

SUSTAINABILITY PLAN

Fairbanks North Star Borough



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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.¹

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.

¹ 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	_%	Interior Alaska Food Network? Survey of stores?
Number of farms	–	Fairbanks Economic Development Corporation?
Number of participants in community gardens	–	Interior Alaska Food Network?
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	–	Tanana Valley Farmer's Market?
Restaurants, distributors or stores buying local	–	Interior Alaska Food Network?
CSA participants	–	Interior Alaska Food Network?

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) Healthy Alaskans 2020 Scorecard
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 Interior Alaska Food Network?
Number of SNAP recipients per month (3,303 cases/mo x 2.35 avg people/case = 7,762 recipients/mo in FY17)	–	ADHSS-Div of Public Assistance Statewide Profile
WIC recipients	–	ADHSS?
School & summer youth meal recipients	–	ADHSS?
Percentage of households deemed food secure (91% in 2013)	–%	ADHSS Behavioral Risk Factor Surveillance System
Percentage of population deemed obese (31.6% of adults in 2016)	–%	ADHSS AK-IBIS

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.²

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.

² 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 Annual Housing Assessment
Average annual energy usage (MMBTUs) per home (238 MMBTUs in 2017)	–	Alaska Housing Finance Center Annual Housing Assessment
Percentage of homes built to Alaska BEES	–%	AHFC?
Percentage of homes built prior to 1980 needing weatherization (40% in 2017)	–%	Alaska Housing Finance Center Annual Housing Assessment
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 CO₂ AND OTHER EMISSIONS

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

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 ₂ emissions per year (structures and transportation) [no existing baseline data]	_ tons	UAF-ACEP? FNSB-Public Works?
Tons of CO ₂ 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 Agency³ and State of Alaska⁴)

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.

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

⁴ 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**

INDICATOR	TARGET GOAL	DATA / REFERENCES
Percentage of waste diverted from landfill per year (recycled tons/landfill tons) (1% in FY18)	_ %	FNSB-Central Recycling Facility Annual Report
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 Annual Report
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 Annual Report
Gallons of oily water recovered and used per year (689 gallons in FY17)	_ gallons	FNSB-Solid Waste Annual Report
Gallons of used oil recovered and used per year (23,523 gallons in FY17)	_ gallons	FNSB-Solid Waste Annual Report
Percent food waste recovered from municipal solid waste [no existing baseline data]	_ %	(EPA estimates 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 Annual Report
Avg. number of residential vehicle visits per day (Avg. 116 vehicles/day in FY18)	_	FNSB-Central Recycling Facility Annual Report
Number of business visits per day (Avg. 7 businesses/day in FY18)	_	FNSB-Central Recycling Facility Annual Report