design must be new or build upon and expand existing program, cannot fund current operations.
    - Cannot purchase private property:
      - Possible solutions: Revolving loan, purchase of distribution line, etc.
      - Must serve public benefit in some way – Energy efficiency, pollution reduction, economic stimulus, etc.
  - Application:
    - Gather necessary documents provided by grant administrators:
      - Proof of status, (i.e., Certificate of Public Convenience and Necessity [CPCN]).
      - Statements of interest or Letter of Interest.

- Application forms (complete forms with project descriptions, timelines, resources, etc.).

- Gather documentation required by grant administrators:
  - Matching Funds
  - Authorizing Signature
  - Budget
- Submit in requested format.

## 5.4 VISTA YEAR 3 – OPERATE AND IMPLEMENT IR PROGRAM

Operation and Implementation of IR Program (from hookup date forward, continual):

- Outreach to general population to promote enrollment/application to IR Program:
  - High traffic low-income areas, events, businesses, services, etc.
  - Direct contact via mailer, door-to-door communication, tabling, etc.
  - Promotion by partner organizations.
- Follow up with participants in IR Program:
  - Track successes and failures.
  - Outline improvements to IR Program.
  - Gauge community satisfaction and calculate cost savings.
  - Communicate results of IR program to public (e.g., information related to costs savings, energy savings, number of households assisted, and air quality).

# APPENDIX A

*Fiscal Year 2015 Income Limits for Alasia*

# FY 2015 INCOME LIMITS FOR ALASKA

Effective March 18, 2015

| Community Name | INCOME LIMIT - 1 PERSON | INCOME LIMIT - 2 PERSONS | INCOME LIMIT - 3 PERSONS | INCOME LIMIT - 4 PERSONS | INCOME LIMIT - 5 PERSONS | INCOME LIMIT - 6 PERSONS | INCOME LIMIT - 7 PERSONS | INCOME LIMIT - 8 PERSONS | EA ADDED FAMILY MEMBER |
|---|---|---|---|---|---|---|---|---|---|
| Anchorage Municipality Low Income Limit | 62,800 | 71,700 | 80,700 | 89,600 | 96,800 | 104,000 | 111,200 | 118,300 | 7,168 |
| Aleutians East Borough Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Aleutians West Census Low Income Limit | 60,900 | 69,600 | 78,300 | 87,000 | 94,000 | 101,000 | 107,900 | 114,900 | 6,960 |
| Bethel Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Bristol Bay Borough Low Income Limit | 64,700 | 74,000 | 83,200 | 92,400 | 99,800 | 101,300 | 114,600 | 122,000 | 7,392 |
| Denali Borough Low Income Limit | 66,600 | 76,100 | 85,600 | 95,100 | 102,800 | 110,400 | 118,000 | 125,600 | 7,608 |
| Dillingham Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Fairbanks North Star Borough Low Income Limit | 57,300 | 65,500 | 73,700 | 81,800 | 88,400 | 94,900 | 101,500 | 108,000 | 6,544 |
| Haines Borough Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Hoonah-Angoon Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Juneau Borough Low Income Limit | 67,800 | 77,500 | 87,200 | 96,800 | 104,600 | 112,300 | 120,100 | 127,800 | 7,744 |
| Kenai Peninsula Borough Low Income Limit | 53,900 | 61,600 | 69,300 | 77,000 | 83,200 | 89,400 | 95,500 | 101,700 | 6,160 |
| Ketchikan Gateway Borough Low Income Limit | 62,300 | 71,200 | 80,100 | 88,900 | 96,100 | 103,200 | 110,300 | 117,400 | 7,112 |
| Kodiak Island Borough Low Income Limit | 54,700 | 62,500 | 70,300 | 78,100 | 84,400 | 90,600 | 96,900 | 103,100 | 6,248 |
| Lake and Peninsula Borough Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Matanuska-Susitna Borough Low Income Limit | 58,200 | 66,500 | 74,800 | 83,100 | 89,800 | 96,400 | 103,100 | 109,700 | 6,648 |
| Nome Census Area Low Income Limit | 55,400 | 63,300 | 71,200 | 79,100 | 85,500 | 91,800 | 98,100 | 104,500 | 6,328 |
| North Slope Borough Low Income Limit | 58,400 | 66,800 | 75,100 | 83,400 | 90,100 | 96,800 | 103,500 | 110,100 | 6,672 |
| Northwest Arctic Borough Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Petersburg Census Area Low Income Limit | 58,900 | 67,300 | 75,700 | 84,100 | 90,900 | 97,600 | 104,300 | 111,100 | 6,728 |
| Prince of Wales-Hyder Census Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Sitka City & Borough Low Income Limit | 55,700 | 63,600 | 71,600 | 79,500 | 85,900 | 92,300 | 98,600 | 105,000 | 6,360 |
| Skagway Municipality Low Income Limit | 64,600 | 73,800 | 83,000 | 92,200 | 99,600 | 107,000 | 114,400 | 121,800 | 7,376 |
| Southeast Fairbanks Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Valdez-Cordova Census Low Income Limit | 60,300 | 68,900 | 77,500 | 86,100 | 93,000 | 99,900 | 106,800 | 113,700 | 6,888 |
| Wade Hampton Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Wrangell City and Borough Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| Yakutat City & Borough Low Income Limit | 56,300 | 64,300 | 72,300 | 80,300 | 86,800 | 93,200 | 99,600 | 106,000 | 6,424 |
| Yukon-Koyukuk Census Area Low Income Limit | 52,800 | 60,300 | 67,800 | 75,300 | 81,400 | 87,400 | 93,400 | 99,400 | 6,024 |
| 2014 DOE Poverty Income Levels-FINAL | 29,440 | 39,840 | 50,240 | 60,640 | 71,040 | 81,440 | 91,840 | 102,240 | 10,400 |

# APPENDIX B

*U.S. Census Bureau Designated Places*

# U.S. Census Bureau Designated Places