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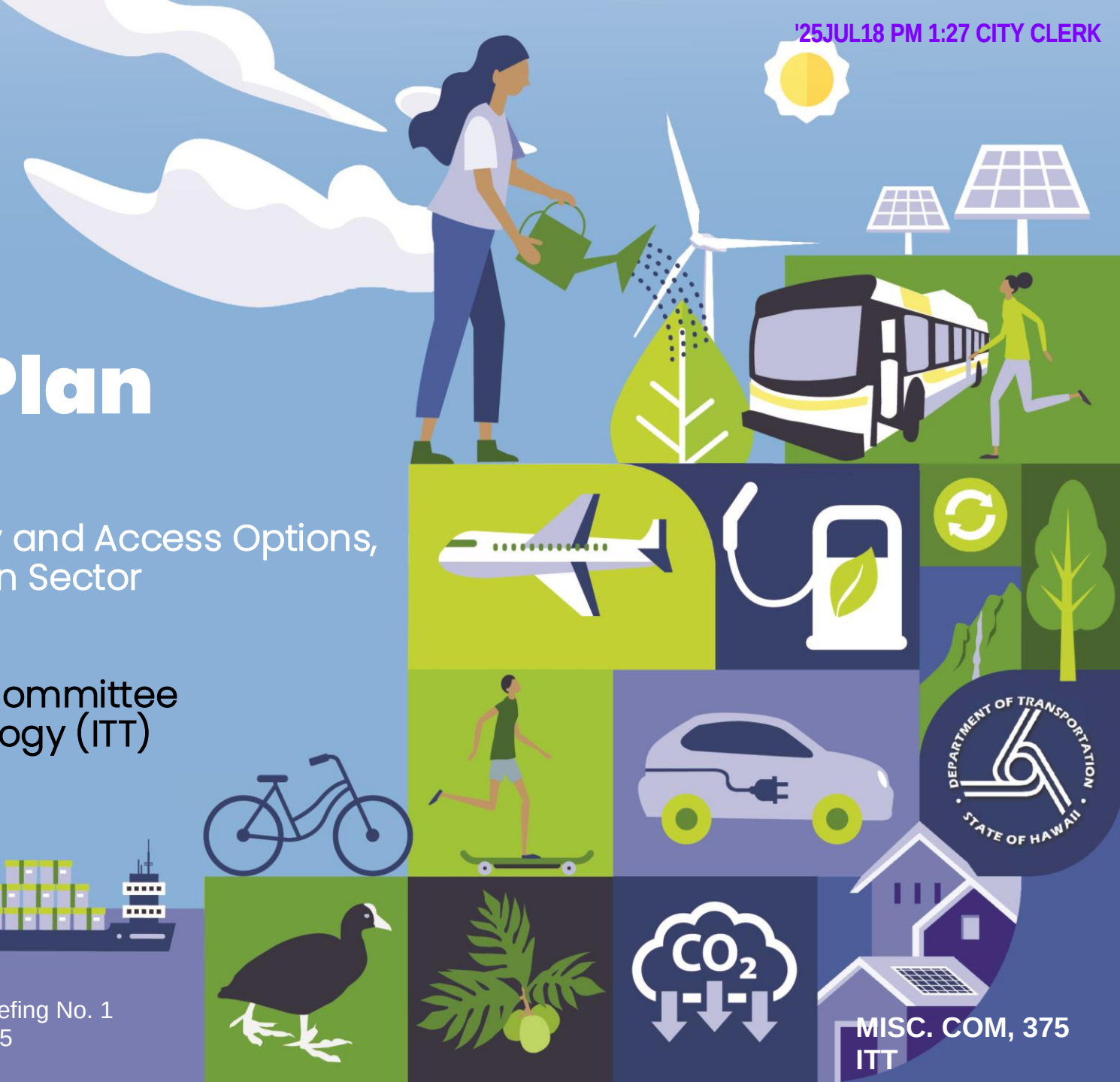
Hawai‘i Department of Transportation

DRAFT
Energy Security & Waste Reduction Plan

A Plan to Increase Hawai‘i's Energy Security and Access Options, and Reduce Emissions in the Transportation Sector

Wednesday, July 23, 9:00 a.m.
Presentation to the Honolulu City Council Committee on Infrastructure, Transportation & Technology (ITT)





Submitted by the State Department of Transportation for Informational Briefing No. 1
Committee on Infrastructure, Transportation & Technology | July 23, 2025

MISC. COM, 375
ITT

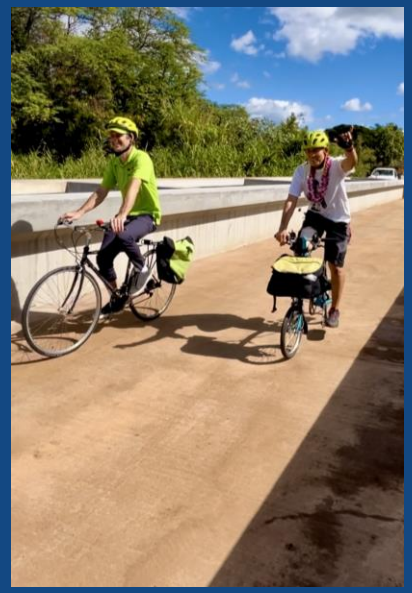


AGENDA

- Background
- Emission Reduction Strategies
  - Ground
  - Aviation
  - Marine
  - Administrative
- Community Input

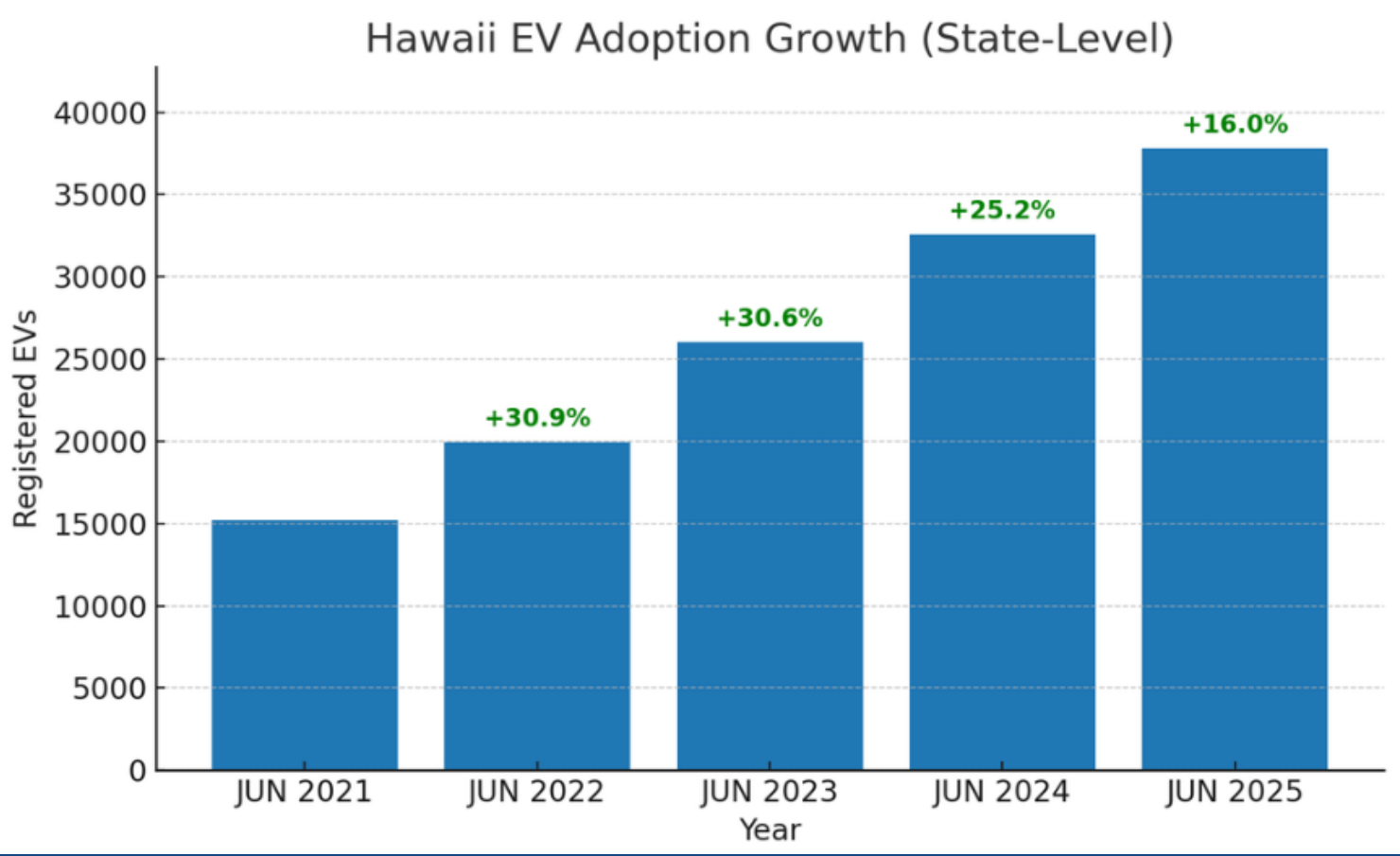
HI ONGOING EFFORTS TO REDUCE EMISSIONS



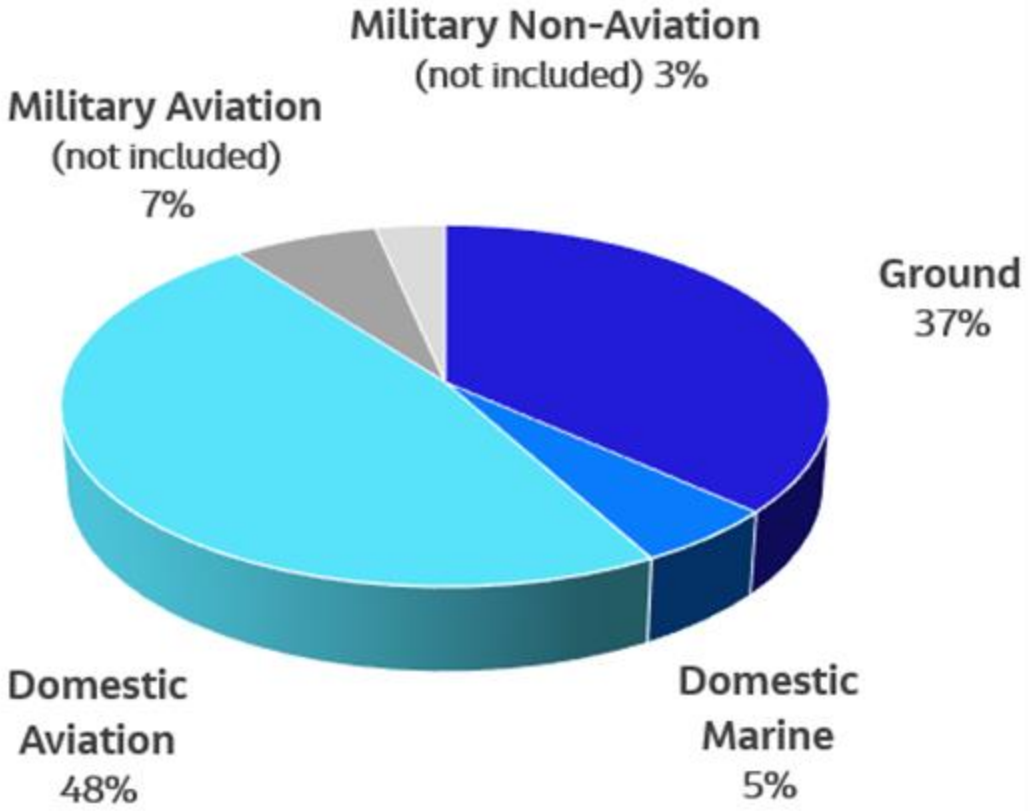


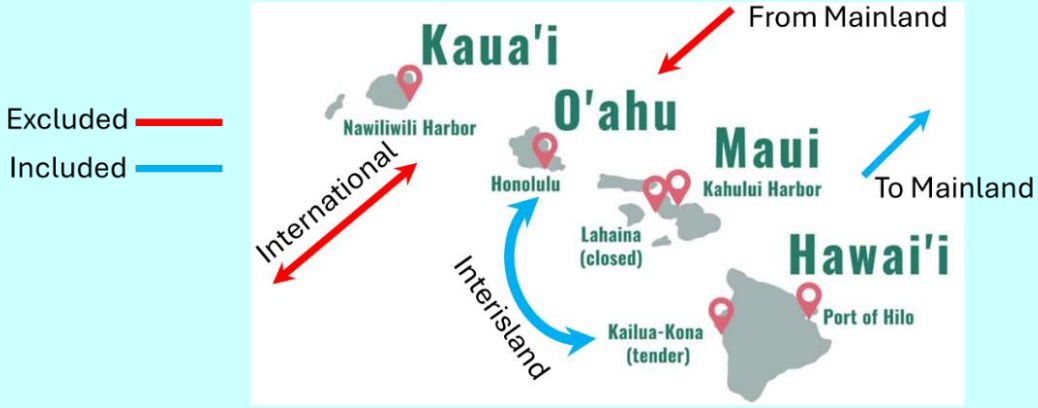






TRANSPORTATION = ALMOST 1/2 OF HI EMISSIONS





WHAT GOES INTO THE 48%?

INCLUDED in HI GHG Inventory

All transportation activities:

- **within Hawai‘i (on-island & interisland transport) AND**
- **originating in Hawai‘i to another state (planes and boats).**

EXCLUDED from HI Inventory

All transportation activities:

- originating in another state & coming into Hawai‘i
- International transport
- Military transport
- All sources other than fuel use for transport vehicles (electricity at airports, concrete for highways, etc.)

NAVAHINE + HAWAI'I DOT SETTLEMENT



- In June 2024, 13 Hawai‘i youth, Hawai‘i’s Governor & HDOT announced a historic settlement.
- Affirms youth’s rights to a life-sustaining climate and the State’s duty to protect public trust resources.
- Formalizes HDOT’s commitment to electrify & decarbonize transportation to meet State’s climate targets.
- Acknowledges legislature, state & county agencies, industry & the public must all contribute

PLAN REQUIREMENTS

Develop and implement a comprehensive, statewide plan to reduce GHG emissions from Hawai‘i's transportation sector on a timeline that complies with the following State Law(s):

- HRS 225P-5 (APPLIES TO ALL SECTORS)
  - **2030: 50% reduction from 2005 emissions levels**
  - **2045: Net Negative Emissions (capture more carbon than we emit)**
- HRS 225P-7: manage fleets to achieve clean ground transport & decarbonization goals
- 225P-8: “take any actions necessary to achieve” zero emissions in ground transport & interisland marine & aviation



Include Various Interim Targets Including Reduction of VMT

ENERGY SECURITY & WASTE REDUCTION PLAN TIMELINE

2024:

- July – Dec: Information Gathering

2025:

- Jan – May: Agency/Industry Consultation
- June 27: Publish Draft Plan
- **June 27-July 31: Public Comment Period**
- **Aug 27: Publish Final Plan**

Revise Annually:

- Oct 2025: Start 1st Revision (Annual Work Plans, Economic & Equity Analysis)



PILLARS OF THE PLAN

Emissions Reduction

Hawai‘i’s actions now to reduce emissions in transportation will benefit Hawai‘i & the world longterm

Energy Security

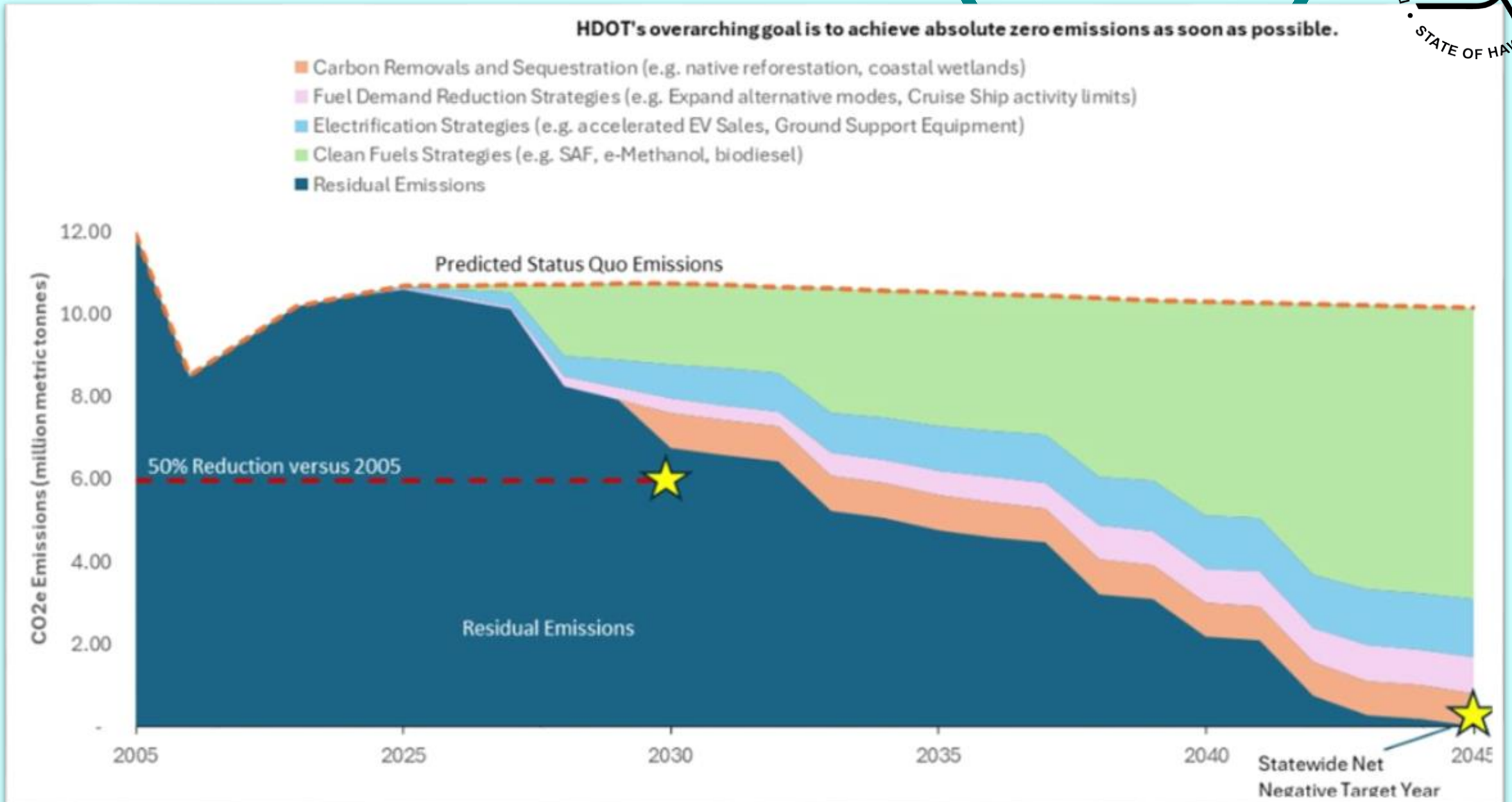
Locally-powered transportation for National Security, Economic Prosperity & Island Practicality

Affordability

Planning for a Hawai‘i where current & future generations of kama‘āina can afford to remain and thrive

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAI‘I

EMISSIONS REDUCTION STRATEGIES (ALL MODES)



PRIORITY ACTIONS ACROSS MODES

- **Implement the right legislative low-carbon fuel framework** for Hawai'i
- **Increase use of EVs and equipment** through infrastructure, incentives & communications
- **Invest immediately in native reforestation**, coastal wetland restoration, preservation of intact native ecosystems, regenerative agriculture & biosecurity to safeguard existing & create new carbon sinks
- **Integrate decarbonization goals early** in project planning & funding prioritization



Ground Transportation

- Increase of EV use
- Expand transportation choices
- Transition to low carbon fuels for heavy duty vehicles



Aviation

- Wide adoption of SAF
- Ramp efficiency optimization plan
- Electrification of air, field and ground access



Marine

- Regulations to limit cruise activity
- Switch to renewable diesel and natural gas short term
- Transition to e-methanol, ammonia, hydrogen long-term

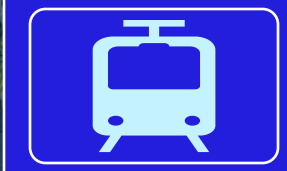
REDUCTION STRATEGIES

Ground Transportation

TOP 3 STRATEGIES



Increase the use of electric vehicles statewide.



Expand transportation choices.



Use low carbon fuels for heavy duty trucks.

REDUCTION STRATEGIES

Ground Transportation – Electrification

Electrification

Benchmarks

- **2030**: Battery Electric Vehicles represent **81%** of new Light Duty Vehicle sales
- **2035**: All State and County Light-Duty Vehicles Transition to **100%** ZEV's
- **2035**: Battery Electric Vehicles represent **100%** of new Light Duty Vehicles sales

Strategies

- Build Additional Public EV Charging Infrastructure to Support 100% EV Sales
- Enact Financial Incentives for EV Purchase
- Promote Incentive Programs to Accelerate the Turnover of ICE Vehicles to EVs
- Establish EV Battery Recycling and Disposal System
- Clean TNC and Rental Car Fleets
- Enact Preferential EV Registration Legislation
- Support Sales Tax Exemption for EVs
- Electrify Transit Fleets, State and County Light-Duty Fleets, and Freight

REDUCTION STRATEGIES

Ground Transportation – Example 1

PUBLIC EV CHARGING INFRASTRUCTURE

Electrification



- Feb. 2024: HDOT opened First NEVI-Funded EV Charging Station at Kahului Park and Ride
- Nov. 2024: HDOT opened Second NEVI-Funded EV Charging Station at Aloha Tower
- HDOT continues with plans to build 9 more NEVI charging stations statewide on Kauaʻi (2), Maui (1), Hawaiʻi Island (5), and Oʻahu (1)
- Private sector needed to install additional public EV charging infrastructure

REDUCTION STRATEGIES

Ground Transportation - Multimodal

Fuel Demand Reduction / Multimodal

Benchmarks

- 2030: 5% VMT Reduction
- 2035: 10% VMT Reduction
- 2040: 15% VMT Reduction
- 2045: 20% VMT Reduction

Strategies

- Plan and Implement 5-Year Priority Multimodal Network
- Continual Bicycle and Pedestrian Planning and Projects
- Transit Expansion
- Intermodal Network Review and Implementation
- Bicycling and Pedestrian Initiatives
- Compact and Transit-Oriented Development
- Innovative Mobility Solutions
- Ridesharing
- Employer Commuter Programs
- Revised Parking Standards
- Congestion Pricing
- Free Youth Transit Access

REDUCTION STRATEGIES

Ground Transportation – Example 2

5 YEAR PRIORITY MULTIMODAL NETWORK

Fuel Demand Reduction / Multimodal



- Complete 5-Year Priority Multimodal Network in partnership with the Counties
- Fills critical gaps in transit, pedestrian & bike networks
- GIS Map of all projects is in development to be ready late Summer/early Fall

REDUCTION STRATEGIES

Ground Transportation – Clean Fuels

Clean Fuels

Benchmarks

- **2030**: **2-4%** increase of clean freight vehicles (using clean fuel or electric)
- **2045**: **100%** use of clean freight vehicles (using clean fuel or electric)

Strategies

- Expand infrastructure for clean fuel access by the public and industry
- Transition HDOT fleet vehicles to EVs/alternative fuels (End of 2026)
- Transition all state & county agency fleet vehicles to EVs/alternative fuels

REDUCTION STRATEGIES

Ground Transportation – Clean Fuels

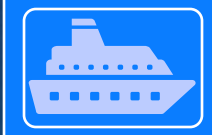
Clean Fuels

Fuel Type	Estimated Demand (2030)	Estimated Demand (2045)	Applicable Sectors
Biodiesel	20 million gallons	13 million gallons	Ground (heavy-duty)
Renewable Diesel	19 million gallons	52 million gallons	Ground and Marine
Ethanol	17 million gallons	6 million gallons	Ground (light-duty)
Renewable Gasoline	Not included	Not included	Ground (light-duty)
Renewable LNG	32 million therms	9 million therms	Marine
Sustainable Aviation Fuel	410 million gallons	600 million gallons	Aviation
e-SAF	No demand in 2030	110 million gallons	Aviation
BE-CCS SAF	No demand in 2030	36 million gallons	Aviation
e-Methanol	No demand in 2030	58 million gallons	Marine
e-Ammonia	No demand in 2030	62 million kg	Marine
Green Hydrogen	No demand in 2030	1.6 million kg	Marine

REDUCTION STRATEGIES

Maritime

TOP 4 STRATEGIES



Reduce cruise ship activity.



Adopt renewable and biodiesel for inter-island marine vessels (near term).



Adopt renewable LNG for interstate marine activity in the near term.



Transition commercial harbor craft to low-carbon and zero emission fuels.

REDUCTION STRATEGIES

Maritime

Fuel Demand Reduction

Benchmarks

- **2030**: Reduce non-home ported cruise call by **50%**
- **2035**: Reduce total cruise ship calls by **50%**
- **2040**: **100%** reduction in non-home ported cruise calls

Strategies

- **Reduce the Number of Cruise Ship Calls and the Size of Cruise Ships Allowed to Dock**

REDUCTION STRATEGIES

Maritime

Clean Fuels

Benchmarks

- **2030**: 100% interisland vessels on renewable diesel
- **2030**: 70% of interstate vessels on renewable LNG
- **2035**: 20% e-methanol adoption for inter-island and 10% for interstate
- **2035**: Transition remaining cruise vessels (other than home-ported) to clean marine fuels
- **2040**: Introduction of e-ammonia and/or green hydrogen
- **2040**: 50% e-methanol on interstate vessels
- **2040**: 80% transition of commercial harborcraft to zero emission tech
- **2045**: 7% adoption of hydrogen on inter-state and 2% on intra-island
- **2045**: Harborcraft 100% zero emissions
- **2045**: 7% adoption of hydrogen on inter-state and 2% on intra-island

Strategies

- **Adopt Clean Fuels in Intra-State Marine Vessels - Biodiesel in the Near-Term and Other Alternatives Marine Fuels in the Long-Term**
- **Adopt Renewable Fuels in Inter-State Marine Vessels (OGVs destined to U.S. continent) Bio-LNG in the Near-Term and Other Alternative Marine Fuel in the Longer-Term**

REDUCTION STRATEGIES

Aviation

TOP 3 STRATEGIES



Use of Sustainable Aviation Fuel (SAF).



Electrification of airfield, ground and terminal access.



Ramp Efficiency Optimization Plan

REDUCTION STRATEGIES

Aviation

Clean Fuels

Benchmarks Scenario 1 (Hawaii Law Targets)
Meets 2045 Net Negative Emissions BUT not feasible w/o big state tax credits and/or higher ticket prices

- **2030: 25% SAF Uploaded**
- **2035: 50% SAF Uploaded**
- **2040: 75% SAF Uploaded**
- **2045: 100% SAF Uploaded**

Benchmarks Scenario 2 (Nat'l SAF Challenge)
Does not meet 2045 Net Negative Emissions BUT feasible w/ tax credits & aligns w/ industry

- **2030: 10% SAF Uploaded**
- **2035: 30% SAF Uploaded**
- **2040: 50% SAF Uploaded**
- **2050: 100% SAF Uploaded**

Strategies

- **Pass SAF Tax Credit for production, blending & import**
- **Build a Diverse SAF Coalition to determine appropriate SAF benchmarks, enact legislation & achieve benchmarks**
- **Pass Clean Fuel Standard (also in Administrative Strategies)**
- **Establish supply & distribution pipelines for Clean Fuels**
- **Introduce eSAF and/or Hydrogen Aircraft (Long-Term Strategy)**

REDUCTION STRATEGIES

Aviation

Electrification

Benchmarks

- **2035: 50%** rental cars are electric
- **2045: 100%** electric GSE fleet across all HDOT airports, including ARFF and light duty airport ops fleet

Strategies

- Support R&D for Electric Aircraft
- Continue Providing Preconditioned Air (PCA) Supply & Fixed Electrical Ground Power
- Electrify Ground Service equipment and Airfield Vehicles
- Maintain Efforts to Install LED Apron, Runway, and Taxiway Lighting
- Incentivize Low Emission Construction Equipment
- Convert all mobile equipment to electric
- Convert vehicles for Airport workforce
- Assess EV charging infrastructure adequacy
- Explore Taxi and Rideshare Partnership Opportunities
- Create Partnerships with Private Medium- to Heavy-Duty Vehicle Operators
- Create Partnerships with Rental Car Companies
- Provide Preferred Parking for Low and No Carbon Vehicles

REDUCTION STRATEGIES

Aviation

Fuel Demand Reduction

Benchmarks

- **2045: 18% reduction in idling fuel flow due to ramp efficiency efforts**

Strategies

- Facilitate Airspace Modernization
- Optimize aircraft ramp movements to prevent congestion and delays
- Improve Ramp Efficiency
- Facilitate Energy Efficient Updates
- Onsite Renewable Power Generation Feasibility Assessment
- Tenant and Concessions Emissions Reduction Policies
- Implement Sustainable Design and Construction Practices

REDUCTION STRATEGIES

Administrative

Benchmarks

- **2026**: Pass Clean Transportation Legislative Package
- **2030**: Launch and Implement Clean Fuel Standard (CFS) or Alt. Framework
- **2030**: Achieve CFS blending goal
- **2035**: Achieve CFS blending goal
- **2040**: Achieve CFS blending goal

Strategies

- Enact and Implement a Clean Fuel Standard or Alternative Legal Framework
- Collaboratively Pass Legislation to Support Energy Security Strategies
- Incorporate Emissions Reduction Early in Planning, & Prioritize in Project Scoring and Funding
- HDOT and State and County Agency Fleet Transition to EV and Clean Fuels
- Continue to Use and Expand Use of Low Carbon Materials
- Study Carbon Capture Rates, Protect Carbon Sinks, Increase Sequestration
- Utilize Diverse Coalition Model to Reach Energy Security Goals
- Consistent Youth Involvement & Leadership
- Revise Policies to Reduce Emissions, and Increase Staff Education & Capacity
- HDOT Renewable Electricity Generation
- Green Budgeting, Green Procurement, & Emerging Administrative & Green Financing Strategies

REDUCTION STRATEGIES – Administrative Example 1

Enact & Implement a Clean Fuel Standard



- A Clean Fuel Standard (aka a Low Carbon Fuel Standard) is a program that encourages fuel companies to produce and sell cleaner, lower-carbon fuels by offering financial incentives.
- HDOT is planning on doing a Feasibility Study on a Hawai‘i-specific Clean Fuel Standard or alternate legal framework to understand the potential impact on affordability for residents.
- To incentivize the production or importation of clean fuels in Hawai‘i, the state needs clean fuels production, blending and import incentives (similar to the ones in California and Washington) to be competitive in the market.

REDUCTION STRATEGIES – Administrative Example 2

Increase Carbon Sequestration



- Statewide immediate & significant investment into proven sequestration methods:
  - Fence existing native forest
  - Remove invasives & plant natives
  - Restore coastal wetlands
  - Improve biosecurity
  - Support regenerative farming & traditional Hawaiian farming and ʻāina stewardship practices
- Study carbon capture rates of various native ecosystems & cultural systems
- Partnerships: HDOT & DLNR native plant assistance (4,000 plants & growing), HDOT ROW native planting planned, many native reforestation efforts by private & public
- Co-benefits: Decrease fire risk, increase aquifer recharge, protect endangered species, clean air, thriving culture

REDUCTION STRATEGIES -- Administrative Example 3

Hawai‘i Youth Transportation Council

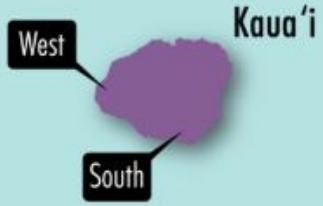
Applicants

83 applications received

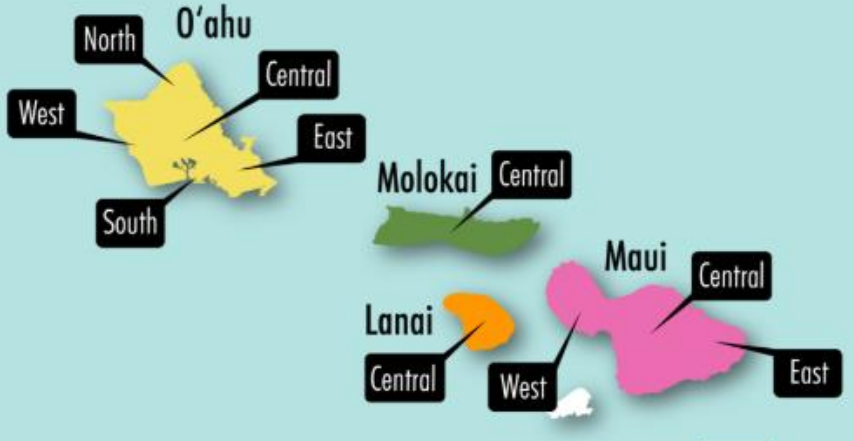


20 applicants selected for the Council





Council Member Locations



Gender

11 Female



9 Male



Term Length



10 selected to serve a **1-year term**



10 selected to serve a **2-year term**

Navahine Plaintiffs

5 out of **13** of the Navahine plaintiffs are on the Council



Age Range

5 11-15 YRS



9 16-19 YRS



6 20-24 YRS





REDUCTION STRATEGIES -- Administrative Example 3

Hawai‘i Youth Transportation Council



NEXT STEPS

Public Education and Outreach

- **<u>June 27-July 31 (may be extended)</u>**
  - DRAFT Plan Available for Public Comment
  - Public Presentations
- **<u>August 27 (may be extended)</u>** Final Plan Published
- **<u>Ongoing</u>**: Collaboration with ag partners, industry, community organizations & the public to implement & revise




DEPARTMENT OF TRANSPORTATION
STATE OF HAWAI'I
MAHALO!
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
CO_2