

sustainable **DOT-A**

Program Profile

*A Commitment to a
Thriving Hawai'i*

MADE IN HAWAII'1 • 2011

Program Profile

Sustainability at the
Department of Transportation—
Airports Division

*A Commitment to a
Thriving Hawai'i*

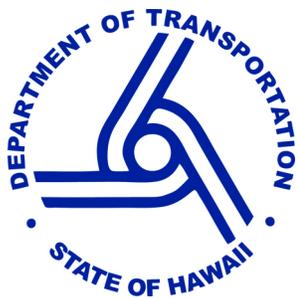
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Sustainable High-Performance Guidelines

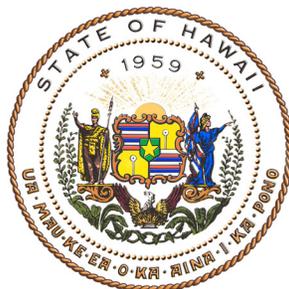
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SustainableHNL Elements Baseline



Created in partnership between the Department of Transportation-Airports Division and the KYA Sustainability Studio.

STATE OF HAWAII
2011
version 1.0



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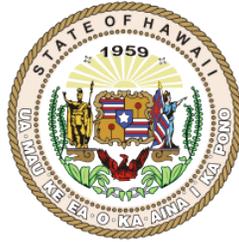
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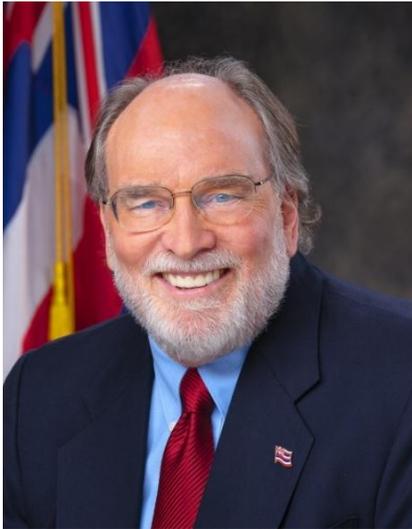
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Special Message from Governor Neil Abercrombie

July 8, 2011



Aloha Mai Kakou!

As the gateways between our island communities and the world, the Hawaii Airport system is an opportunity to share the values and culture of Hawai'i with millions of residents and travelers who pass through our facilities each year.

Like clean air, pristine oceans, and precious watersheds, airports are a vital public resource. Whether used by neighbor island 'ohana joining the rest of their family for a special occasion or an international investor coming to meet a local business owner, this crucial transportation resource plays a role in the sustainability of Hawai'i.

The term "sustainability" refers to the global imperative that calls upon all of us to run our governments, businesses, and society according to principles of environmental stewardship, economic prosperity, and community well-being. The Aloha State is actively pursuing the opportunities presented in the quest for sustainability, and state agencies must lead by example at the helm.

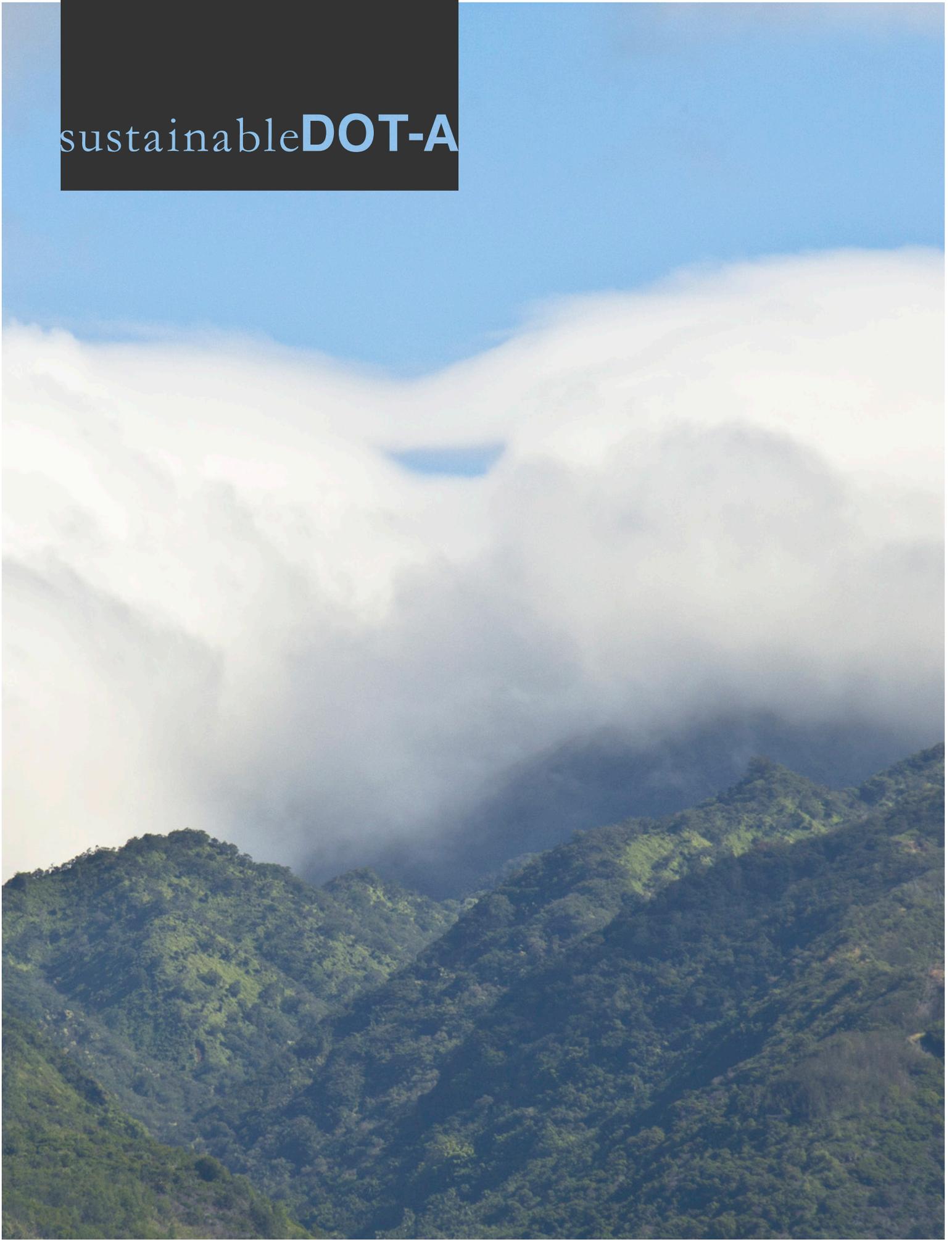
In alignment with our local legislation, community initiatives, and the global movement for aviation sustainability, the Hawai'i Department of Transportation—Airports Division (DOT-A) intends to become an international leader in aviation sustainability through the development of a program for Hawai'i's Airport system, called **Sustainable DOT-A**. This statewide program builds off of the foundation set by the Honolulu International Airport's Sustainability Committee's **Sustainable HNL** program, a model for similar developments on each island.

Looking ahead, the DOT-A will be working with the leadership and stakeholders at each of Hawai'i's airports to develop sustainability programs with guidance and support from the platform of **Sustainable DOT-A**. I am tremendously proud of the DOT-A leadership for recognizing the important role sustainability plays in the future of Hawai'i. My administration looks forward to the strategic work ahead in supporting the development of these programs for all of Hawai'i's airports.

Malama I Ka Pono,

NEIL ABERCROMBIE
Governor, State of Hawai'i

sustainable **DOT-A**



SUSTAINABILITY: A HOLISTIC PERSPECTIVE

“As a holistic perspective, sustainability integrates the diversity of knowledge that nurtures the environment we live in.”

The environment of Hawai‘i nurtures a vibrant culture and has become an international gathering place for business, fashion, music, art, education, entertainment, and cuisine. Between the turbulent Lō‘ihi Seamount off the coast of Hawai‘i Island and the gentle atolls of the Papahānaumokuākea Marine Sanctuary, the Hawaiian Islands represents 137 land formations spanning a broad 1,500 miles (2,414km) of the Pacific Ocean. Within this distance are a variety of habitats—from coral reefs and wetlands, to rainforests and snow-covered mountains. Food products grown in Hawai‘i are valued around the world, while an estimated 91% of flowering plants, 81% of birds, and 99% of terrestrial snails and arthropods found in Hawai‘i are found nowhere else on the planet. While material resources are limited, Hawai‘i is among the world’s richest places in renewable energy resources such as solar, wind, wave, and biomass. Millions of tourists flock to Hawai‘i each year, while residents enjoy among the longest average life expectancies in the United States.

Despite Hawai‘i’s natural beauty and abundance, human activity has increasingly contributed to environmental degradation—which threatens the very essence of what makes Hawai‘i special: the culture and environment. On O‘ahu alone, over 85% of native rainforests have been deforested since human contact. The livelihood of the State is dependent on over 90% of fossil fuels for energy. Previously food-secured wetlands, reefs, and agricultural areas have been urbanized, and today over 95% of all foods are imported. Each decade, billions of gallons of polluted storm and sewage water are discharged into streams and the ocean. Unfortunately, Hawai‘i now has

the highest number of endangered species in the world, threatening Hawai‘i’s unique ecosystems and the very foundation of Hawaiian culture. These alarming facts have activated the concerns of individuals, organizations, and governments to raise public awareness and engage the people of Hawai‘i in a common responsibility to protect, restore, and nurture the wellbeing of the local community, for both present and future generations.

Over the past several decades, many of these efforts have gained common ground in the idea of “sustainability,” which promotes a vision of a healthy and abundant world where humans coexist with, rather than degrade, the world’s ecosystems. The most frequently quoted definition of sustainability comes from the United Nations 1987 Brundtland Report “Our Common Future,” which emphasizes meeting the needs of the present without compromising the ability of future generations to meet their own needs. At the broadest level, this represents a call for people to both cultivate an awareness of how their actions affect the wellbeing of their surroundings, and then act responsibly toward securing a healthy future for all life. At the level of individual organizations, sustainability provides a common, holistic perspective through which stakeholders collaborate and integrate various viewpoints in a cohesive, yet diverse organizational business culture. As such, sustainability provides a platform to integrate the diversity of knowledge necessary to create thriving, self-reliant communities—an integral part of Hawai‘i’s past and future moving forward.

LOCAL LEGISLATION & DRIVERS

As society adapts to growing financial pressures, aging infrastructures, new technologies, and socio-environmental concerns, local governments around the nation are responding to the accelerating need for sustainability. The State of Hawai'i is fast becoming known as a progressive leader in sustainability legislation, implementing best practices in energy efficiency, renewable energy, high-performance design, and greenhouse gas emissions protocols across both the public and private sectors.

- » In 2006, Act 96 “Lead by Example” was enacted, directing State agencies to integrate and document best practices in energy, water, and resource efficiency across facilities and operations.
- » In 2007, Act 234 “Global Warming Solutions Act” established a State policy for greenhouse gas emissions reductions at or below 1990 levels by January 1, 2020.
- » In 2008, a partnership between the U.S. Department of Energy and State of Hawai'i was established to create the Hawai'i Clean Energy Initiative (HCEI)—an overarching goal to support energy-efficiency measures and increase the use of local renewable energy to supply 70% of Hawai'i's energy demand by 2030.
- » By the end of 2010, Act 155 requires large State facility to be ENERGY STAR® benchmarked with Portfolio Manager.

Today, the State of Hawai'i has among the highest statewide renewable energy portfolio standards requirements in the nation.

THE CALL FOR AIRPORT SUSTAINABILITY

Sustainability has become a fundamental consideration within the aviation community. Airports around the world are creating opportunities to collaborate with stakeholders and develop strategies that integrate operational efficiency and economic viability with natural resource conservation and social responsibility. According

to a 2010 benchmarking survey conducted by the Airports Council International—North America (ACI-NA):

- » 71% of airports surveyed have an environmental or sustainability policy through which 97% of airports created programs to reduce/reuse/recycle waste materials.
- » 68% have an energy conservation program.
- » 54% have water conservation programs.
- » 34% have climate-related goals established
- » 29% generate renewable energy
- » 24% have programs to encourage the use of low-emission vehicles.

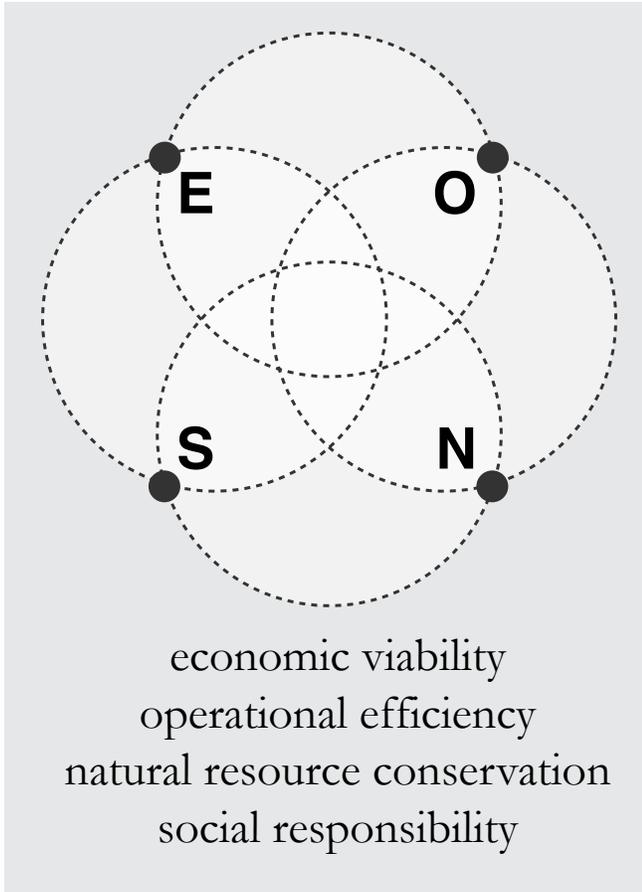
Included among these initiatives is the “Aviation Industry Commitment to Action on Climate Change”—a declaration for carbon-neutral growth signed by aircraft manufactures, airlines, and more than 300 airports. The increasing number of international commitments to airport sustainability signals an important perspective shift within the aviation industry, as local and global communities work together to secure a healthy, abundant future.

In partnership with other airports and aviation organizations, the ACI-NA has played a major role in developing a common understanding for airport sustainability—identifying four key areas for airports to consolidate their efforts, known as the “EONS” model:

- » **E**conomic viability
- » **O**perational efficiency
- » **N**atural resource conservation
- » **S**ocial responsibility

The EONS model is the aviation industry's definition of sustainability that includes operational efficiency along with the general public's broader triple bottom line approach to sustainability, as operational efficiency is especially important to the business of an airport management. Some aspects include airport infrastructure, information technology, fleet management, maintenance, component renewal, and life-cycle costs. The EONS model presents an opportunity for airport operators to leverage design, construction, operations, and

"Airport sustainability leverages design, construction, operations, and maintenance dollars through proven business practices that pay benefits to the customers, employees, industry, and community."



maintenance dollars through proven business practices that pay benefits to everyone, from the customers to the employees, from the airport to the airline industry, from the surrounding neighborhood to the global community. These opportunities are captured through comprehensive sustainability programs—overarching initiatives that unite various efforts in sustainability through common goals, transparency, and public reporting. A program includes a systems boundary, within which socioeconomic and environmental impacts are evaluated, measured, and shared as an indicator of organizational performance. The measured impacts of an organization may range from employee education and occupant health to the amount of resources reduced, reused, recycled, or renewed. The ultimate goal of a sustainability program is for an organization to consolidate and quantify data for ongoing

sustainability efforts, sharing the resulting data, goals, challenges and opportunities with the public.

A SUSTAINABLE AIRPORT SYSTEM FOR HAWAI‘I

Aligning with local legislation and the airport sustainability movement, Hawai‘i Department of Transportation—Airports Division (DOT-A) developed a sustainability program, SustainableDOT-A (sDOT-A). sDOT-A is an overarching initiative to capture, track, and celebrate all sustainability-related efforts throughout Hawai‘i’s airports. sDOT-A casts a broad vision for a sustainable air transportation system that is operationally efficient, financially viable, and environmentally responsible, while enhancing educational, meaningful, and culturally appropriate airport experiences. To accomplish this, sDOT-A provides a unified platform among airport stakeholder groups—from airport customers to DOT-A administrative personnel—to work together around common sustainability goals in a way that is measured, publicly recognized, and rewarded.

sDOT-A is designed to provide ample opportunities for the State of Hawai‘i airports systems to experience the numerous benefits of integrating sustainability. Some of these opportunities are:

- » Improved capital asset life cycle and operating costs
- » Better design
- » Increased competitiveness and productivity
- » Better customer service and satisfaction
- » More effective use of resources
- » Elimination of waste
- » Optimized technologies
- » Enhanced relationships with customers and staff

These opportunities are rooted in DOT-A’s commitment to design, operate, and maintain an airport system that instills pride within the entire Hawai‘i community for residents and visitors alike.

AIRPORTS COUNCIL INTERNATIONAL—NORTH AMERICA (ACI-NA) GOALS

GENERAL ENVIRONMENTAL

1. Environmental Policies: ACI-NA member airports will strive to have an environmental policy statement by 2010.
2. Environmental Management Systems: ACI-NA member airports will strive to have an Environmental Management System in place by:
 - » 2014 at large airports.
 - » 2016 at medium airports.
 - » 2019 at small airports.

AIR QUALITY, CLIMATE, AND ENERGY

3. Low Emission Airport Vehicles and Ground Support Equipment (GSE): ACI-NA member airports will strive to convert airport-owned and operated ground vehicles and GSE to low emission vehicles with an industry-wide average goal of 50% of vehicle conversion by 2019.
4. Low Emission Access Vehicles: By 2010, ACI-NA member airports will strive to implement an incentive program to encourage taxi, shuttle, limo, and rental car companies to use low emission vehicles.
5. Low Emission Vehicle Infrastructure: Half of ACI-NA member airports will strive to provide low emission vehicle support infrastructure by 2019.
6. Energy Conservation: By 2014, ACI-NA member airports will strive to implement an energy conservation program that includes adoption of an airport-specific goal to reduce non-renewable energy consumption.
7. Loading Bridges Equipped with Pre-conditioned Air and Power: ACI-NA member airports will strive to have at least 25% of loading bridges equipped with pre-conditioned air and 400 Hz electrification by 2019.
8. Reduced Fee and/or Parking Incentives for Low Emission Passenger Vehicles: Half of ACI-NA member airports will strive to provide incentives and/or reduce fee parking for low emission passenger vehicles by 2011.
9. Greenhouse Gas Emissions Inventories: Half of ACI-NA member airports will strive to conduct greenhouse gas emissions inventories by 2015.

NOISE

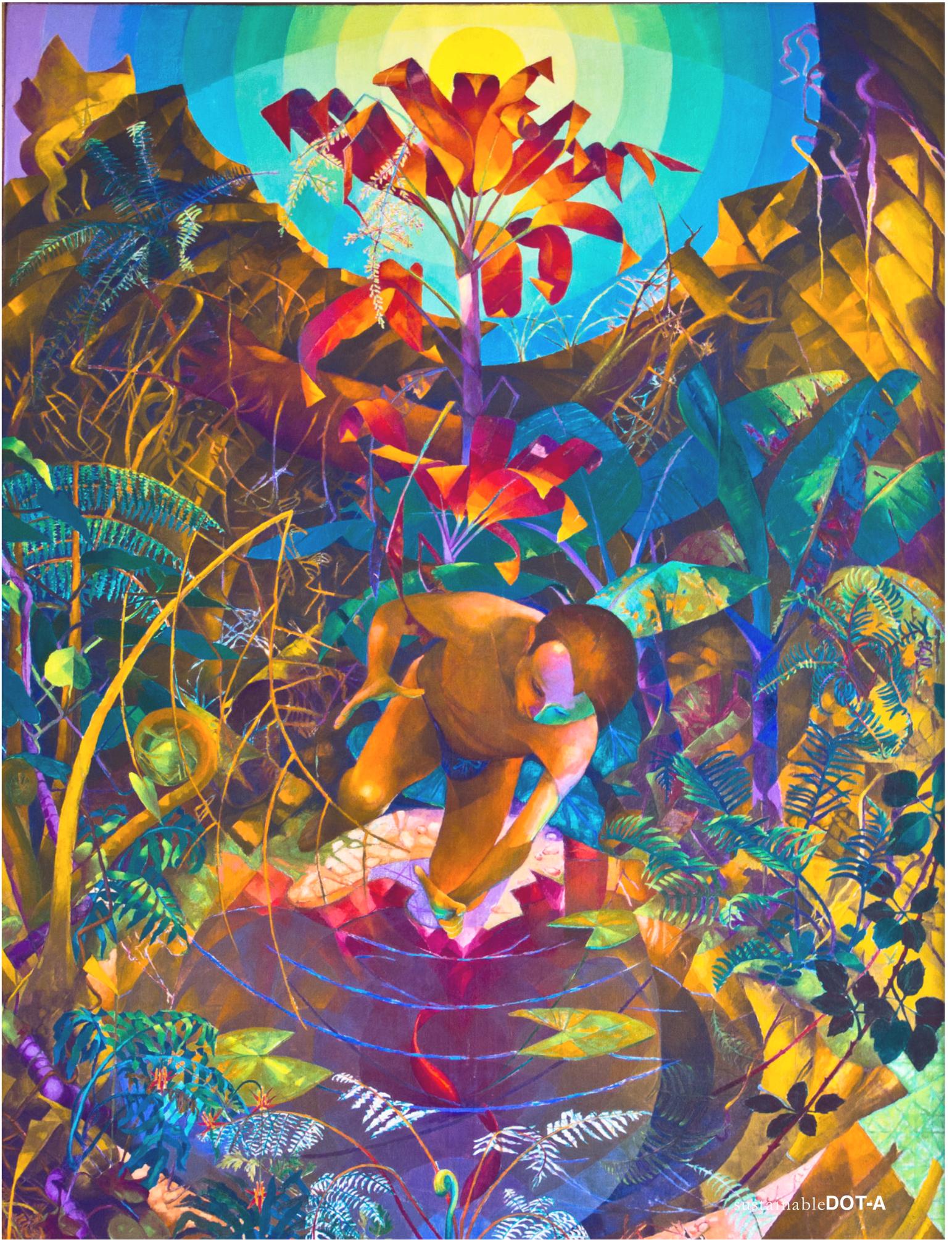
10. Noise and Land Use Compatibility Policies: ACI-NA member airports will strive to develop a noise and land use compatibility policy by 2019.

WASTE MANAGEMENT

11. Recycling Programs: ACI-NA member airports will strive to have a basic recycling program in place by 2011. Half of the airports will have more extensive recycling programs by 2014.

WATER QUALITY

12. Water Conservation: By 2014, ACI-NA member airports will strive to implement a water conservation program that includes adoption of an airport-specific goal to reduce water consumption.
13. Spill Reduction Training: ACI-NA member airports will facilitate awareness and training with a goal of reducing spills by 25% from 2005 levels by 2015. Airports will strive to have no releases of petroleum-based spills.



SUSTAINABLE DOT-A

SustainableDOT-A (sDOT-A) emerged from the Sustainable Aviation Guidance Alliance (SAGA) recommendations for implementing airport sustainability (see *Selected Resources*, p16). SAGA endorses a management system approach to organizational sustainability.

This approach institutionalizes sustainability as a framework for organizing numerous individual initiatives across Hawai'i's airports, such as installing recycling stations, renewable energy projects, water conserving technologies, etc. The SAGA strategy recommends that each of Hawai'i's major airports:

- » Build a sustainability team
- » Establish visions and guiding principles
- » Determine focus areas and strategic goals
- » Conduct an initial assessment

DOT-A is committed to a program that benefits all of Hawai'i's airports, while recognizing that each airport faces unique challenges and opportunities. DOT-A engages representatives from various operational and administrative departments from DOT-A, which includes both division and district levels. The initial launch for sDOT-A began at the Honolulu International Airport (HNL). (See SustainableHNL section for more information.)

PROGRAM VALUES

- » **Instill a sustainability-minded perspective** throughout DOT-A that complements Hawai'i's lifestyle and environment, ignites forward thinking, promotes responsible behavior, and sparks transformative changes.
- » **Promote education, transparency, and best practices** to foster commitments toward airport sustainability within the Hawai'i airports community.
- » **Integrate innovative initiatives consistently** throughout the organizational fabric of DOT-A to continually increase effective planning, development, and high-performance.
- » **Analyze life cycle costs, impacts, and benefits** to assess cost-effective ways to integrate sustainability considerations within all new leases, agreements, and contracts.
- » **Monitor and report progress** of best practices to track accomplishments, aggregate data, document lessons learned, to ensure the visibility of success of DOT-A as a model for other State agencies and local business in Hawai'i.
- » **Encourage collaborative partnerships and knowledge sharing** to build community support, engage stakeholders, and promote DOT-A as a leader in airport sustainability for the Pacific Region.
- » **Honor local culture and environment** to appropriately communicate the values of Hawai'i and instill a sense of personal pride and responsibility for a healthy and abundant future.

PARTNERSHIPS

*University of Hawai'i Economic Research
Organization (UHERO)*

www.uhero.hawaii.edu

UHERO is a one-stop shop for local data and research and provides the most up to date information on the state's visitor industry, income, employment, and other crucial indicators of Hawai'i's economy. The mission of the UHERO is to inform public and private sector decision-making through rigorous, independent economic research on the people, environment, and economies of Hawai'i and the Asia-Pacific region.

*UHERO's Energy & Greenhouse Gas
Solutions Program (EGGS)*

www.uhero.hawaii.edu/9/eggs

A program at the University of Hawai'i, the mission of the UH Economic Resource Organization the (UHERO) is to analyze and tailor energy and climate change policy for Hawai'i by assessing various technology options and the associated environmental and economic impacts.

KYA Sustainability Studio

www.thekyastudio.com

The Studio is a Hawai'i grown and focused sustainability practice from the ahupua'a of Waikiki, O'ahu. Dedicated to growing a robust sustainability sector, the Studio helps local businesses and organizations overcome the challenges of a rapidly adapting marketplace while capturing myriad opportunities associated with positive transformation in the paradigm of sustainability.

ACCOMPLISHMENTS

Since the beginning of the sDOT-A initiative, a variety of accomplishments have been achieved, including but not limited to the following:

DOT-A has trained eight staff to become accredited professionals under the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design program (LEED AP).

HNL is one of only five U.S. airports that have developed a guideline for sustainable high-performance design and construction.

In 2009, the DOT-A conducted a Waste Assessment Survey to identify existing tenant waste management and recycling practices at HNL.

The following HNL projects have been registered with the USGBC to pursue LEED certification:

- » HNL Airport Lounge Renovation
- » HNL TMP New Mauka Concourse
- » HNL TMP IIT Maintenance Facility Relocation
- » HNL TMP IIT Cargo Facilities Relocation
- » HNL TMP New Commuter Terminal
- » HNL TMP New Diamond Head Terminal
- » HNL TMP New Bus Maintenance Facility
- » HNL Consolidated Rental Car Facility

PROGRAM GUIDING RESOURCES



To carry out the sDOT-A values and objectives, DOT-A has developed guiding documents for individual airport reference. These guiding documents represent the place-based value system of sDOT-A; used together, these resources empower Hawai'i's airports to cultivate best practices within their respective districts. These resources also provide Hawai'i's airport system with a common perspective that complements Hawai'i's lifestyle and environment in and around all facilities designed, built, maintained and operated by DOT-A. sDOT-A guiding documents include the following:

- » *Hawai'i Sense-of-Place Primer*
- » *Sustainable High Performance Guidelines*
- » *Cultural Appropriateness Guidelines*

HAWAI'I SENSE-OF-PLACE PRIMER

The *Hawai'i Sense-of-Place Primer* is an informational document that presents a “common perspective” for sDOT-A. The purpose is to facilitate collaboration between decision makers and project teams while ensuring the appropriate integration of place-based considerations at HNL. The information presented in this document is general and supplements the protocols established in the *Sustainable High Performance Guidelines* (SHPG), *Cultural Appropriateness Guidelines* (CAG), and subsequent guidelines and strategic plans as they develop. The intent of this document is not to prescribe solutions, but rather to provide a common perspective from which creative, environmentally responsible, and culturally appropriate solutions can emerge as Hawai'i's Airports become more sustainable.

What is a common perspective?

A “common perspective” is a **shared understanding** that provides context from which decision-makers may perceive, categorize, measure, and/or codify the intents behind experiential and educational aspects of the problem solving process—especially when they relate to place-sensitive considerations, such as *Hawai'i sense-of-place* and *sustainability*. These types of considerations often concern sensitive relationships between Hawai'i's diverse community, culture, ecosystems, and built-environments. Interpretations of these relationships are often, complex, and inclusive of many factors, both tangible and intangible; varying perspectives often present barriers in the collaborative process. Therefore, acknowledging and maintaining **common perspective** is necessary when facilitating decision-making, creative collaboration, and other communication within or between project teams.



SUSTAINABLE HIGH-PERFORMANCE GUIDELINES

The *Sustainable High-Performance Guidelines* (SHPG) is a comprehensive performance standard and rating system addressing airport sustainability. The SHPG provides an integrated process for standardizing high-performance best practices in design and construction, while engaging participation of all parties necessary to successfully deliver an airport project. These standards for high-performance include best practices for general construction, occupied buildings, support facilities, roads and runways, utilities and infrastructure, and other civil projects as they pertain to the economic viability, operational efficiency, natural resource conservation, and social responsibility of sDOT-A. In doing so, the guidelines presented in this document help validate the implementation of sustainable high-performance practices in Hawai‘i in relation to the larger context airport sustainability. The SHPG supplements the protocols set forth in the *Cultural Appropriateness Guidelines* and *Hawai‘i Sense-of-Place Design Primer*.

What is sustainable high-performance?

“High-performance” refers to the process of successfully implementing a best practice. In the context of airport sustainability, these practices address the economic viability, operational efficiency, natural resource conservation, and social responsibility of the airport in an integrated manner. While projects designed according to “green” standards typically focus solely on environmental stewardship—such as the reduction of energy, water, materials, and emissions—sustainable high-performance expands beyond the typical “green” considerations to include an **integrated decision-making process** that measures, evaluates, and tracks success in a way that informs the organizational structure of the performing entity.



CULTURAL APPROPRIATENESS GUIDELINES

The *Cultural Appropriateness Guidelines* (CAG) is a guiding document addressing the pertinence, accuracy, and compatibility of how Hawai‘i’s cultural heritage is represented through sDOT-A, in relation to the larger context of airport sustainability. The CAG incorporates intangible and cultural aspects of planning, design, and operations that are often overlooked in technical standards and building rating systems. Culturally focused aspects are presented in the form of best practices and are intended to ensure a meaningful and educational impression of Hawai‘i and Kānaka Maoli (Hawaiian) values for all airport users—whether a visitor, employee, or Hawai‘i resident. The CAG supplements the protocols set forth in the *Sustainable High-Performance Guideline* and *Hawai‘i Sense-of-Place Design Primer*.

What is cultural appropriateness?

“Cultural appropriateness” refers to the awareness, sensitivity, and proper acknowledgement of the cultural (ethnic and linguistic) diversity that varies from place to place. Appropriateness is conveyed through the **proper representation** of language, history, rituals and traditions, environment, and social dynamics in relation to a culture's present, past, and future heritage. As a crucial aspect of sustainability, cultural appropriateness is key to honoring and appreciating Hawai‘i and its community.

SUSTAINABLE HNL



Accounting for more than 60% of all aircraft activity within the State’s air transport system, HNL plays an integral role in Hawai‘i’s economy, contributing an estimated \$5.1 billion to the State’s economy, excluding the indirect contributions made to other markets, such as agriculture and tourism. As the international gateway between Hawai‘i and the world, HNL is the first and final impression of the islands for many of the 18-24 million passengers it serves a year, and thus, profoundly influences the way people perceive, remember, and respect Hawai‘i’s unique cultures and environments.

SustainableDOT-A (sDOT-A) began with the development of a sustainability initiative specifically for HNL, named SustainableHNL (sHNL). In so doing, HNL joined the ranks of other airports—such as Chicago O’Hare International Airport, Denver International Airport, San Francisco International Airport, Seattle-Tacoma International Airport, and the Los Angeles World Airports—who have developed internationally renowned sustainability programs to achieve higher than regulatory compliance while proactively engaging the aviation industry and general public.

At the forefront of sDOT-A is the sHNL Committee—a dynamic, interdisciplinary, and consensus-based team of DOT-A stakeholders from Division and O‘ahu District inspired by the vision of Hawai‘i airports as leaders in sustainability. The sHNL Committee began working together with the understanding that HNL protocols would be replicated, yet uniquely implemented across Hawai‘i’s airport system. As the pilot for sDOT-A, input from other airports will play a critical role in shaping sDOT-A from the initial assessment phase to the strategic planning phase.

SUSTAINABLE HNL ELEMENTS BASELINE

The *SustainableHNL Element Baseline* is a strategic planning tool that assesses both the challenges and achievements of HNL through the lens of sustainability. The report provides a basis for understanding the current organizational practices and opportunities for sustainability program development at HNL. As DOT-A develops its sustainability program, sDOT-A, this report establishes baseline performance metrics for Hawai‘i’s airports to measure progress towards Economic viability, Operational efficiency, Natural resource conservation, and Social responsibility (EONS). In demonstration of DOT-A’s leadership role in sustainability, the *SustainableHNL Elements Baseline* provides a platform for open communication and transparency among HNL stakeholders through balanced reporting of challenges and achievements.

What is an Element Baseline?

In efforts to align HNL’s commitment to airport sustainability with local initiatives and legislation, as well as the aviation industry at large, the sHNL Committee identified four major area of focus, or *Elements*—Carbon, Water, Waste, Energy. These were chosen based on their impacts and opportunities for improving the financial, environmental, and sociocultural performance of HNL. Each Element provides a baseline—a set of critical observations, performance metrics, and indicators used as a benchmark for measuring progress over time. As sHNL develops, the scope of each Element may be refined as standards for data reporting improve internally at DOT-A and in the aviation sector at large. In the future, the sHNL Committee may identify additional Elements through ongoing stakeholder engagements.



sustainable **DOT-A**



SELECTED resources

HAWAI‘I POLICY

ACT 96: ENERGY SELF SUFFICIENCY & LEAD BY EXAMPLE INITIATIVE

Signed into law in 2006, this policy provides a framework for energy self-sufficiency, and prioritizes energy efficiency and renewable energy resource deployment in state facilities, vehicles, and equipment. Provisions include but are not limited to:

Increasing the renewable energy technologies income tax credit for solar.

Updating the State's energy policy to promote the use of green building practices for the construction or substantial renovation of state-funded buildings, energy and water efficiency practices, life cycle cost-benefit analysis, fuel-efficient vehicles, alternative fuels, and energy-savings contracts.

Requiring the State's Energy Resources Coordinator to establish benchmarks and evaluate the State's progress in incorporating energy efficiency and conservation measures.

Requiring the counties to establish a procedure for priority processing of permits for construction of LEED Buildings.

Green Building & High Performance Design: Each State of Hawai‘i Agency is required, to the extent practicable, design and construct all new facilities to meet the level of Leadership in Energy and Environmental Design (LEED) Silver certification, two green globes ratings, or other comparable state approved, nationally recognized consensus based guideline, standard or system.

Fuel Efficient Vehicles: Calls for each agency to purchase the most fuel-efficient vehicles that meet the needs of their programs using life cycle cost-benefit analyses of vehicle purchases including projected fuel costs. It also directs state agencies to purchase alternative fuels and ethanol blended gasoline when available and evaluate a purchase preference for biodiesel blends.

ACT 155: “THE CLEAN ENERGY OMNIBUS”

Signed June 25, 2009, this law sets requirements for electric utility Renewable Energy Portfolio Standard (REPS), including a separate goal for energy efficiency and requiring energy-efficient state facilities. Provisions include but are not limited to:

Renewable Energy: 40% of Hawai‘i’s energy will come from renewable sources by 2030.

Energy Efficiency: Hawai‘i will reduce electricity consumption by 30% by 2030.

ENERGY STAR® Portfolio Manager: By December 31, 2010, each state department with responsibilities for the design and construction of public buildings and facilities shall benchmark every existing public building that is either larger than five thousand square feet or uses more than eight thousand kilowatt-hours of electricity or energy per year as a basis for determining the State's investment in improving the efficiency of its own building stock. Benchmarking shall be conducted using the ENERGY STAR portfolio management or equivalent tool.

ACT 156: ELECTRIC & ALTERNATIVE FUEL VEHICLES

Effective January 1, 2010, this law revises Hawai‘i Government Vehicle Purchase Guidelines. Provisions include but are not limited to:

Alternative Fuel Vehicle Purchasing: Beginning January 1, 2010, all state and county entities, when purchasing new vehicles are required to seek vehicles with reduced dependence on petroleum-based fuels that meet the needs of the agency in the following priority of selection: (1) Electric or plug-in hybrid electric vehicles; (2) Hydrogen or fuel cell vehicles; (3) Other alternative fuel vehicles; (4) Electric vehicles; and (5) Vehicles identified by the U.S. EPA in its annual "Fuel Economy Leaders" report as being among the top performers for fuel economy in their class.

Electric Vehicle Infrastructure: By December 31, 2011, “all public, private, and government parking facilities that are available for use by the general public and have at least one hundred parking spaces shall designate one percent of parking spaces exclusively for electric vehicles provided that at least one of the parking spaces designated for electric vehicles is located near the building entrance and is equipped with an electric vehicle charging unit. Spaces shall be designated, clearly marked, and the exclusive designation enforced.”

ACT 234: HAWAII'S “GLOBAL WARMING SOLUTIONS ACT”

This law recognizes the potential adverse effects of climate change and global warming to Hawai'i's economy, public health, natural resources, and environment. Provisions include but are not limited to:

Emission Reductions Target: Establishes State policy of greenhouse gas (GHG) emissions reductions and limits at or below 1990 emissions levels by January 1, 2020.

Mandatory GHG Reporting: Requires the state to have rules in place by January 1, 2012 that will require statewide reporting and verification of GHG emissions.

HAWAII SUSTAINABILITY

HAWAII GREEN GOVERNMENT CHALLENGE

The Green Business/Government Challenge is an opportunity for Hawai'i businesses and government agencies to participate in working toward smart energy and resource efficient operations while benefitting from lower operational and utility costs.

GUIDE TO ENERGY PERFORMANCE CONTRACTING

The Energy, Resources, and Technology Division of the Department of Business, Economic Development, and Tourism (DBEDT) prepared this guide to improve buildings using the money saved by reducing energy costs to fund energy saving improvements such as better equipment, better controls, better maintenance, etc. This approach is known as Energy Performance Contracting.

HAWAII COMMERCIAL BUILDING GUIDELINES FOR ENERGY EFFICIENCY

The Architectural Energy Corporation prepared guidelines for commercial buildings in Hawai'i to promote the design of energy efficient buildings. The guidelines cover the following topics: Whole Building Design; Natural Ventilation; Day-lighting; Electric Lighting and Controls; Energy Efficient Windows; Cool Roof Systems; Dehumidification; HVAC and Water Heating; Building Heating, Cooling and Power Systems.

MINIMIZING CONSTRUCTION & DEMOLITION WASTE

The Energy, Resources, and Technology Division of the Department of Business, Economic Development, and Tourism (DBEDT) prepared this guide to develop successful construction and demolition waste reduction programs.

HNL STORM WATER MANAGEMENT PROGRAM PLAN (SWMPP)

The SWMPP consolidates the DOT-A's various storm water plan components into a single document to facilitate management and to provide an overall storm water management document and includes “Construction Site Runoff Control Program” and “Post Construction Storm Water Management.” The SWMPP is based on the City and County of Honolulu Department of Environmental Services' “Best Management Practices Manual for Construction Sites in Honolulu.”

AVIATION SUSTAINABILITY

TRANSPORTATION RESEARCH BOARD (TRB) & AIRPORT COOPERATIVE RESEARCH PROGRAM (ACRP)

www.trb.org/ACRP

The TRB is a division of the National Research Council—the working arm of the United States National Academies—and serves the National Academy of Sciences and the National Academy of Engineering. In the 2005 conference proceedings “Integrating Sustainability into the Transportation Planning Process,” the TRB identified the issues of sustainability, visions for a sustainable transportation system, state of the practice, and strategies for integrating sustainability concepts into transportation planning.

With the sponsorship of the Federal Aviation Administration (FAA), the TRB manages the ACRP—an industry driven, applied research program tasked to develop near-term, practical solutions to problems faced by airport operators. The ACRP publishes a variety of reports related to aviation sustainability, including a synthesis of airport practices (Synthesis 10) intended to inform airport operators, stakeholders, and policy makers about a range of sustainability practices.

AIRPORTS COUNCIL INTERNATIONAL-NORTH AMERICA (ACI-NA)

www.aci-na.org

The ACI-NA is the largest of the six worldwide regions of Airports Council International (ACI)—a non-profit organization that fosters cooperation among its member airports and other partners in world aviation. ACI-NA airport members, of whom HNL is included, enplane 95% of all domestic and virtually all of the international airline passenger and air cargo traffic in North America. ACI-NA plays an active role promoting the safety, security, efficiency, and sustainability of the world’s air transportation system.

SUSTAINABLE AVIATION GUIDANCE ALLIANCE (SAGA)

www.airportsustainability.org

SAGA is a broad volunteer coalition of aviation associations that are developing comprehensive guidelines on sustainability practices for airports. Partners in the alliance include the Airports Council International-North America (ACI-NA), the Airport Consultants Council (ACC), the American Association of Airport Executives (AAAE), the Air Transport Association (ATA), Federal Aviation Administration (FAA), and various airport representatives and consultants. SAGA facilitates information sharing between airports, education through workshops/webinars, fostering needed research, legislative, regulatory, policy assistance, identifying necessary resources and funding, and opportunities for partnering. In 2009, SAGA released the Sustainable Aviation Resource Guide to Planning, Implementing, and Managing a Sustainability Program at Airports, which outlines recommended steps toward a successful sustainability program.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

www.iata.org/whatwedo/environment/Pages/index.aspx

IATA is an international trade body created over by a group of airlines with a mission to represent, lead and serve the airline industry. IATA represents some 230 airlines comprising 93% of scheduled international air traffic. IATA has a vision for the airline industry to achieve carbon neutral growth in the medium term and to build an aircraft that produces no emissions within the next 50 years. Manufacturers, airports, air navigation and other industry stakeholders are working together to turn this vision into reality according to the following four-pillar strategy: (1) Investing in technology; (2) Improving operational efficiency; (3) Building and using efficient infrastructure; (4) Positive economic instrument to provide incentives.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

www.icao.int/icao/en/env2010/Index.html

ICAO is a global forum for civil aviation and UN Specialized Agency that works to achieve its vision of safe, secure and sustainable development of civil aviation through cooperation amongst its member States. In the environmental area, ICAO's overall objective is to enhance the sustainability of international aviation operations by minimizing aircraft noise and the impact of engine emissions on local air quality and the global climate. This field focuses on: (1) quantifying the impact of aviation on the environment through the development of methodologies, tools, models and databases; and (2) establishing policies, standards and recommended practices to address the impact of aviation on the environment through technological, operational and market-based measures.

VOLUNTARY AIRPORT LOW EMISSION PROGRAM (VALE)

www.faa.gov/airports/environmental/vale/

VALE is a national program to reduce airport ground emissions at commercial service airports located in designated air quality nonattainment and maintenance areas. The program was established under the Vision 100 Century of Aviation Reauthorization Act of 2003 and allows airport sponsors to use the Airport Improvement Program and Passenger Facility Charges to finance low emission vehicles, refueling and recharging stations, gate electrification, and other airport air quality initiatives.

AIR TRANSPORT ACTION GROUP (ATAG)

www.atag.org/content/showsustainaviation.asp

The Geneva-Based ATAG is dedicated to air transport industry-related projects, reports, initiatives, etc. which contribute to sustainable development by striking an equitable balance between economic growth, social progress and environmental improvements.

GENERAL SUSTAINABILITY

GLOBAL REPORTING INITIATIVE (GRI)

www.globalreporting.org

The GRI is a multi-stakeholder, non-profit organization that develops and publishes guidelines for reporting sustainability performance; it is the world's most prevalent standard for sustainability reporting and is used by over 1,500 organizations worldwide. The GRI's vision is to make reporting on economic, environmental, and social performance routine by all organizations. In 2009, the GRI began development on a reporting guideline for world airports. The Sustainability Reporting Framework—of which the Sustainability Reporting Guidelines are the cornerstone - provides guidance for organizations to use as the basis for disclosure about their sustainability performance. First published in 2000 and then revised in 2002, the Guidelines have now entered their third generation, referred to as the GRI G3 Guidelines which were released in October 2006.

WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (WBCSD)

www.wbcsd.org

The WBCSD is a coalition of 200 international companies united by a shared commitment to sustainable development via the three pillars of economic growth, ecological balance and social progress.

WORLD RESOURCES INSTITUTE (WRI)

www.wri.org/

The WRI is an environmental think tank that goes beyond research to find practical ways to protect the Earth and improve people's lives by empowering people and supporting institutions to foster environmentally sound and socially equitable decision-making.

THE GREEN HOUSE GAS PROTOCOL INITIATIVE (GHG PROTOCOL)

www.ghgprotocol.org

The GHG Protocol Corporate Standard provides standard methodologies and guidance for business and other organizations to inventory and report all of their GHG emissions. A U.S. Public Sector standard was recently released, which outlines how federal, state and local governments can account for their GHG emissions. The Protocol covers the accounting and reporting of the six greenhouse gases included in the Kyoto Protocol and has been designed as program or policy neutral, yet compatible with most existing GHG programs and their own accounting and reporting requirements.

THE CLIMATE REGISTRY

www.climateregistry.org

The Climate Registry is a voluntary carbon reporting program that collects and tracks greenhouse gas data to develop and manage a common and unified greenhouse gas reporting system designed to support various greenhouse gas emission reporting and reduction policies based on data that is accurate, complete, consistent, transparent and verified for state mandatory and regulatory programs. Today, it is a collaboration of over 40 states, provinces and tribes in the United States, Canada, and Mexico that report to the Climate Registry.

ENERGY STAR® & PORTFOLIO MANAGER

www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

The ENERGY STAR® Portfolio Manager is a free interactive energy management tool developed by the Environmental Protection Agency (EPA) that allows building managers to track and assess energy and water consumption across entire portfolios of buildings in comparison with similar building types.

WASTEWISE & RE-TRAC™

www.epa.gov/epawaste/partnerships/wastewise/about.htm

WasteWise is a free Environmental Protection Agency (EPA) program that promotes waste prevention and recycling of municipal solid waste. Municipal solid waste and recycling information is reported through an interactive waste management tool called Re-TRAC, which allows members to view and edit their organizational information, track waste reduction activities, and to generate summary reports.

UNITED STATES GREEN BUILDING COUNCIL (USGBC)

www.usgbc.org

The USGBC is a non-profit trade organization that promotes sustainability through building design, construction, operations, and maintenance. The organization is most widely recognized for its Leadership in Energy and Environmental Design (LEED) building certification system. Buildings pursuing LEED certification receive third-party verification, which is conducted by the Green Building Certification Institute (GBCI) based upon energy savings, water efficiency, carbon emissions reduction, improved indoor quality, and stewardship of resources and sensitivity to their impacts.

GREEN BUILDING INITIATIVE (GBI) / GREEN GLOBES

www.greenglobes.com/default.asp

Green Globes is an outgrowth of the United Kingdom's Building Research Establishment Environmental Assessment Method (BREEAM), and focuses on an assessment and rating system of existing buildings. In the U.S., Green Globes is owned and operated by the Green Building Initiative (GBI). In 2005, GBI became the first green building organization to be accredited as a standards developer by the American National Standards Institute (ANSI).

