

# KPB Resilience and Security Commission: Savings, Jobs and Revenue

## CHARACTERISTICS OF RESILIENT SYSTEMS

**Reflective**- use past experience to inform future decisions.

**Resourceful**- recognize alternative ways to use resources.

**Inclusive**- prioritize broad consultation to create a sense of shared ownership in decision making.

**Integrated**- bring together a range of distinct systems and institutions.

**Robust**- well-conceived, constructed, and managed systems.

**Redundant**- spare capacity purposefully created to accommodate disruption.

**Flexible**- willingness, ability to adopt alternative strategies in response to changing circumstances.

- [100RESILIENTCITIES.ORG](http://100RESILIENTCITIES.ORG)

The KPB Resilience and Security Commission will develop proposals and cost-benefit analyses on borough investments in **energy efficiency**, the **local food** sector, **energy security**, improved **hazard mitigation** planning, and **waste divergence**.

Proposals and analyses would lead to savings, jobs, and revenue generation. There are other more difficult to measure benefits to health and wellbeing that are not addressed here.

## SAVINGS TO BOROUGH

Savings would be gained through efficiency measures on approximately 150 borough buildings as well as vehicles. An updated energy audit for our borough would be needed to develop savings estimates (see the [Anchorage Energy Landscape Audit](#) as an example).

For a very rough idea of potential savings, consider the following —

Anchorage's [Energy Smart Lighting Initiative](#) to retrofit Anchorage streetlights with LED

fixtures which yielded an estimated annual cost savings of \$780,000.

The Municipality of Anchorage is beginning a deep dive into building energy upgrades, which is projected to save an estimated [\\$3 million in energy costs annually](#) on schools alone.

The Alaska Housing Finance Corporation did a statewide audit in 2014, which needs to be updated, but on average, found that cost effective energy efficiency improvements could [save \\$21,800 in energy cost savings per year](#) for participating public buildings. The average installed cost of these improvements was \$82,000. If all cost effective energy efficiency measures in the audited buildings were implemented, Alaskans would save \$79 million in energy costs over the life of the measures. The initial investment required to implement these measures was estimated to be \$29 million.

A [recent 2011 analysis of schools in Toronto](#) found that LEED-certified green schools had 28 percent lower total energy costs than conventional and energy-retrofitted schools.

Hospitals implementing environmental initiatives in operating rooms saved more than \$53 million in aggregate in 2018, with a [median savings of over \\$100,000 per facility](#).

76.68 kilowatts of solar capacity were installed on the roof of Anchorage's Egan Center during summer 2019. These panels will pay for themselves in energy savings in just 7.5 years.

## **SAVINGS TO RESIDENTS AND LOCAL BUSINESSES**

Since 2008, state residential energy efficiency programs have assisted more than 40,000 households in becoming more energy efficient, [saving residents on average 20 - 35% of their home energy use](#). Alaskans are saving an estimated \$22 million annually on heating bills due to the Home Energy Rebate Program—an average decline of 26% for homeowners who went through the program. If homeowners spend the \$22 million in savings locally, that spending [generates about 240 jobs a year](#). These state-wide figures

indicate that it is worthwhile assessing what form of rebate program could work on the Kenai Peninsula.

Commercial Property Assessed Clean Energy, or C-PACE, is a financing tool for improving commercial buildings with energy efficiency measures or renewable energy systems. Debt associated with doing the improvements is repaid via a line item on local tax assessments. Authorizing legislation was adopted into Alaska law in 2017 (AS 29.55.100) that allows local governments to create and manage C-PACE programs, and the commission could function as the borough liaison for this [cost-savings program](#) that will improve the resilience and profitability of our local businesses.

Supply chains today extend around the world, and are vulnerable to natural disasters and civil conflict. Climate change, water scarcity, and poor labor conditions in much of the world increase the risk. McKinsey [reports](#) that the value at stake from sustainability concerns can be as high as 70% of earnings before interest, taxes, depreciation, and amortization.

## **JOB CREATION**

The focus of this commission on local food production and markets stands to make a lot of good local jobs.

According to the Alaska department of Health and Social Services, [95% of the \\$2 billion of food Alaskans purchase is imported](#) — meaning \$1.9 billion leaves the state each year as Alaskans eat.

Kenai Peninsula residents could generate an additional [\\$1.1 million](#) in the local economy by purchasing 10 percent of produce from local growers.

By lowering emissions, the Kenai Peninsula opens doors to economic opportunity. In the United States, [more than 3.3 million Americans are directly employed by the clean energy industry](#). Identifying and building a clean energy sector provides more economic

opportunities for underemployed and unemployed residents. For example, the [Home Energy Rebate Program generated an estimated 1,332 jobs in Alaska from 2008 - 2011 from direct spending on efficiency upgrades.](#)

Renewable energy generation has doubled in the United States over the last ten years and is now responsible for 17% of the [nation's power generation](#).

## **REVENUE GENERATION**

The commission would be in a good position to receive funding for large-scale resilience and sustainability grants.

As part of its [Rural Energy Savings Program \(RESP\)](#), the USDA Rural Utilities Service has more than \$120 million available in zero-percent interest loans for rural electric cooperatives and other rural utilities to launch or expand energy efficiency programs for their members. We support collaboration between the commission and HEA to initiate on bill financing for large-scale renewable projects.

Collaborate with boroughs and municipalities to develop strategies for targeted revenue generation to fund investments on resilience and security.

Collaborate with home and commercial insurance providers to develop essential risk models for fire and erosion hazard. These models will be essential for developing strategies to protect towns, roads, utility infrastructure, and vital wildlife habitat and natural resources.

## **INDIRECT SAVINGS FROM IMPROVED DISASTER PREPAREDNESS**

The 2019 Swan Lake fire cost \$46 million dollars to suppress, according to the National Interagency Fire Center. The U.S. Small Business Administration declared the Kenai Peninsula and surrounding areas an “economic injury zone” due to the widespread Swan Lake Fire this summer and small business owners estimated [5 to 20 percent revenue loss](#).

There is a projected 66-percent increase in the estimated value of human structures (e.g. homes, businesses) that are at risk to fire in the next half century on the Kenai Peninsula.<sup>1</sup> Estimated costs due to increased wildfires across Alaska are \$1.1 to \$2.1 billion annually from 2006 through the end of the century.<sup>2</sup>

In the absence of adaptation efforts, damage to public infrastructure caused by climate change could cost Alaska \$142 to \$181 million per year and a cumulative \$4.2 to \$5.5 billion by the end of the century.<sup>3</sup>

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<sup>1</sup> Climate Change Vulnerability Assessment for the Chugach National Forest and the Kenai Peninsula. Edited by Gregory D. Hayward, Steve Colt, Monica L. McTeague, and Teresa N. Hollingsworth. 2017. Gen. Tech. Rep. PNW-GTR-950. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

<sup>2</sup> “Estimating Wildfire Response Costs in Alaska’s Changing Climate” by April Melvin, Jessica Murray, Brent Boehlert, Jeremy A. Martinich, Lisa Rennels, and T. Scott Rupp. *Climatic Change* 141, no. 4 (April 24, 2017): 783–95. <https://doi.org/10.1007/s10584-017-1923-2>.

<sup>3</sup> Anchorage Climate Action Plan 2019.