



# **Financing Climate Mitigation and Resilience: Lessons from Hawaii**

March 20, 2020

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Environmental and  
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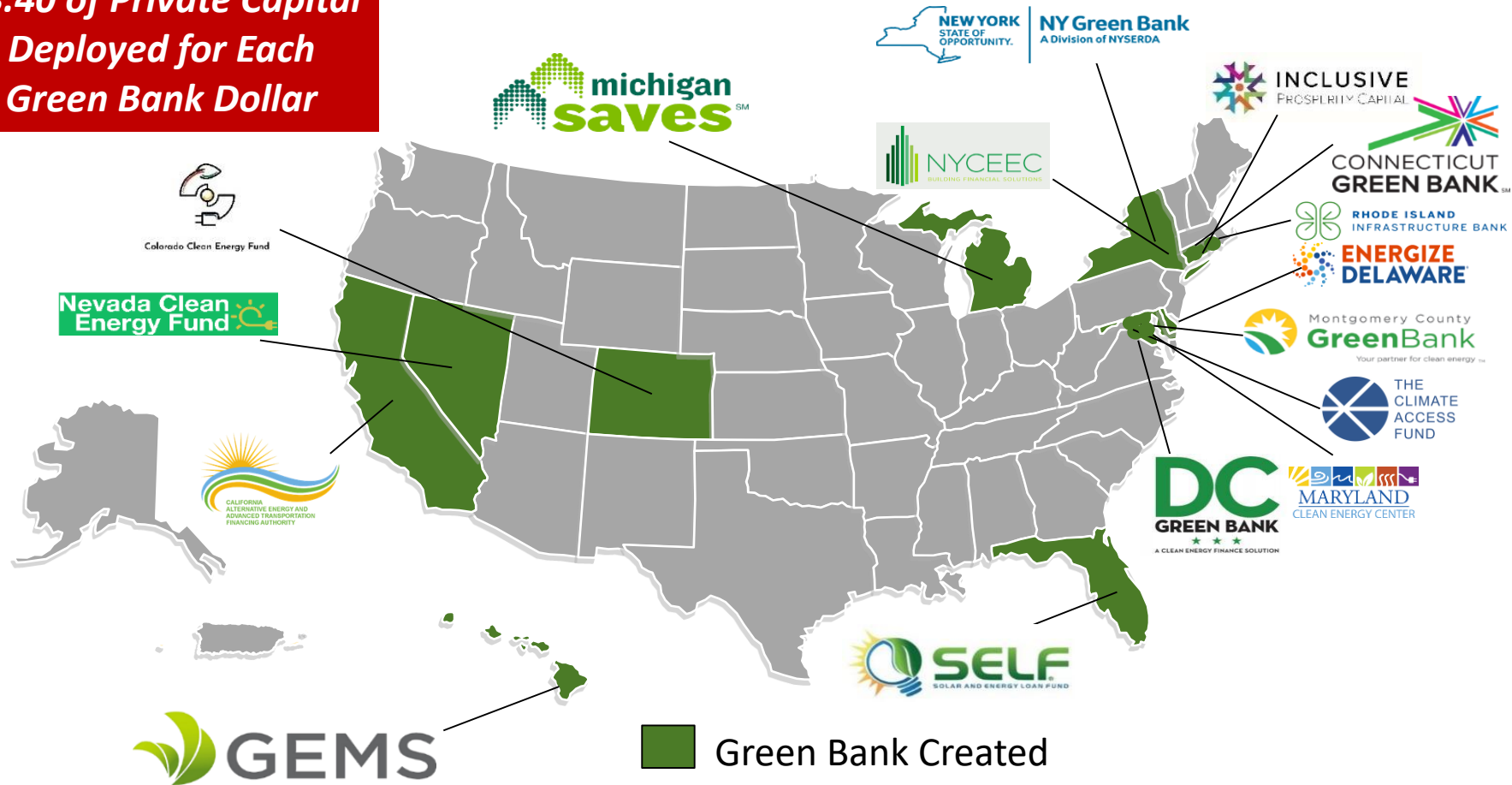
- Founded in **1984** by a **bipartisan** Congressional caucus.
- Now an **independent**, bipartisan **nonprofit** with no Congressional funding.
- We provide **fact-based information** on **energy** and **environmental** policy for Congress and other policymakers.
- We focus on **win-win solutions** to make our energy, buildings, and transportation sectors **sustainable** and **resilient**.

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# Green Banks exist across the US, from Hawaii to Rhode Island, have caused \$4b+ in investment

***\$3.40 of Private Capital  
Deployed for Each  
Green Bank Dollar***



# Financing Climate Mitigation & Resilience: Lessons from Hawaii

March 20, 2020

Hawaii Green Infrastructure Authority



# Climate Change Mitigation & Resilience

- ▶ Climate Change Mitigation

- ▶ Actions to limit the magnitude or rate of global warming and its related effects.

- ▶ Resilience:

- ▶ The capacity to recover quickly from difficulties, toughness.

Climate change and social inequity are major threats to community resilience & sustainability.

# HGIA: created by Hawaii's Legislature to democratize clean energy

- ▶ Address financing market barriers to increase the installation of clean energy projects;
- ▶ Expanding access and affordability to underserved ratepayers;
- ▶ Stimulate private investments; and
- ▶ Leverage innovative tools to mitigate risks and reach new markets.



*“Ohana means family.  
Family means nobody gets  
left behind.”*

# Hawaii's Energy Gap



- ▶ Ambitious 100% renewable energy in the electricity sector by 2045 goal
- ▶ Unequal access to clean energy
  - ▶ 48% of Hawaii's households ALICE (Asset Limited Income Constrained Employed) or below;
  - ▶ 43% of Hawaii's households rent
  - ▶ Nonprofits unable to monetize tax credits
  - ▶ Small businesses

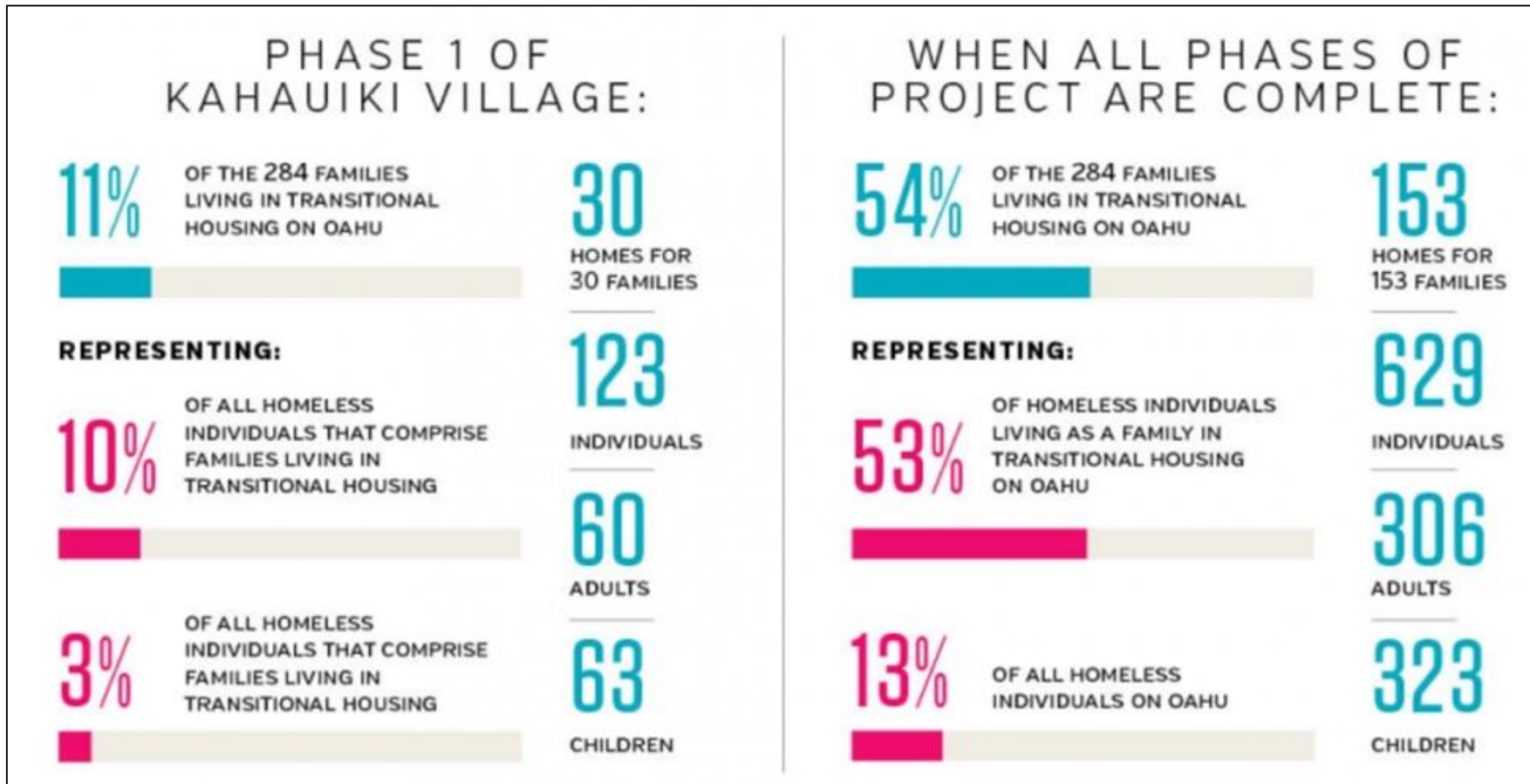
# GEM\$ On-Bill Program: Transitioning Underserved Ratepayers One Rooftop at a Time

- ▶ No upfront costs
- ▶ Immediate utility bill savings
- ▶ Elimination of credit barriers
- ▶ Obligation tied to the electric utility meter (not a person)
- ▶ One payment conveniently made on utility bill





# The Kahauiki Village Story

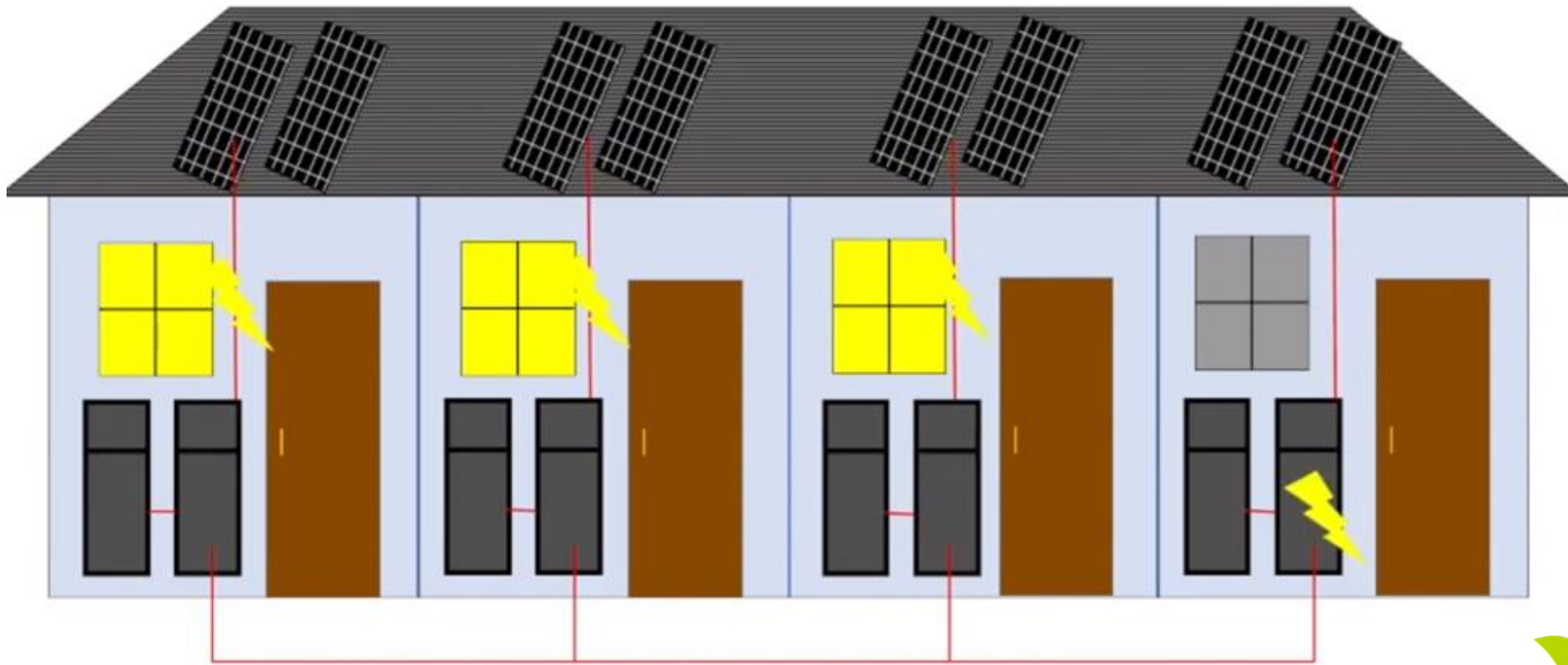


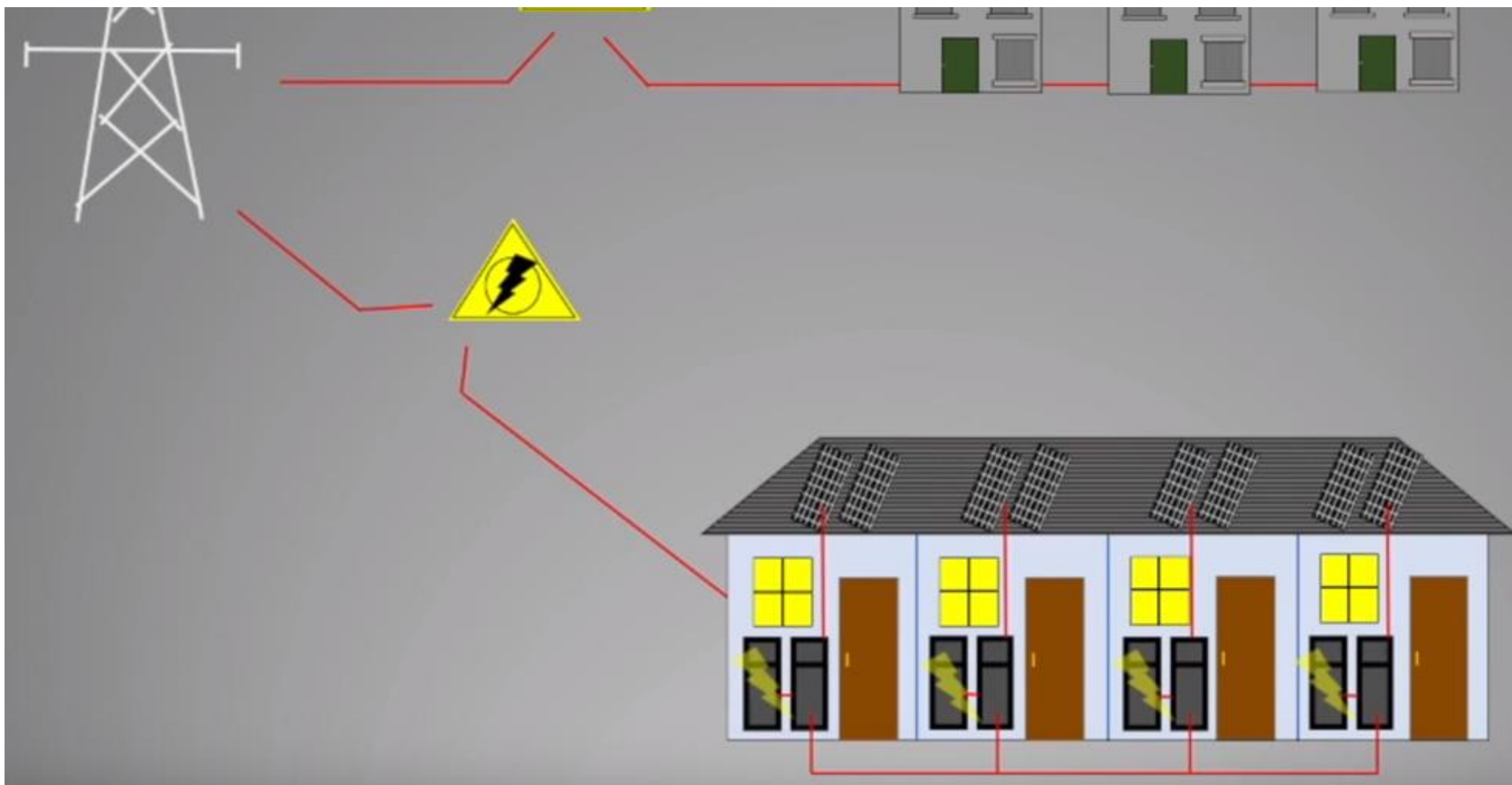
# Kahauiki Micro-grid





# New Developments leveraging GEM\$ and Innovative PV + Storage Technologies



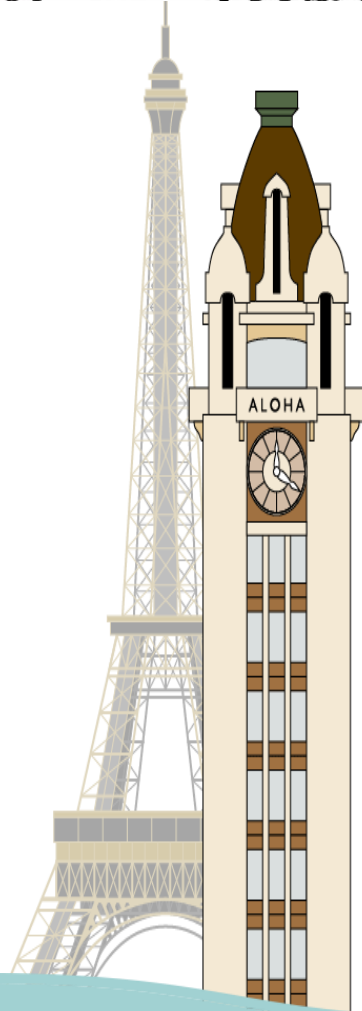


# Mahalo! (Thank You!)

Gwen Yamamoto Lau  
Hawaii Green Infrastructure  
Authority



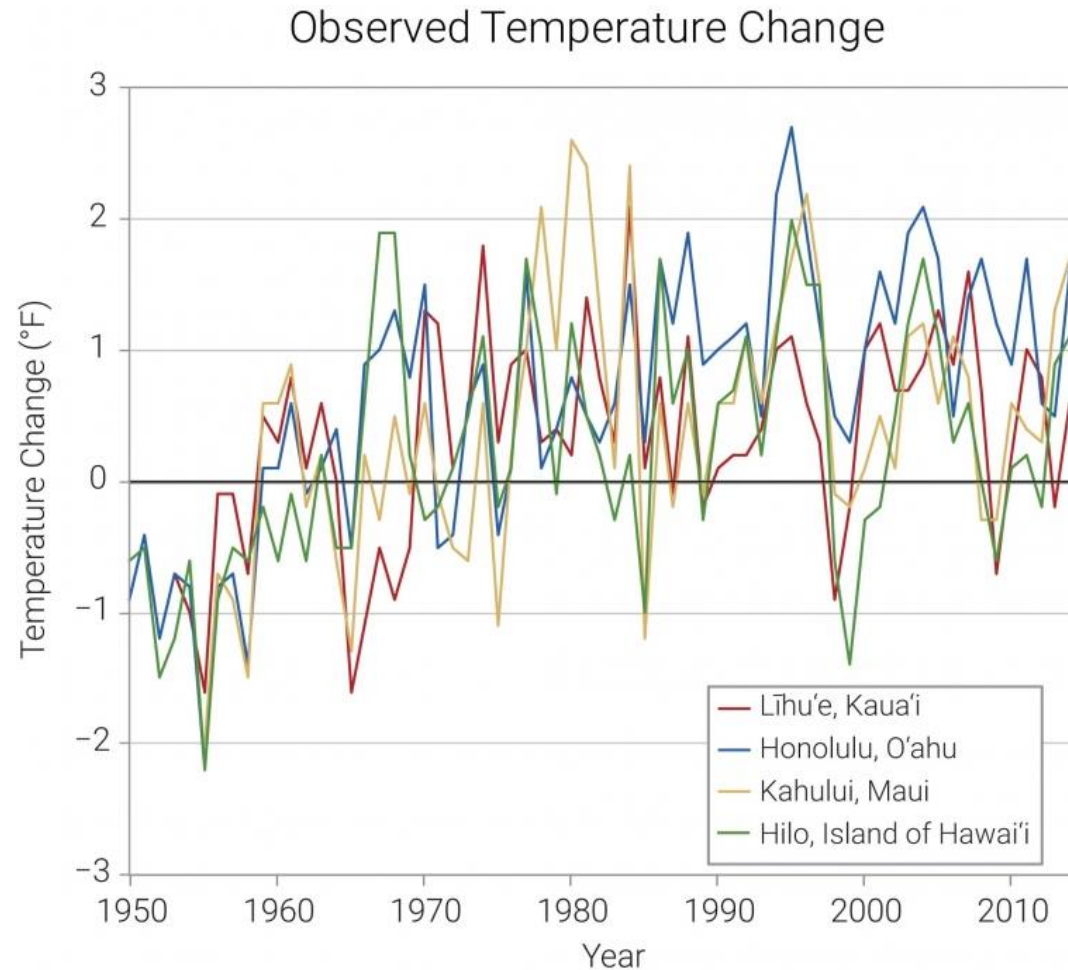
# Climate Ready Hawaii



# Climate Change in Hawaii: What's happening now

## Hotter days

- Temps in HI have increased 2.5 degrees F between 1950-1980.

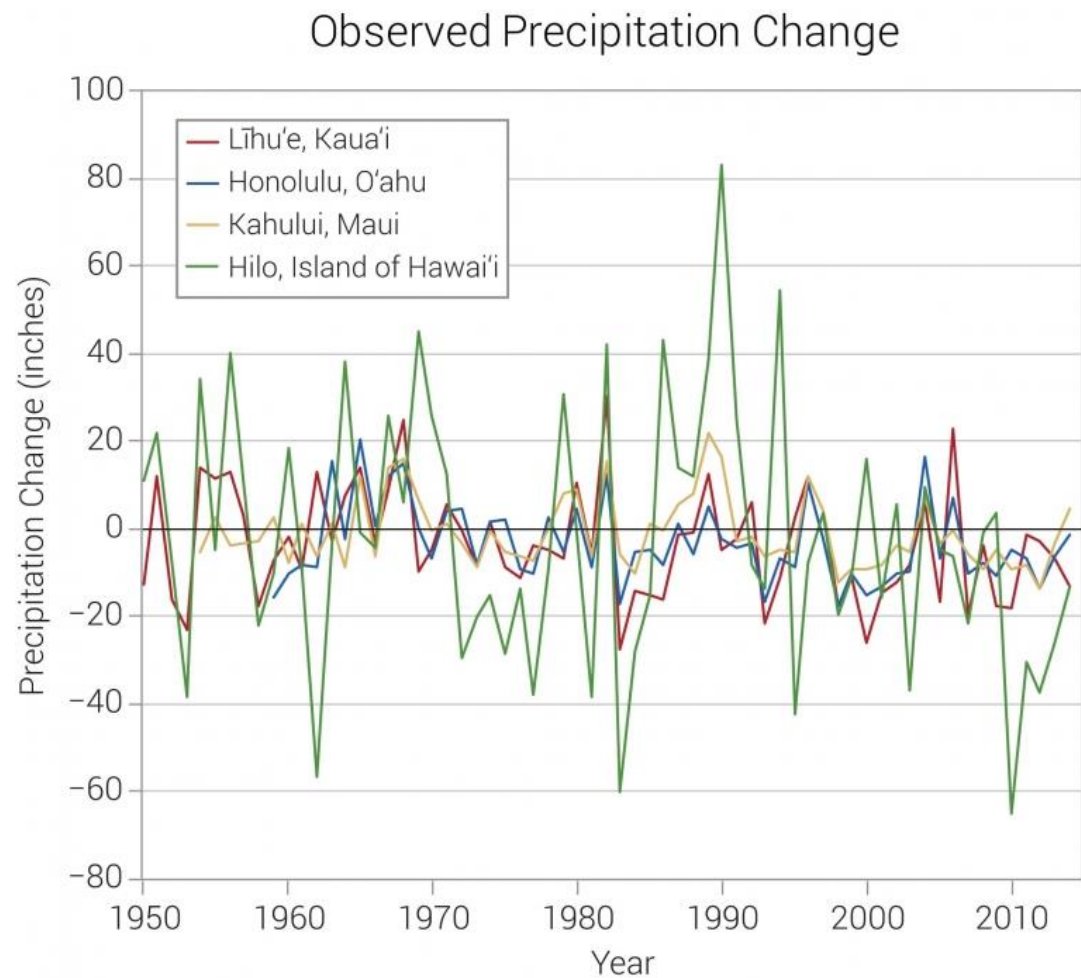




# Climate Change in Hawaii: What's happening now

## Precipitation Changes

Drier overall





# Climate Change in Hawaii: projections

## Sea Level Rise

- > 1m likely in second half of century
- 0.38m – 3.31m by 2100
- 1.23m by 2060 in extreme scenario



Photo: Lynn Englum, Vanishing Places, Instagram

# Climate Change in Hawaii: What's happening now

## High tide flooding

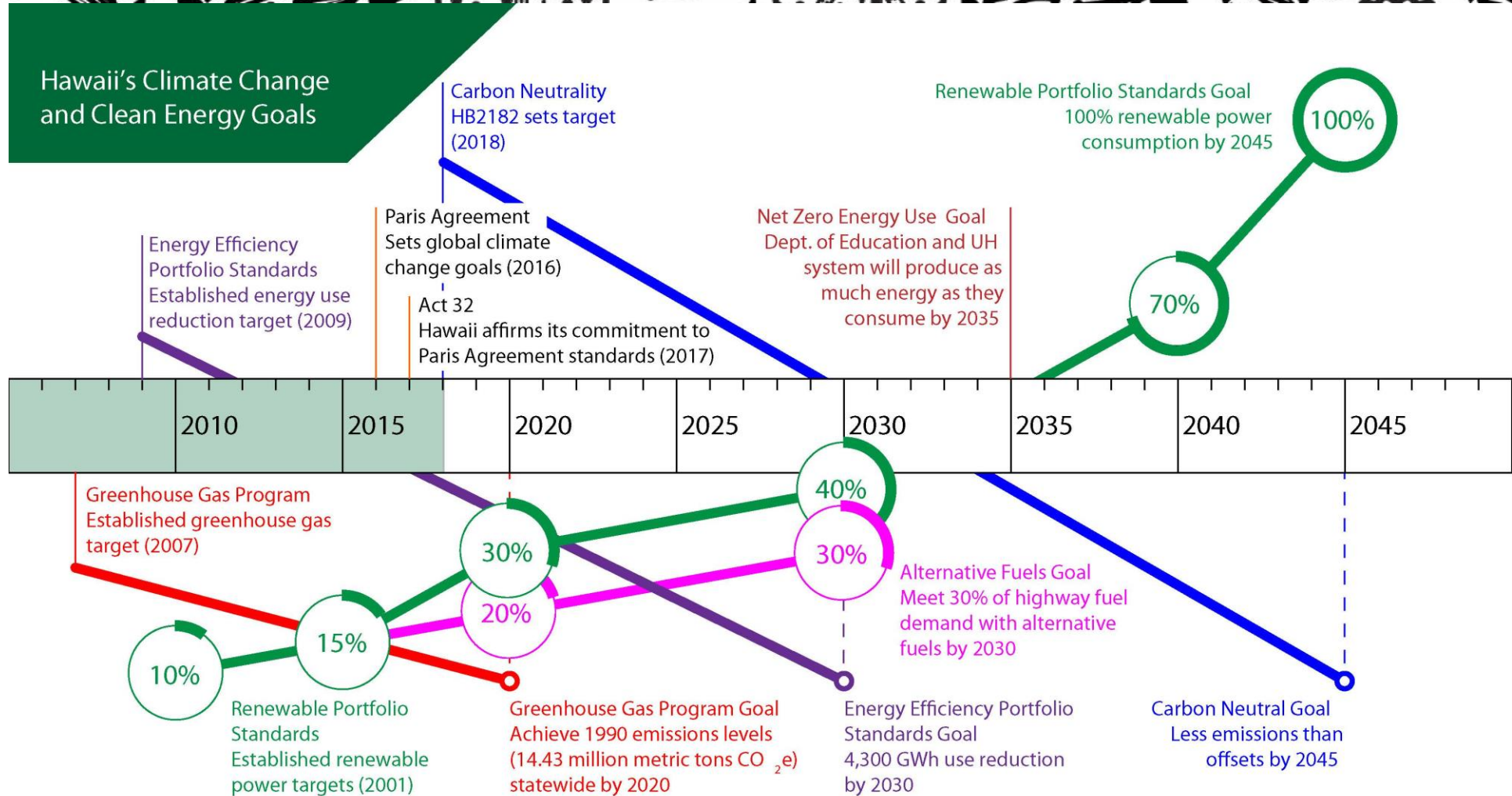
Since 1960s, increased  
from 6 days/year to 11.



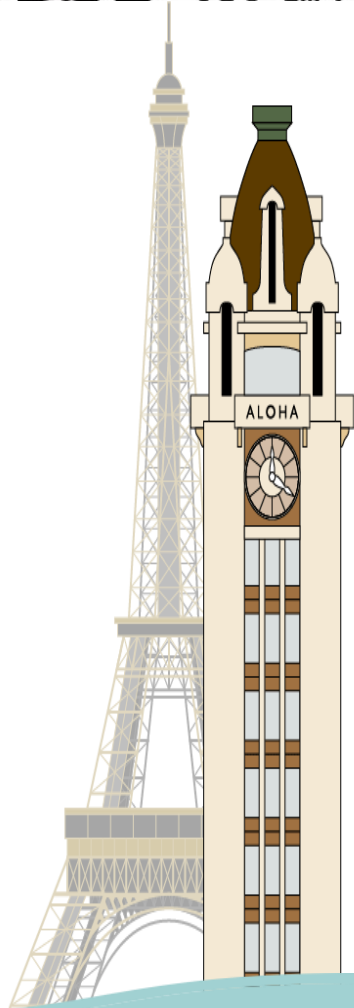
Photo: Hawaii news now



# Hawaii has a lot of goals



# Hawaii's Response to Climate Change



## The Paris Agreement

2016: 197 countries agree to limit global temperature rise below 2°C.

## Hawaii's Response—Act 32

**§225P-3 Hawaii climate change mitigation and adaptation commission;** general functions, duties, and powers. [See Note at beginning of chapter.] (a) There is established the Hawaii climate change mitigation and adaptation commission that shall be placed within the department of land and natural resources for administrative purposes only.



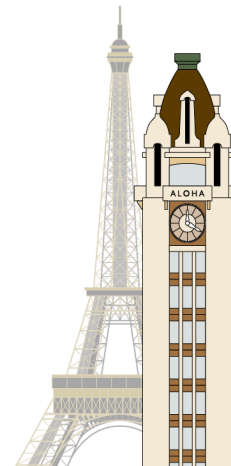
### **HRS §225P-3(k) (Act 32, SLH 2017) Mandates, excerpted**

1. Provide policy direction, facilitation, coordination, and planning among state and county agencies, federal agencies, and other partners
2. Establish climate change mitigation and adaptation strategies and goals to help guide planning and implementation statewide using the latest scientific analysis and risk assessment to monitor and forecast climate change related impacts at the regional, state and local level, including any additional information deemed necessary.
3. Identify vulnerable people, communities, industries, ecosystems and potential economic ramifications for climate change related impacts
4. Identify existing climate mitigation and adaptation efforts at the federal state and local levels and make recommendations for how to meet or exceed Hawaii's state mitigation goals and shall adopt a liberal approach in prep, so as to minimize future risk to the people and environment of Hawaii

# Who is on the Commission?

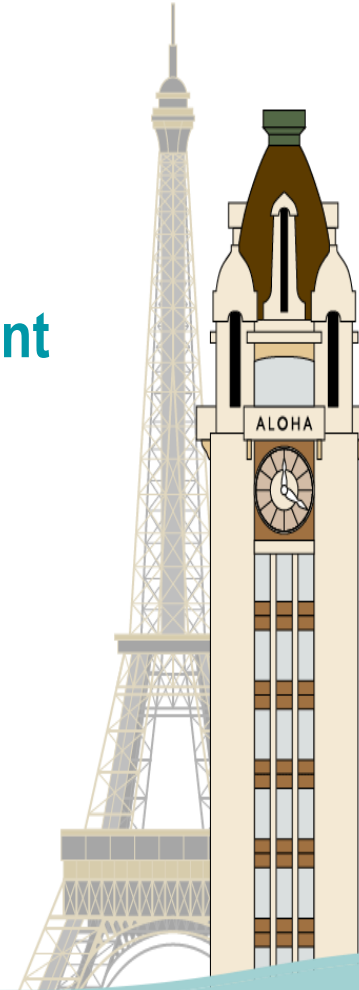
- 20 members
- 2 co-chairs--DLNR and OP
- legislators
- county planning directors
- directors and chairs of state departments and boards

High level  
Multi jurisdictional

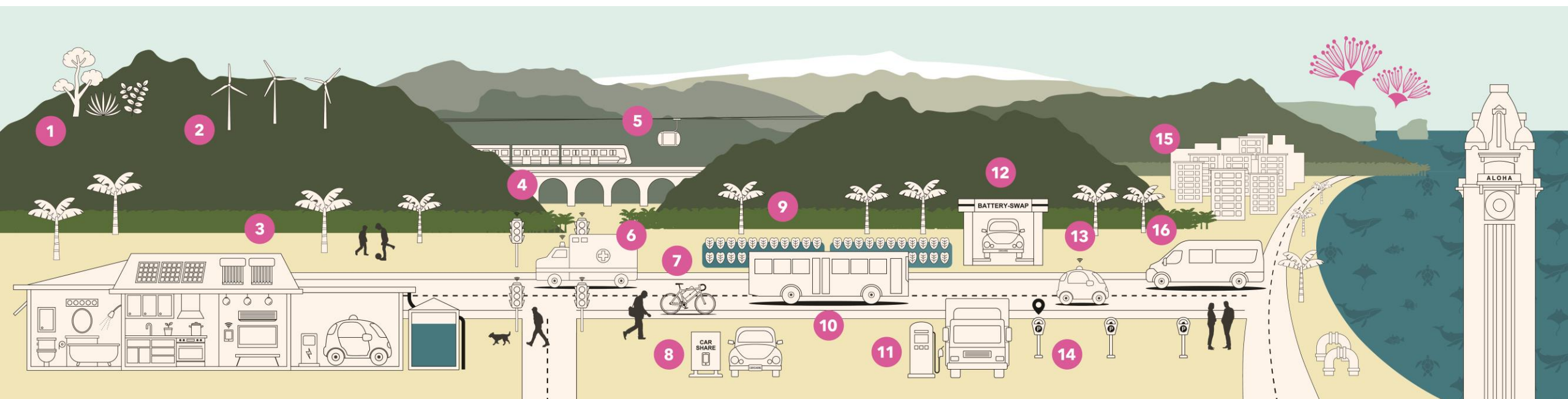


# A Climate Ready Hawaii is...

...Clean, Equitable and Resilient










# Adaptation and Resilience: to support agencies and departments



- **Maintain best available information and practices on SLR adaptation (Info Hub)**
  - **Provide guidance to counties for planning and permitting (Planner's Tool)**
  - **Engage communities to help determine priorities (Community Matters strategy)**
  - **Provide support to conduct vulnerability assessments (Decisionmaker's Tool)**
- 

# Climate Ready Hawaii: Green infrastructure projects DOT+DLNR

## Punalu'u Beach Park

- 3+ feet likely in second half of century
- 1-10.5 feet by 2100
- 3.5 feet by 2060 in extreme scenario

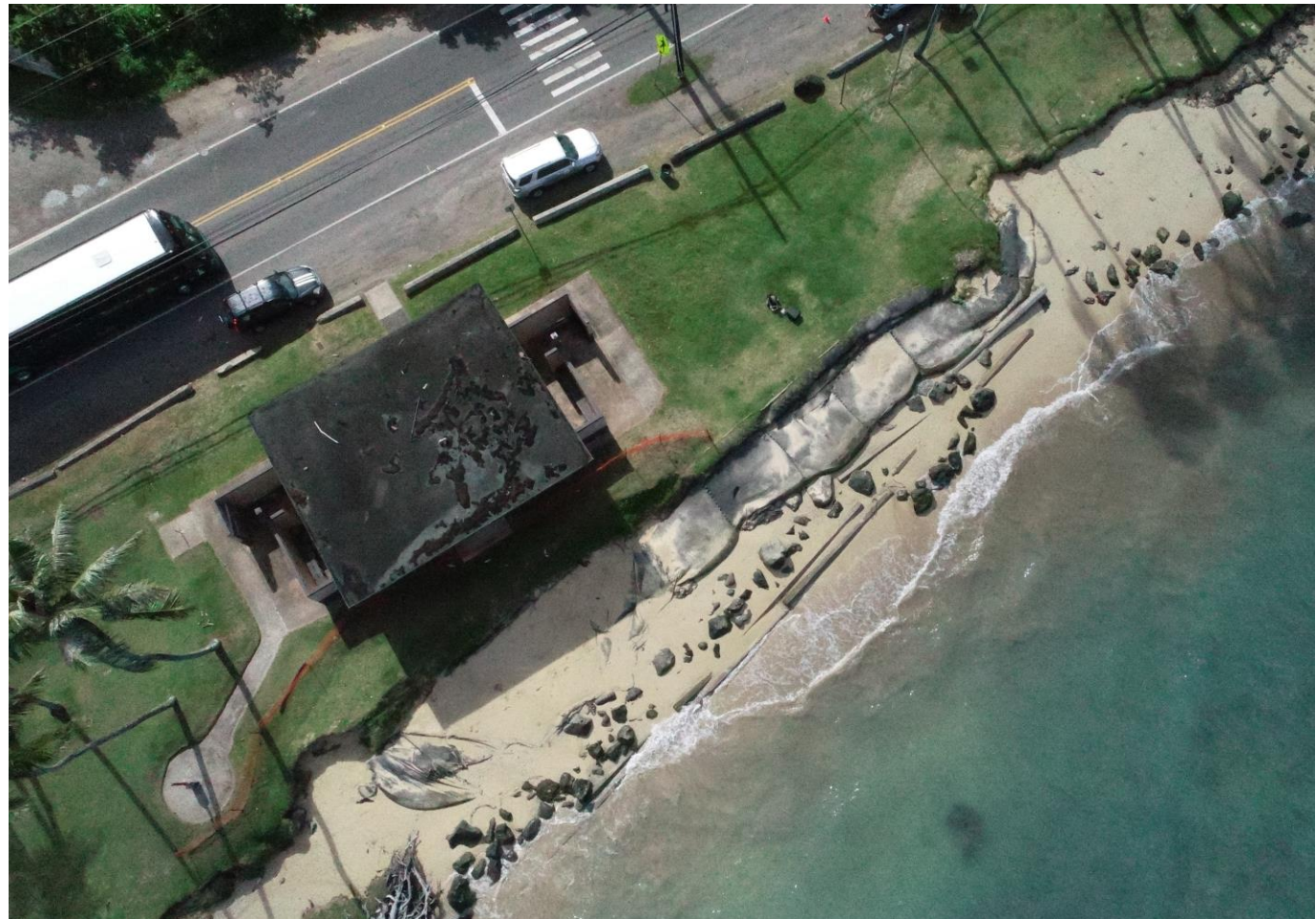


Photo: Dr Shellie Habel

## Contact info

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Hawaii Climate Change Mitigation and Adaptation Coordinator  
DLNR

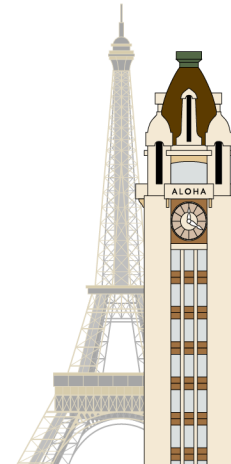
Email: [Anukriti.s.Hittle@Hawaii.gov](mailto:Anukriti.s.Hittle@Hawaii.gov)

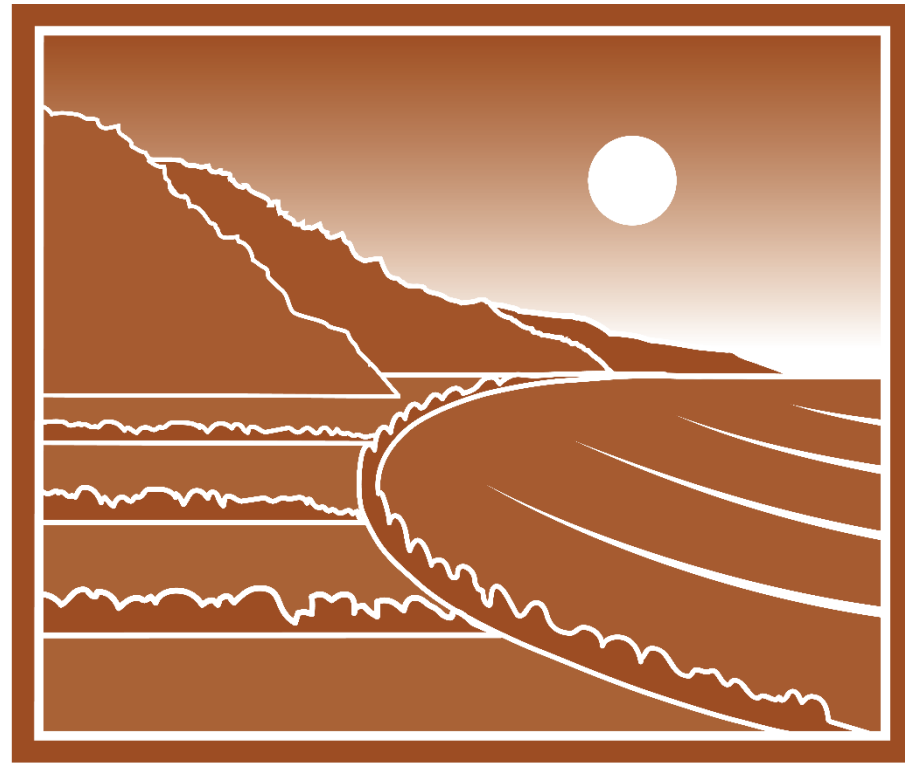
Phone: 808-587-0321

Website: [climate.Hawaii.gov](http://climate.Hawaii.gov)

Instagram: @Hi\_Climate

Facebook: @Hi Climate





# NORTH SHORE COMMUNITY LAND TRUST

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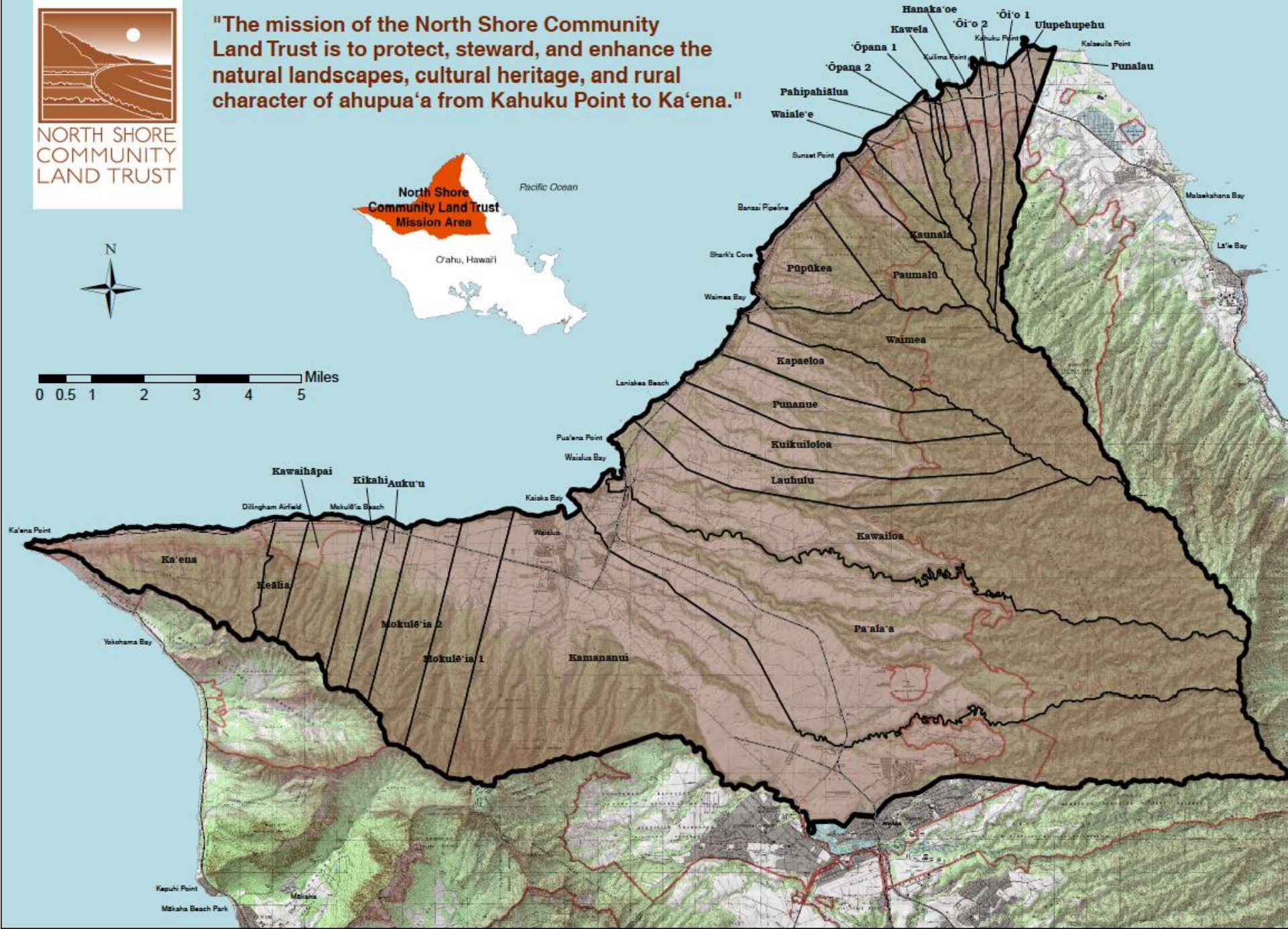


NORTH SHORE  
COMMUNITY  
LAND TRUST

"The mission of the North Shore Community Land Trust is to protect, steward, and enhance the natural landscapes, cultural heritage, and rural character of ahupua'a from Kahuku Point to Ka'ena."



0 0.5 1 2 3 4 5 Miles







# “DREAM BIG . . . AND BIG THINGS HAPPEN”

North Shore Community Land Trust (NSCLT) mission is to protect, steward, and enhance the natural landscapes, cultural heritage, and rural character of ahupua'a from Kahuku Point to Ka'ena.

*Thanks to generous community support, we continue to successfully achieve this mission.*



## HERE ARE SOME OF OUR HIGHLIGHTS TO DATE:

- 1997:** NSCLT founded by diverse group of community leaders
- 1998:** Conducted documentation of and trash clean-ups at all North Shore beach right-of-ways
- 2002:** Pūpūkea Paumalū Conservation Effort Launched
- 2005-06:** \$8m raised for public purchase of Pūpūkea Paumalū
- 2006:** Supported conservation of Waimea Valley
- 2007:** Pūpūkea Paumalū conserved in perpetuity
- 2008-10:** Community develops Pūpūkea Paumalū Long-Range Resource Management Plan
- 2010:** Sunset Ranch conserved in perpetuity
- 2010-12:** North Shore Greenprint outlines community priorities for future conservation
- 2012:** Turtle Bay Mauka Conservation Easement funding secured
- 2013:** Held First Annual North Shore Food Summit
- 2014:** Held First Annual North Shore Youth Food Summit
- 2014-15:** Launched Kahuku Kawela Forever Campaign and helped secure over \$45m for land conservation and stewardship
- 2015 (Spring):** Launched North Shore Trails Planning Project
- 2015 (Fall):** Successfully completed Phase 1 of Kahuku Kawela Forever Campaign
- 2015:** Initiated restoration efforts on 35 acres at Kalaeokauna 'oa (Kahuku Point)
- 2016:** Turtle Bay Mauka Agricultural lands conserved in perpetuity
- 2017:** Kalaeokauna 'oa (Kahuku Point) Restoration progress includes: 5 acres of coastal sand dune restored, 5,000 volunteer hours, 7,500 natives out-planted, 85,000 pounds of invasive plants removed, and 9,000 pounds of marine debris removed
- 2018:** Implemented first phase of sand dune restoration at Paumalū (Sunset Beach Park)

**THANK YOU FOR YOUR SUPPORT!**

Let's work together to protect and enhance our natural landscapes, cultural heritage, and rural character of ahupua'a from Kahuku Point to Ka'ena.

## *Mahalo!*

# How WE Work

## **Voluntary Land Conservation**

Willing Landowners

Land Transactions

Conservation Easement

## **Healthy & Effective Relationships**

Built on Mutual Respect & Trust

Landowners

Government

NGOs

Community/Volunteers

ENVIRONMENT

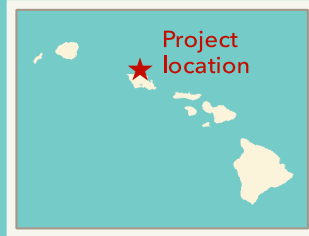
## **Community Engagement**

An engaged community cares

## **Stewardship/Education**

# KAHUKU KAWELA FOREVER

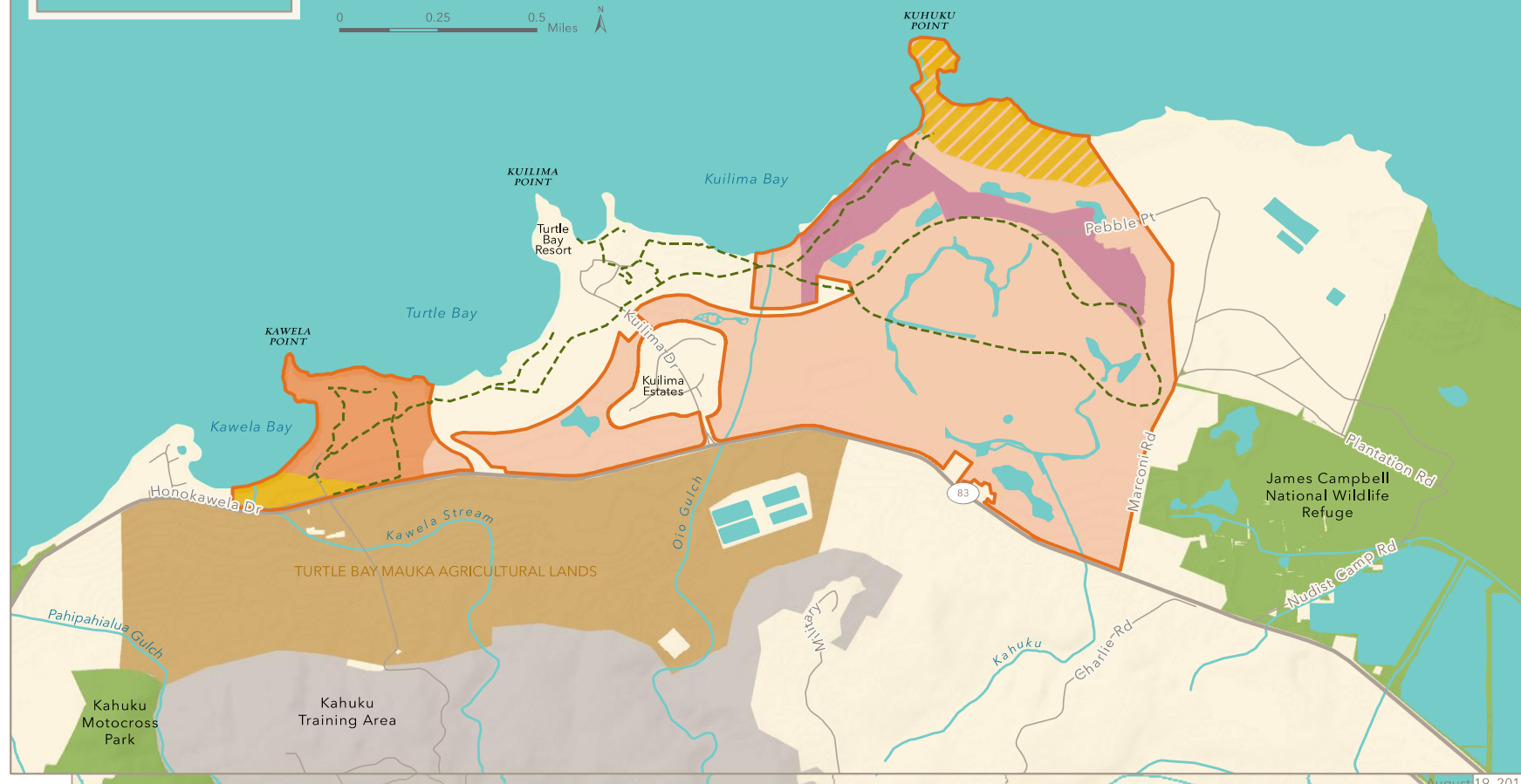
ISLAND OF O'AHU, HAWAII



- Kahuku Kawela Project**
- Overall boundary
  - State fee purchase
  - State conservation easement purchase
  - City fee purchase and future park lands
  - Interim conservation easement owned by State
  - Excluded acreage
  - Public access trail
  - Soon to be conserved
  - Parks, open space, and other protected land
  - Military land



0 0.25 0.5 Miles





# Funding Partners - Acquisition

## Local

*State Legacy Lands Program*

*Hawaii Department of Land and Natural Resources*

*Clean Water and Natural Lands*

*City & County of Honolulu*

## Federal

*Compatible Use Buffer Zone*

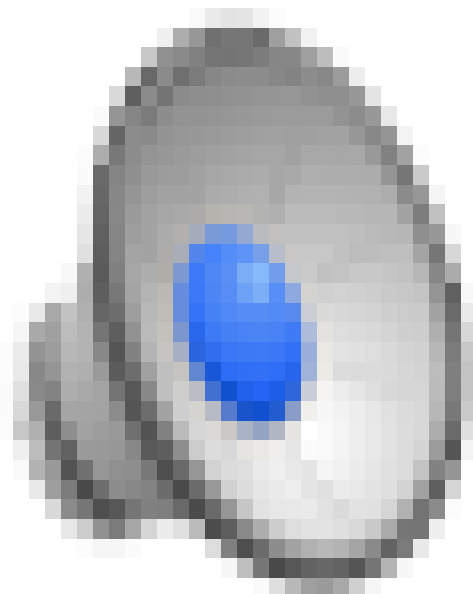
*United States Army*

## Non-Profit

*Trust for Public Land*

An aerial photograph of a coastal landscape. The ocean is a deep blue, with white-capped waves breaking onto a sandy beach. The beach is bordered by a dense forest of green trees. A small, light-colored building is visible on the land. The sky is a clear, pale blue.

# RESTORATION & STEWARDSHIP



# Funding Partners – Restoration/Stewardship

Pacific Island Costal Program

Cooperative Agreement

NFWF

Five Star & Urban Waters

Hawaii Community Foundation

Community Restoration Program

Marisla Fund

Turtle Bay Resort/Foundation

Cooke Foundation

Atherton Family Foundation

Musser Fund

Hawaii Tourism Authority

Omidiyar Ohana Fund

Mohamed Bin Zayed







**HAWAIIAN MONK SEALS**



**YELLOW-FACED BEE**







Laysan Albatross





# VOLUNTEER WORK DAYS











EDUCATIONAL OUTREACH







# Restoration Success To Date

- Over 3,500 Volunteers
- Over 22,500 Native Plants
- Over 12,000 lbs. of Marine Debris Removed
- Over 200 tons of Invasive Plants Removed
- 9 Albatross Nests on property this year
- 7 Acres of Dune Habitat Restored
- Increased Cover Native Plant Species

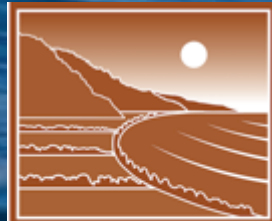


# MAHALO!!

## Photo Contributions

Sheldon Plentovich  
Raphael Bergstrom

Doora Shin  
Paul Javier  
Alice Terry  
Sean Davey



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COMMUNITY  
LAND TRUST

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## **Financing Climate Mitigation and Resilience: Lessons from Hawaii**

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