

SPECIAL REPORTS

- Sitka Police Department, Police Chief Robert Baty
- Update on Energy Planning Projects, Sustainability Coordinator Bri Gabel

October 8, 2024

Sitka's Energy Future: Planning Projects Updates

Bri Gabel
Sustainability Coordinator
City and Borough of Sitka

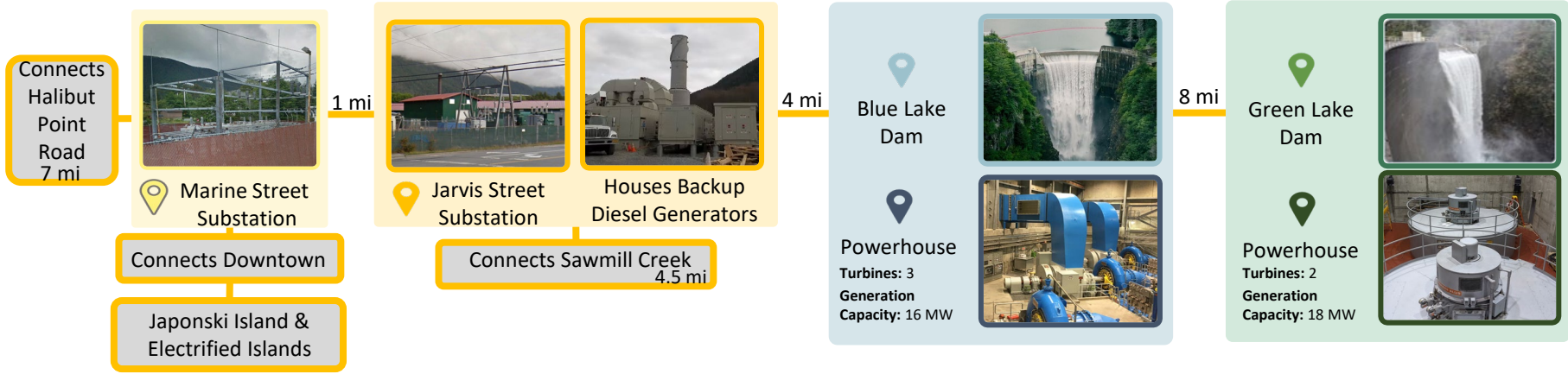


Sitka's Current Power System

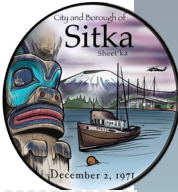


TRANSMISSION & DISTRIBUTION

GENERATION



How Much Electricity Can Sitka Generate?



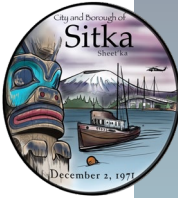
High Water Year (Max)

IT

Average Water Year

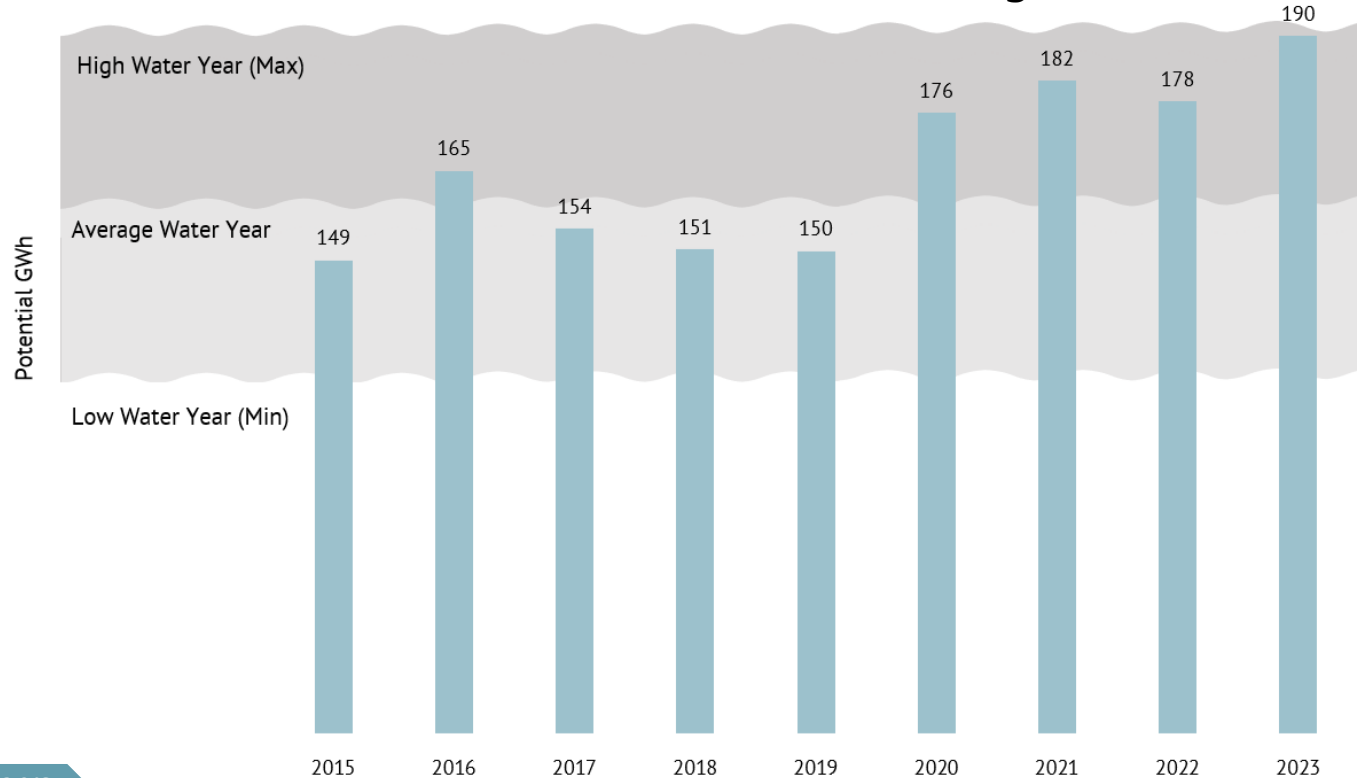
DEPENDS

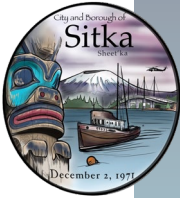
Low Water Year (Min)



How Much Electricity Can Sitka Generate?

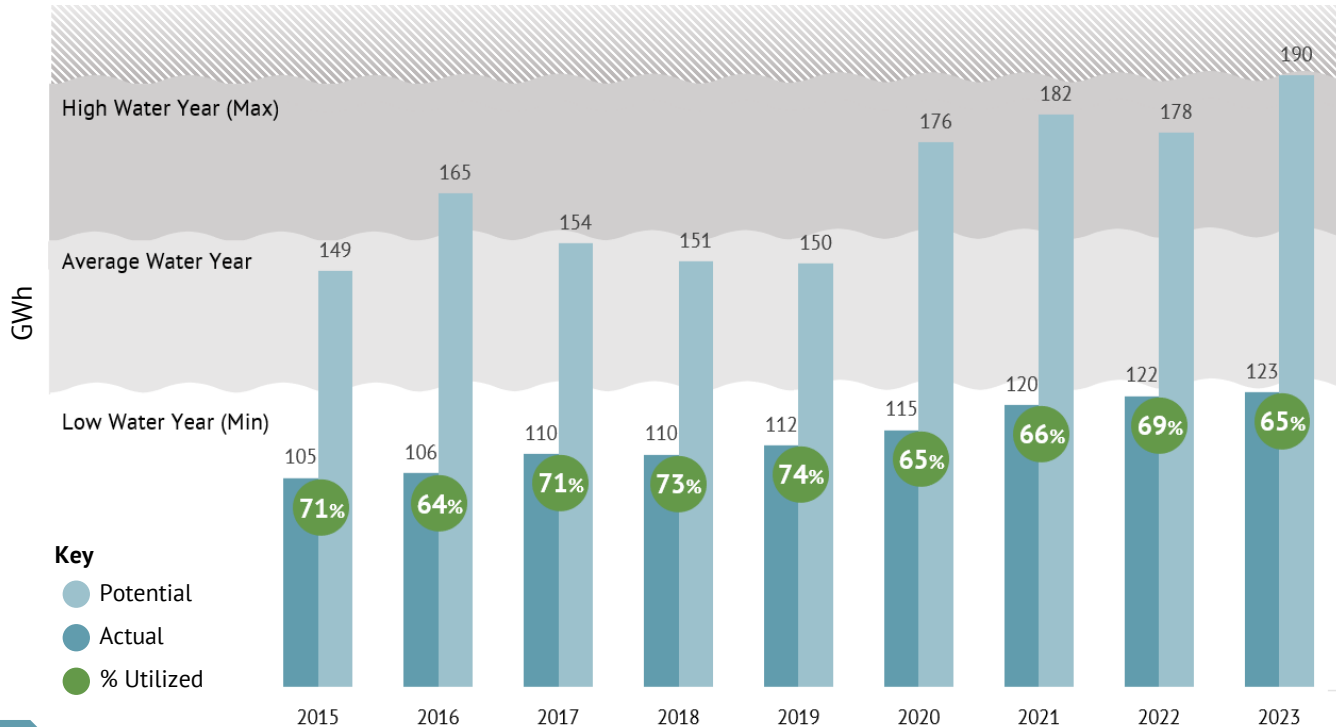
Based on **rainfall**, Sitka could have generated...

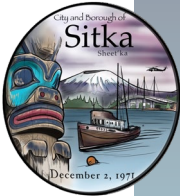




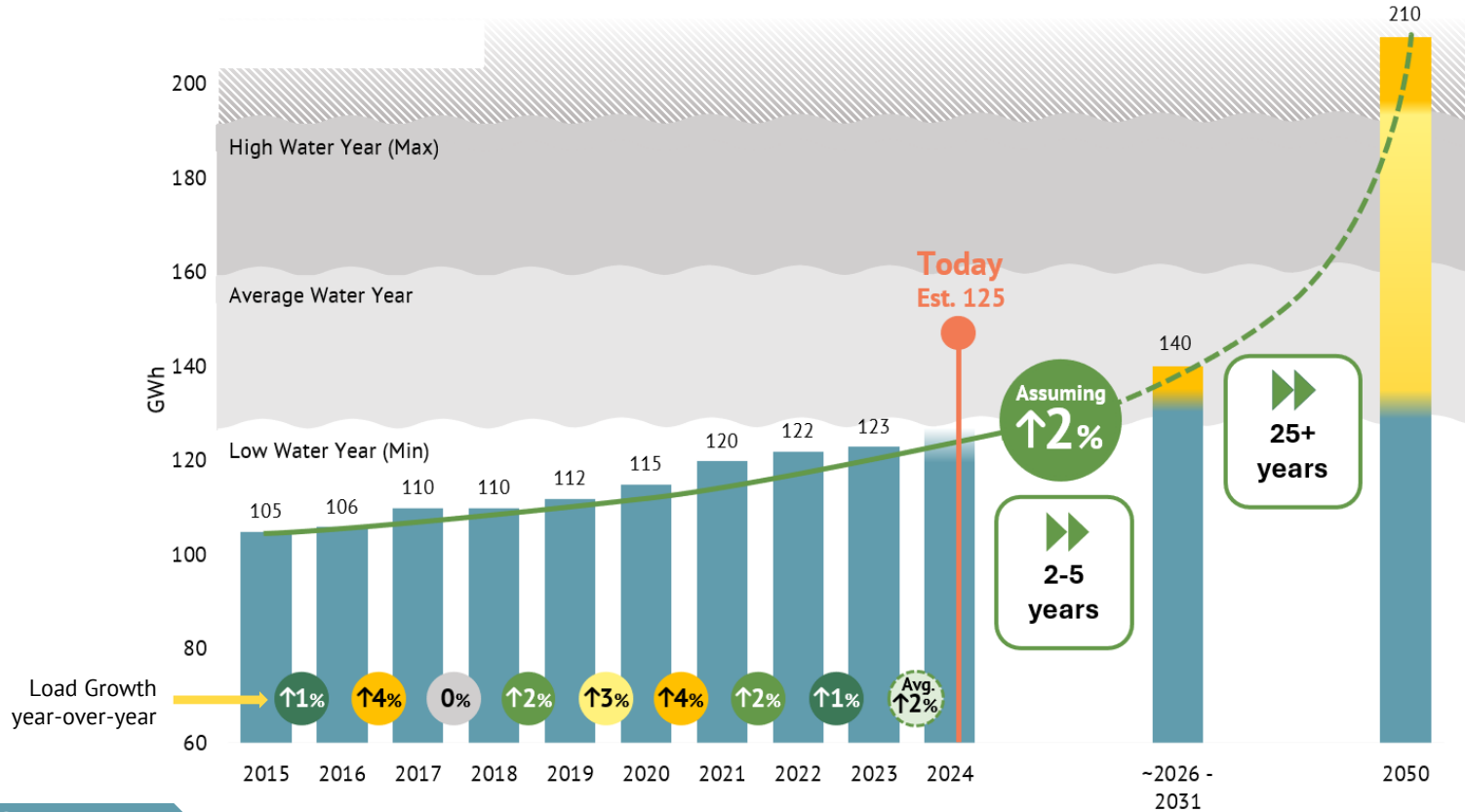
How Much Electricity Did Sitka Use?

On average, **Sitka uses about 70% of its potential generation**

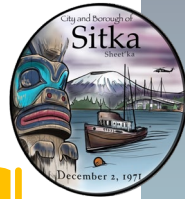




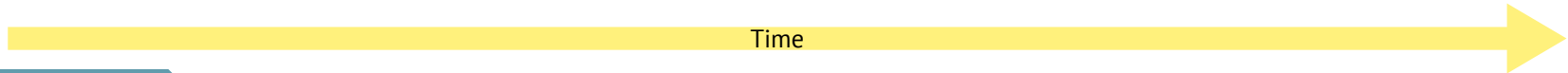
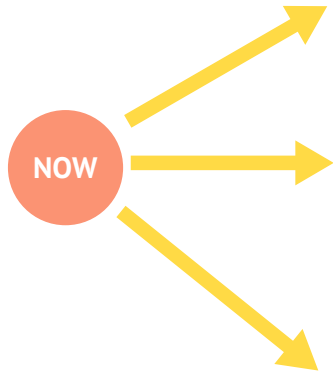
How Much Electricity does Sitka need?

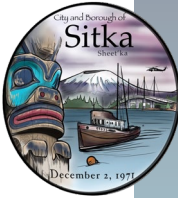


What should Sitka do?



The questions we answer now will determine when Sitka will need additional generation (and tell us how much more we will need in the process).



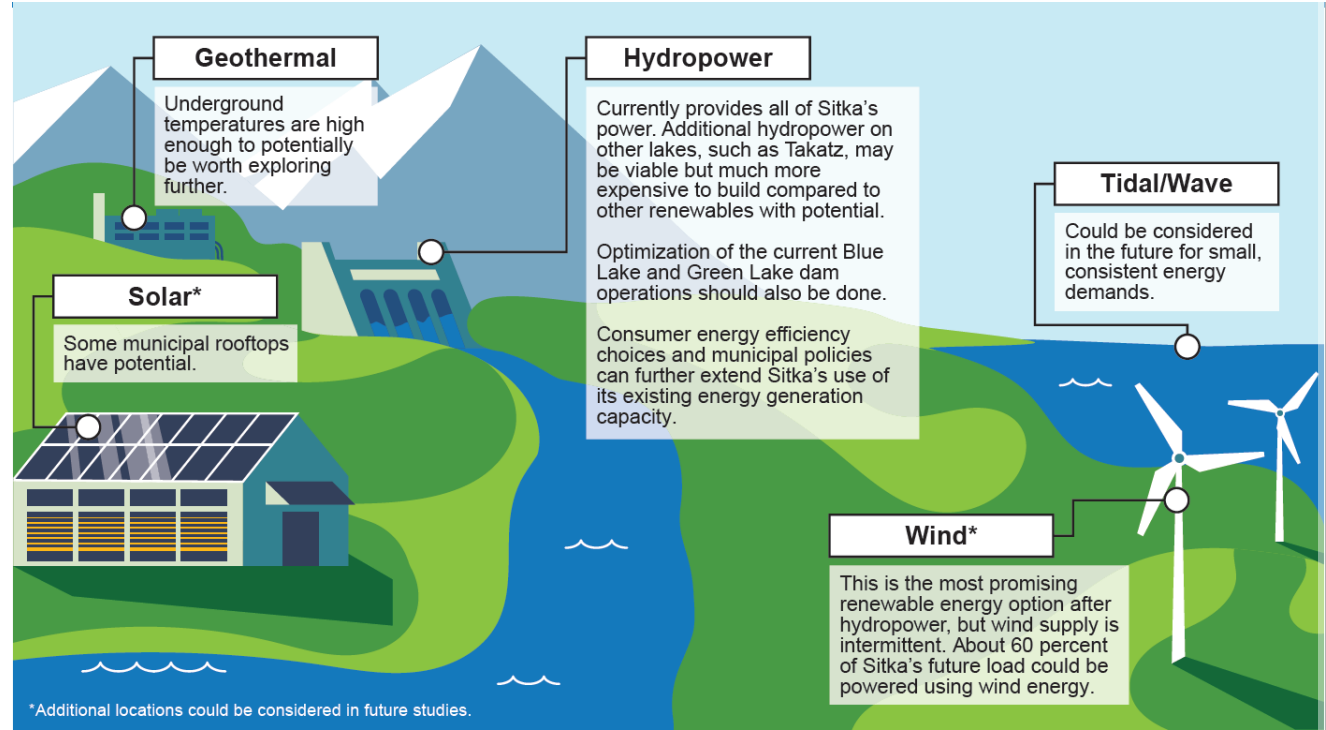


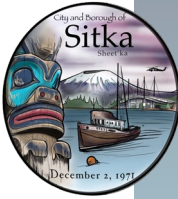
Great News! We Are Doing Something.

Energy Transition Initiative
Partnership Project
(ETIPP) 2021:

What renewable
energy options
does Sitka have?

Sitka has
a lot of options.





Better News: We Are Doing a Lot!

Renewable does not equal sustainable

Environment



Establish operational and infrastructure changes to maximize the efficiency of existing renewal energy resources

Economy



Increase infrastructure resiliency to remain 100% renewable

Equity



Build workforce capacity to support renewable energy production



Establish operational and infrastructure changes to maximize the efficiency of existing renewable energy resources

Hydropower Analysis

Purpose: Climate change adaptation and natural resource management

Outputs:

- Sensor installation and model development.
- Better forecasting for operations of hydropower assets.
- Recommendations for infrastructure projects that increase production.



Photo By: Lee House



Increase infrastructure resiliency to remain 100% renewable

Risk Assessment

Purpose: Document current state of the system to inform mitigation strategies.

Outputs:

- Hazards assessment
- Vulnerabilities assessment
- Short list for prioritization for investments.
- **Mitigation strategies**

Microgrid Assessment

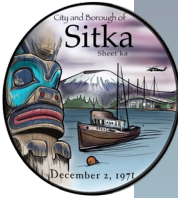
Purpose: Understand control options, changes in load, and aging transmission lines

Outputs:

- High-fidelity model of the grid
- Stability studies with different load/generation scenarios
- Preliminary investigation of line studies
- Control system design



Photo By: Matt Goff



Build workforce capacity to support renewable energy production

Workforce Development Assessment

- Document the skills, experience, and training of the existing CBSE workforce.
- Assess future needs of the CBSE workforce including high demand positions, skills, experience, and training.
- Develop a workforce development plan to monitor progress towards filling CBSE workforce needs as assessed.

Community Organization Partner

Clean Energy Formal Education

- Promotes energy education and literacy in Sitka's K-12 schools.
- Transforms energy related behaviors of students and staff at participating K-12 schools.
- Encourages participating students to apply their learning beyond the classroom through making informed and responsible decisions.
- Compliments existing STEM curricula and integrates instructor needs.

Community Organization Partner



Internship Program

- Develop a new internship opportunity for high school students within CBSE.
- Pilot the internship program during the summers of 2025 and 2026.
- Document and report on the internship program for potential continuation.

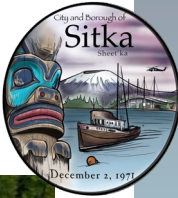
Community Organization Partner





Why is C2C so Focused on Generation Management?

Shouldn't doing "a lot" also include the community?



“a Lot” - Continued



What is the SCRES?

The Sitka Community Renewable Energy Strategy (SCRES) is a City of and Borough Sitka-led project heavily supported by its [Sustainability Commission](#) in collaboration with energy experts via technical assistance from the [Department of Energy's Energy Transition Initiative Partnership Project \(ETIPP\)](#).



Vision:

Establish a shared vision of Sitka's energy future to guide energy-related community decisions.

Where do we want to be and by when?

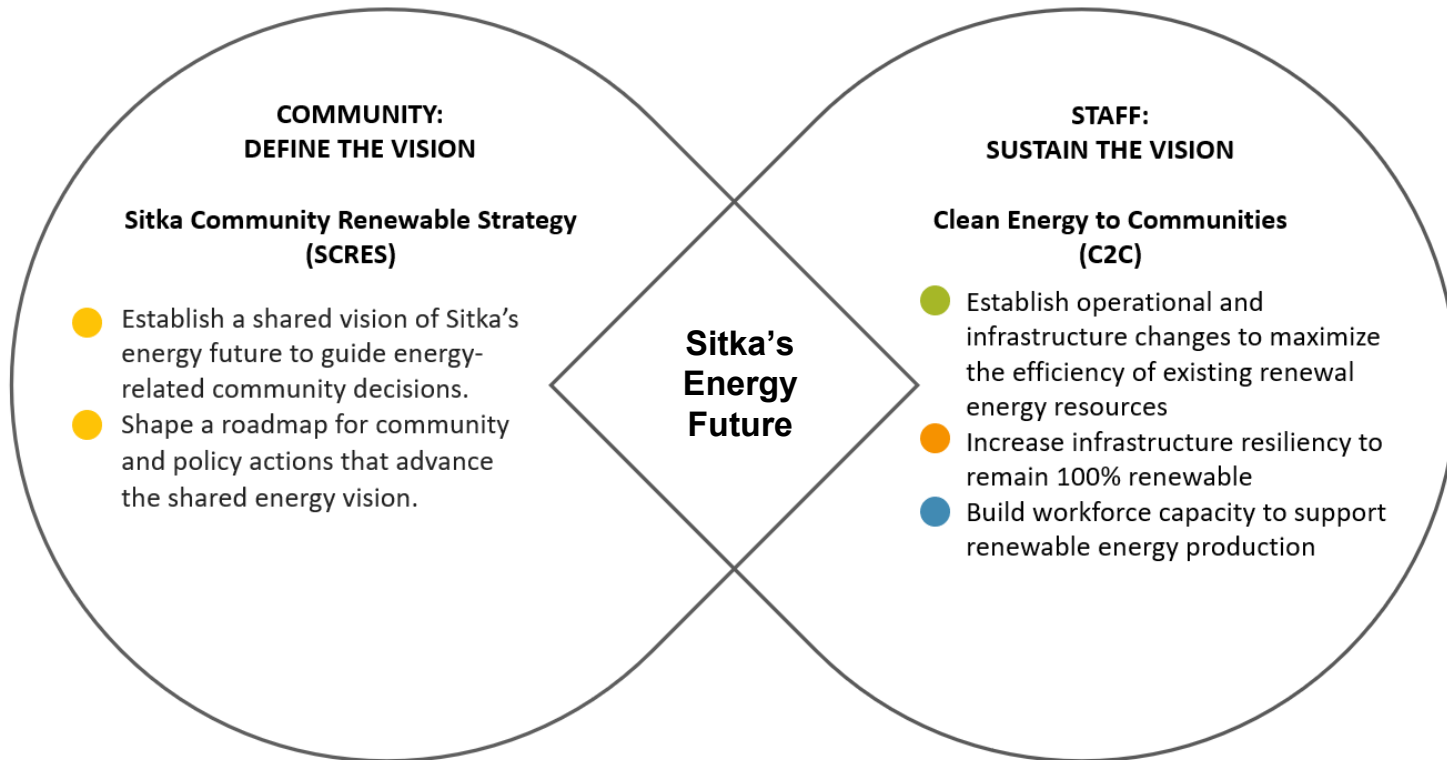


Mission:

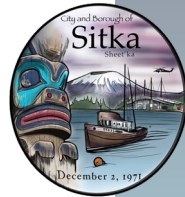
Shape a roadmap for community and policy actions that advance the shared energy vision.

How do we use less?
What does “more” mean?

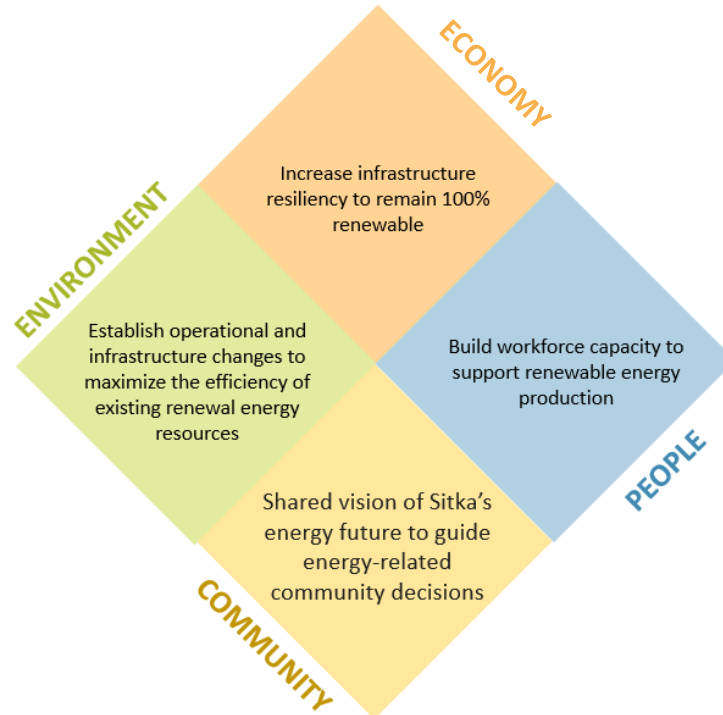
How does Sitka get there?



What does it look like?



SITKA'S RENEWABLE ENERGY FUTURE



What it really looks like.



Upcoming Learning Opportunities



Date	Format	Topic
10/10	Webinar	Energy Efficiency and Conservation
10/21	Radio	Heat Pumps
10/24	Webinar	Energy Economics
10/29	Radio	Emergency Preparedness
11/7	Webinar	Reliability, Resiliency, and Independence
11/12	Radio	Greenhouse Gas Emissions Inventory
11/21	Webinar	Sitka's Energy Options
Winter 2025	Workshops	Energy Scenarios with the Community!

Website: www.cityofsitka.com/SCRES

More ways to engage are on the way!

To get alerts and updates, email sustainability@cityofsitka.org

Thank you!



Bri Gabel

bri.gabel@cityofsitka.org

(907) 747-1856

Photos By: Lee House