

**FAIRBANKS NORTH STAR BOROUGH**  
**SUSTAINABILITY COMMISSION SUSTAINABILITY SUMMIT**  
*Noel Wien Public Library Auditorium*  
*1215 Cowles Street, Fairbanks, AK*

October 10, 2018 @ 5:30 PM

The Sustainability Commission is hosting a Sustainability Summit to discuss energy efficiency, renewable energy, farming, food security, recycling, and waste reduction. In partnership with George Washington University and University of Alaska Southeast, the Commission is seeking public comment on the draft Sustainability Plan and the metrics developed to track identified goals. Local community experts will also be in attendance to help answer questions and provide information.



# SUSTAINABILITY SUMMIT OCTOBER 10 @ 5:30PM

## The Sustainability Commission presents: FNSB's Draft Sustainability Plan

The FNSB Sustainability Commission, in partnership with George Washington University and University of Alaska Southeast, invites you to provide comment on the draft Sustainability Plan. Local community experts on a variety of topics will be in attendance to help answer questions and provide information.

The Commission is working to answer questions, such as: What essential activities in the Borough could be more sustainable? Can we help the next generation have sustainable food and energy? Can we have a more sustainable approach to wastes?

Please join us! We'd love to hear from you.



Sustainability is meeting our essential needs without jeopardizing future generations. The Sustainability Commission was established to provide leadership to ensure a secure and sustainable community development that maximizes public health, safety, self-reliance, and welfare within the powers of the borough; and to lead a public process to identify sustainability goals for the borough and select metrics for monitoring progress toward meeting those goals.

Comment on the  
Commission's draft  
Sustainability Plan

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Speak with  
community experts  
on related topics

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Energy Efficiency &  
Renewable Energy

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Farming &  
Food Security

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Recycling &  
Waste Reduction

Fairbanks North Star Borough  
SUSTAINABILITY COMMISSION

Noel Wien Library  
Auditorium  
1215 Cowles St.

October 10, 2018

5:30pm – 7:30pm

# **SUSTAINABILITY PLAN**

## **Fairbanks North Star Borough**



**Prepared by:**

**FNSB Sustainability Commission**

**In partnership with:**

**Dr. Jim Powell, University of Alaska Southeast**

**Dr. Robert W. Orttung, George Washington University**

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# EXECUTIVE SUMMARY

Sustainability is generally described as meeting the needs of the present without compromising the ability of future generations to meet their needs. What needs do we have in the Fairbanks North Star Borough? What can the commission and FNSB do to help meet those needs without compromising the needs of future generations? These are complicated questions.

As a first step, the commission agreed to focus on the following aspects of sustainability: food security, energy security, and waste reduction. We present general goals with a suite of potential indicators to track progress in these three areas. These were developed after interviewing local experts and practitioners, discussions with government officials, and research. The indicators are organized according to theme, goals, and data/references.

# FOOD SECURITY SUMMARY

## DEFINITION

Food security means having access to enough food at all times to meet the nutritional needs for physical health.<sup>1</sup>

## PROBLEM STATEMENT

We have a limited three-day supply of food in our local stores yet an estimated 40% will end up in the landfill. We've become less independent. Now, 95% of our food is imported from the Lower 48 and foreign nations. Meanwhile, the percentage of Alaska adults who are obese has steadily increased over the past two decades reaching 31.1% in 2016. Leading health officials state that obesity is the predominant public health threat of our lifetimes. Access to local foods, especially fruits and vegetables, reduces food insecurity and obesity. Additionally, furthering local education in "food culture" could maximize the utilization of our current food supply.

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<sup>1</sup> Maiser, M.L., (2017). Redefining Food Security in a Community Context: An Exploration of Community Food Security Indicators and Social Worker Roles in Community Food Strategies. *Journal of Community Practice*, 25:2, 213-234, DOI: 10.1080/10705422.2017.1308897.

## FS GOAL 1

### Increase Agricultural Workforce Development

INDICATOR	TARGET GOAL	DATA / REFERENCES
X	–	x

## FS GOAL 2

### Increase Number of Days Supply of Available Food

INDICATOR	TARGET GOAL	DATA / REFERENCES
X	–	x

## FS GOAL 3

### Increase Local Food Production

INDICATOR	TARGET GOAL	DATA / REFERENCES
Percent of locally-produced food in stores	_%	<a href="#">Interior Alaska Food Network?</a> Survey of stores?
Number of farms	–	<a href="#">Fairbanks Economic Development Corporation?</a>
Number of participants in community gardens	–	<a href="#">Interior Alaska Food Network?</a>
Acres of land farmed or gardened	_ acres	FNSB-Community Planning?
Business environment for local food producers	–	Develop entrepreneur ecosystem map?
Schools buying local produce	–	FNSB School District?
Farmers participating in Farmer's Markets	–	<a href="#">Tanana Valley Farmer's Market?</a>
Restaurants, distributors or stores buying local	–	<a href="#">Interior Alaska Food Network?</a>
CSA participants	–	<a href="#">Interior Alaska Food Network?</a>

Number of food education programs in schools	–	FNSB School District?
Number of food education programs for aspiring gardeners and farmers	–	[One farmer cited YouTube as best source]

## FS GOAL 4 Increase Access to Local Fruits and Vegetables

INDICATOR	TARGET GOAL	DATA / REFERENCES
Percent living above the federal poverty rate (88.9% in 2015)	–%	Alaska Dept of Health and Social Services (ADHSS) <a href="#">Healthy Alaskans 2020 Scorecard</a>
Pounds of fruits and vegetables distributed	– lbs	Fairbanks Community Food Bank?
Number of families served in the Commodity Supplemental Food Program	–	Fairbanks Community Food Bank?
Number of community gardens	–	FNSB-Community Planning or <a href="#">Interior Alaska Food Network?</a>
Number of SNAP recipients per month (3,303 cases/mo x 2.35 avg people/case = 7,762 recipients/mo in FY17)	–	<a href="#">ADHSS-Div of Public Assistance Statewide Profile</a>
WIC recipients	–	ADHSS?
School & summer youth meal recipients	–	ADHSS?
Percentage of households deemed food secure (91% in 2013)	–%	ADHSS <a href="#">Behavioral Risk Factor Surveillance System</a>
Percentage of population deemed obese (31.6% of adults in 2016)	–%	ADHSS <a href="#">AK-IBIS</a>

**Notes:** The literature states universally, that the poverty rate is the most important indicator for food security. Based on our interviews and expert observations there are several trends that the commission might want to track.

# ENERGY SECURITY SUMMARY

## DEFINITION

Energy security means the ability of residential and community energy systems to function optimally and sustainably.<sup>2</sup>

## PROBLEM STATEMENT

The average annual energy cost for a home is over twice the national average. The majority of homes are poorly-insulated, which creates additional energy demand. Traditional energy options are expensive or can seriously impact human health and the environment. Above-average energy costs contribute to food insecurity.

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<sup>2</sup> Azzuni, A. and C. Breyer (2017). Definitions and Dimensions of Energy Security: A Literature Review. Wiley Online Library, <https://bit.ly/2oqWXnm>, accessed on August 28, 2018.

## ES GOAL 1

### Reduce Household Energy Costs and Consumption

INDICATOR	TARGET GOAL	DATA / REFERENCES
Average annual energy cost per home (\$5,292 in 2017)	–	Alaska Housing Finance Center <a href="#">Annual Housing Assessment</a>
Average annual energy usage (MMBTUs) per home (238 MMBTUs in 2017)	–	Alaska Housing Finance Center <a href="#">Annual Housing Assessment</a>
Percentage of homes built to Alaska BEES	–%	AHFC?
Percentage of homes built prior to 1980 needing weatherization (40% in 2017)	–%	Alaska Housing Finance Center <a href="#">Annual Housing Assessment</a>
Access to education in schools, community	–	FNSB School District?
Number of entities doing energy retrofits	–	
Number of entities building 5-Star or greater homes	–	
Number of educational opportunities related to energy efficiency and conservation	–	CCHRC?

## ES GOAL 2

### REDUCE CO<sub>2</sub> AND OTHER EMISSIONS

INDICATOR	TARGET GOAL	DATA / REFERENCES
Tons of CO <sub>2</sub> emissions per year (All Sources) (3.76 MMT CO <sub>2</sub> e, or 38.6 metric tons per resident in 2007)	– tons	UAF-Alaska Center for Energy & Power <a href="#">2007 Baseline Inventory</a>
Tons of PM <sub>2.5</sub> emissions per day (Winter season, All Sources) (4.2 tons/day in 2013)	– tons	Alaska Dept. of Environmental Conservation <a href="#">2017 Draft Baseline Emission Inventory</a>

Local energy production (biomass, coal, other)	–	UAF-ACEP?
Number of members per year in GVEA's SNAP and SNAP Plus programs (or combined capacity in kW) (191 members/979kW in 2017)	–	GVEA
Percent of energy from renewables (20% of peak load in 2014)	_%	GVEA
Number of natural gas customers (1100 in 2018)	–	Interior Gas Utility
Cost of energy and business development	–	[no existing baseline data]

### ES GOAL 3 REDUCE FNSB OPERATIONAL ENERGY CONSUMPTION

INDICATOR	TARGET GOAL	DATA / REFERENCES
MMBTU heat energy usage per year (2013-17, 12-month avg. trending downward)	_ MMBTUs	FNSB-Public Works (Loeffler Report, 2017)
kWh electricity usage per year (2013-17, 12-month avg. trending downward 2%/year)	_ kWh	FNSB-Public Works (Loeffler Report, 2017)
Tons of CO <sub>2</sub> emissions per year (structures and transportation) [no existing baseline data]	_ tons	UAF-ACEP? FNSB-Public Works?
Tons of CO <sub>2</sub> emissions offset per year (direct and indirect) [no existing baseline data]	_ tons	UAF-ACEP? FNSB-Public Works?
Number of solar panels installed/year	–	FNSB-Public Works?
Percentage of electricity from FNSB solar	_%	FNSB-Public Works?
Percentage of heat and electricity from FNSB biomass	_%	FNSB-Public Works?

# WASTE REDUCTION SUMMARY

## DEFINITION

Waste reduction or minimization refers to the use of source reduction, affirmative procurement, equipment modification, reuse, and/or environmentally-sound recycling methods prior to energy recovery, treatment, or disposal of wastes. (Adapted in part from the Environmental Protection Agency<sup>3</sup> and State of Alaska<sup>4</sup>)

## PROBLEM STATEMENT

Landfills are expensive to operate, potentially harmful to the environment, and must be managed forever. Last year we buried an estimated 23 million pounds of food and 20 million pounds of plastics in our landfill. About 25% of our waste is paper and cardboard - resources with steady demand in the recyclables market.

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<sup>3</sup> EPA definition of waste minimization, <https://bit.ly/2wtwf1t>, accessed on August 28, 2018

<sup>4</sup> Chapter 66 of Alaska Admin Code, <https://bit.ly/2wtwSrR>, accessed on August 28, 2018

**WR GOAL 1  
DIVERT 25% OF WASTE FROM THE LANDFILL BY 2025**

<b>INDICATOR</b>	<b>TARGET GOAL</b>	<b>DATA / REFERENCES</b>
Percentage of waste diverted from landfill per year (recycled tons/landfill tons) (1% in FY18)	_ %	FNSB-Central Recycling Facility <a href="#">Annual Report</a>
Number of building lots per day added to the landfill [no existing baseline data]	_	FNSB-Solid Waste?
Pounds per day per person solid waste generated (5.75/day/person in FY16)	_ lbs/day/person	FNSB-Solid Waste <a href="#">Annual Report</a>
Pounds per year of solid waste generated per household [no existing baseline data]	_ lbs/year/household	FNSB-Solid Waste?
Tons per day of solid waste delivered to landfill (290 tons/day in FY17)	_ tons	FNSB-Solid Waste <a href="#">Annual Report</a>
Gallons of oily water recovered and used per year (689 gallons in FY17)	_ gallons	FNSB-Solid Waste <a href="#">Annual Report</a>
Gallons of used oil recovered and used per year (23,523 gallons in FY17)	_ gallons	FNSB-Solid Waste <a href="#">Annual Report</a>
Percent food waste recovered from municipal solid waste [no existing baseline data]	_ %	(EPA <a href="#">estimates</a> 15% of US MSW is food waste with a typical recovery rate of 2.3%)
Tons of electronics recycled per year (100 tons in 84% of FY18)	_ tons	FNSB-Central Recycling Facility <a href="#">Annual Report</a>
Avg. number of residential vehicle visits per day (Avg. 116 vehicles/day in FY18)	_	FNSB-Central Recycling Facility <a href="#">Annual Report</a>
Number of business visits per day (Avg. 7 businesses/day in FY18)	_	FNSB-Central Recycling Facility <a href="#">Annual Report</a>



## FAIRBANKS NORTH STAR BOROUGH

907 Terminal St. Fairbanks AK 99701 (907) 459-1000

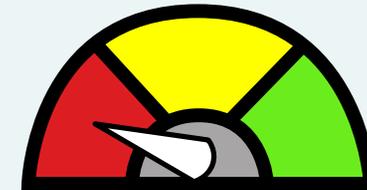
### SUSTAINABILITY METRIC:

# Energy Use and Security

Energy security is the ability of residential and community energy systems to function optimally and sustainably. The average annual energy cost for a home in Fairbanks is more than twice the national average. High energy demand results from poor insulation in most Fairbanks homes. Traditional energy options are expensive or can seriously impact human health and the environment. Above-average energy costs contribute to food insecurity.

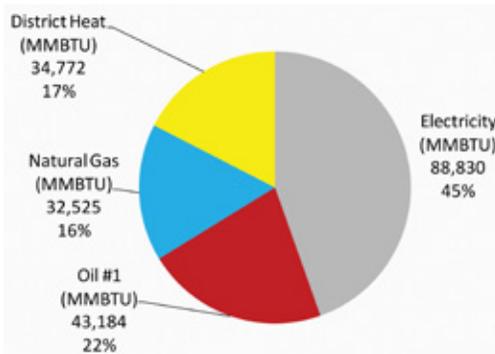
## FNSB Government Operations: Current Situation and Trends

How are we doing?

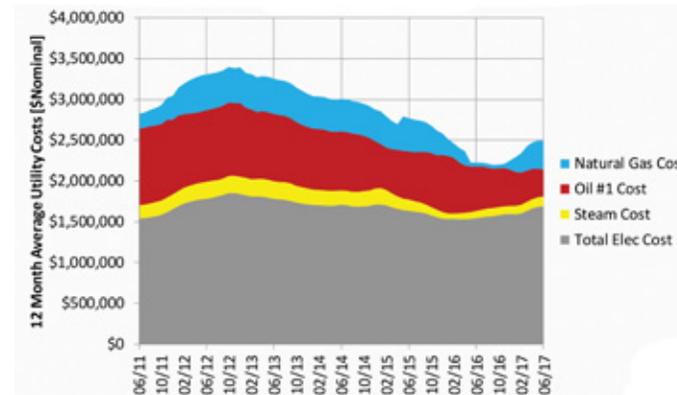


**Needs  
Improvement**

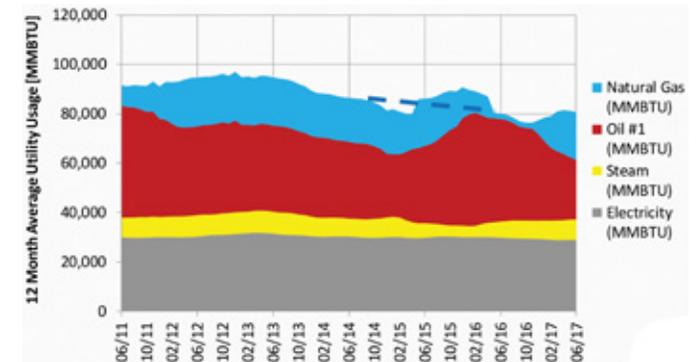
Fairbanks Energy Usage, FY17



Fairbanks Energy Cost Trends, 2011-2017



Fairbanks Energy Use Trends, 2011-2017





## FAIRBANKS NORTH STAR BOROUGH

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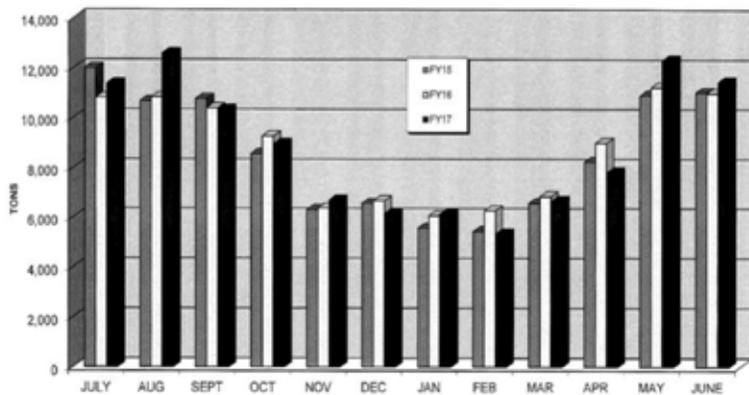
### SUSTAINABILITY METRIC:

# Solid Waste & Recycling

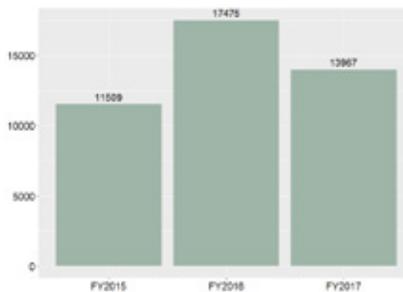
**Goal: RECYCLE MORE AND DIVERT MORE WASTE FROM THE LANDFILL.**  
 Most hazardous waste can be either recycled or used as a waste-to-energy fuel. And, the scrap metal recycling program—mostly junk automobiles—provides recycling opportunities for unwanted vehicles.

## Current Situation and Trends

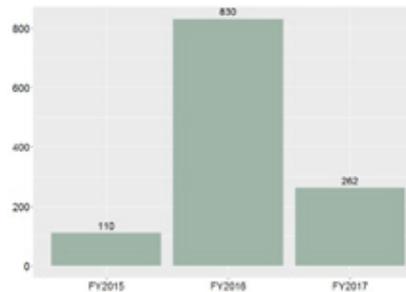
Total Tonnage of Solid Waste into the FNSB Solid Waste Facility



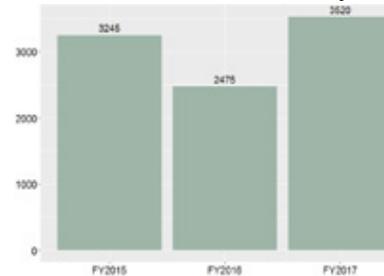
Gallons of Antifreeze



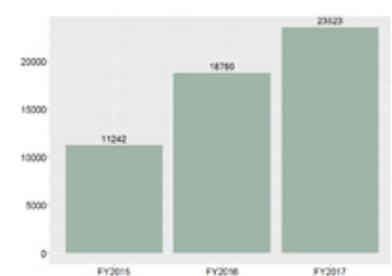
Pounds of Aluminum



Gallons of Flammable Liquids

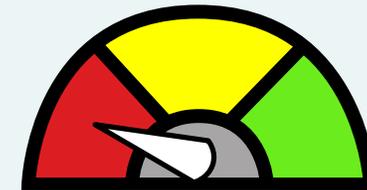


Gallons of Used Oil



## How are we doing?

### Recycling in Fairbanks



**Needs Improvement**

### Solid Waste Disposal in Fairbanks



**Doing OK**