County of San Diego Airport System Sustainability Management Plan

Aeronautical Tenants and Users
Fallbrook

Stakeholder Meetings

June 8, 2023

The purpose of today's meeting is to…

- Introduce County's new airports-wide effort, the Airport Sustainability Management Plan, and explain applicability to airport's tenants & users

- Gather tenants' and users' insights and interests pertaining to current and potential future sustainability measures

Agenda

1. Welcome and Introductions
2. Project Information
   – Project Overview
   – Baseline Inventory*
   – Future of Sustainable Aviation*
   – Potential for Onsite Solar Photovoltaic*
   – Available Tenants & Users Incentives*
3. Additional Discussion Questions
4. Wrap Up and Next Steps

*Pause for Discussion

Worship for Questions and Comments

County of San Diego Airport Sustainability Management Plan
Aeronautical Tenants and Users Meeting

What sustainability measures has your FBO or other airport tenant/user implemented?

Project Team Introductions

Roger Griffiths
County of San Diego

Project Lead

Jamie Abbott
County of San Diego

Director of Airports

Meadow Chase
County of San Diego

Airport Manager

Joan Isaacson
Kearns and West

Senior Facilitator

Taylor Funderburk
Kearns and West

Notetaker

Hayley Powers
Arup

Subject Matter Expert

Meeting Participant Introductions

- What is your name?

- Who are you representing?

- What's an important sustainable practice that you've observed at the airport?

Project Overview

Project Overview

The County of San Diego (directed by Board of Supervisors) seeks to
develop and implement a comprehensive and coordinated
Airport System Sustainability Management Plan
for County's eight airports.

Project Overview

The Plan:

- Recognizes unique facilities, operations, environments, and stakeholders at each airport

- Addresses energy, water, waste of facilities and operations under County's control and jurisdiction

- Encourages tenants and users to address energy, water, waste of their facilities and operations on Airport property

- Streamlines resources, engages stakeholders, establishes guiding principles

Project-Related Community Engagement

Community engagement is a priority for the County of San Diego.

We're in engaging with:

- **Tenants and users** at each airport as key partners to encourage and facilitate sustainability practices in operations

- **Airport advisory committees** for airport-specific guidance on sustainable practices and initiatives

- **Community organizations** to boost meaningful involvement of communities

- **The public** to provide opportunities for input

There are multiple rounds to get involved with!

County Airports Sustainability Definition

County of San Diego Airport System Sustainability Management Plan

Sustainability is a holistic approach to operating, maintaining, and improving the County of San Diego Airport System in a manner that minimizes or removes impacts to the environment and surrounding communities while at the same time being economically effective and reinforcing operational resiliency .

County Airports Sustainability Vision

County of San Diego Airport System Sustainability Management Plan

County of San Diego Airports will be a bold leader in evidence-based sustainability efforts in the aviation industry. The airports system—in collaboration with tenants, users, partners, and stakeholders—will strive to efficiently use and effectively protect our natural resources; reduce emissions; support economic growth; encourage sustainable new technologies, facilities, and services in aviation; and ensure just and equitable provision of aviation services; without compromising the ability of all our communities to flourish and thrive now and in the future.

County Airports Sustainability Plan Guiding Principles

**Demonstrate sustainability leadership by:**

- Encouraging, facilitating, and valuing tenant, user, stakeholder, and community participation, knowledge, perspectives, and partnerships

- Creating and fostering a positive culture of sustainability at all county airports, across all operations, facilities, and lines of business

- Establishing goals and objectives in coordination with the Climate Action Plan Update and the Regional Decarbonization Framework that further reduce resource consumption, emissions, and waste

- Incorporating evidence-based sustainability methods and best practices

- Identifying, pursuing, and supporting leading-edge sustainable technologies and innovations

- Prioritizing positive outcomes that benefit underserved communities

- Improving resiliency against climate change, natural and manmade disasters, and varying economic conditions

County Airports Sustainability Plan Topics

County of San Diego Airport System Sustainability Management Plan

Emissions
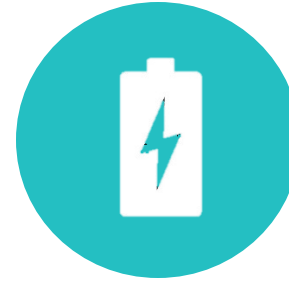
Energy

Water & Wastewater

Solid Waste

County and Tenant Facilities and Operations' Baseline Inventory

How much energy and water is used by County-owned and tenant-leased facilities and operations, and how much emissions, solid waste, and wastewater is generated?
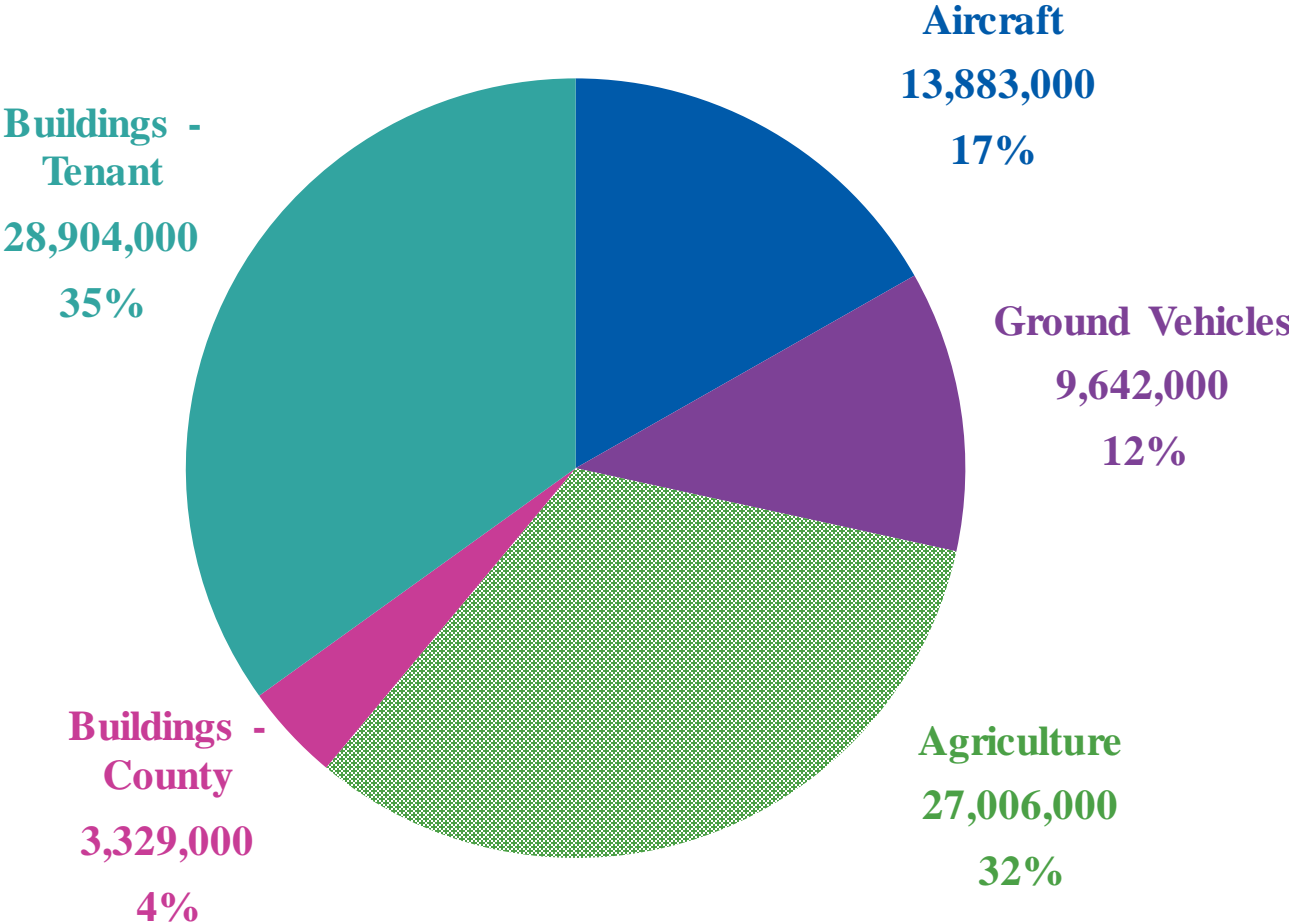
Greenhouse Gas Emissions

Estimated from County-Owned & Tenant-Leased Facilities

Greenhouse Gas Emissions (kb CO2e)

Aircraft
13,883,000
17%

Ground Vehicles
9,642,000
12%

Agriculture
27,006,000
32%

Buildings - County
3,329,000
4%

Buildings - Tenant
28,904,000
35%

Note: Agriculture category emissions is to be confirmed.

*based on projections and may be updated later based on raw utilities inventory data

Water Use

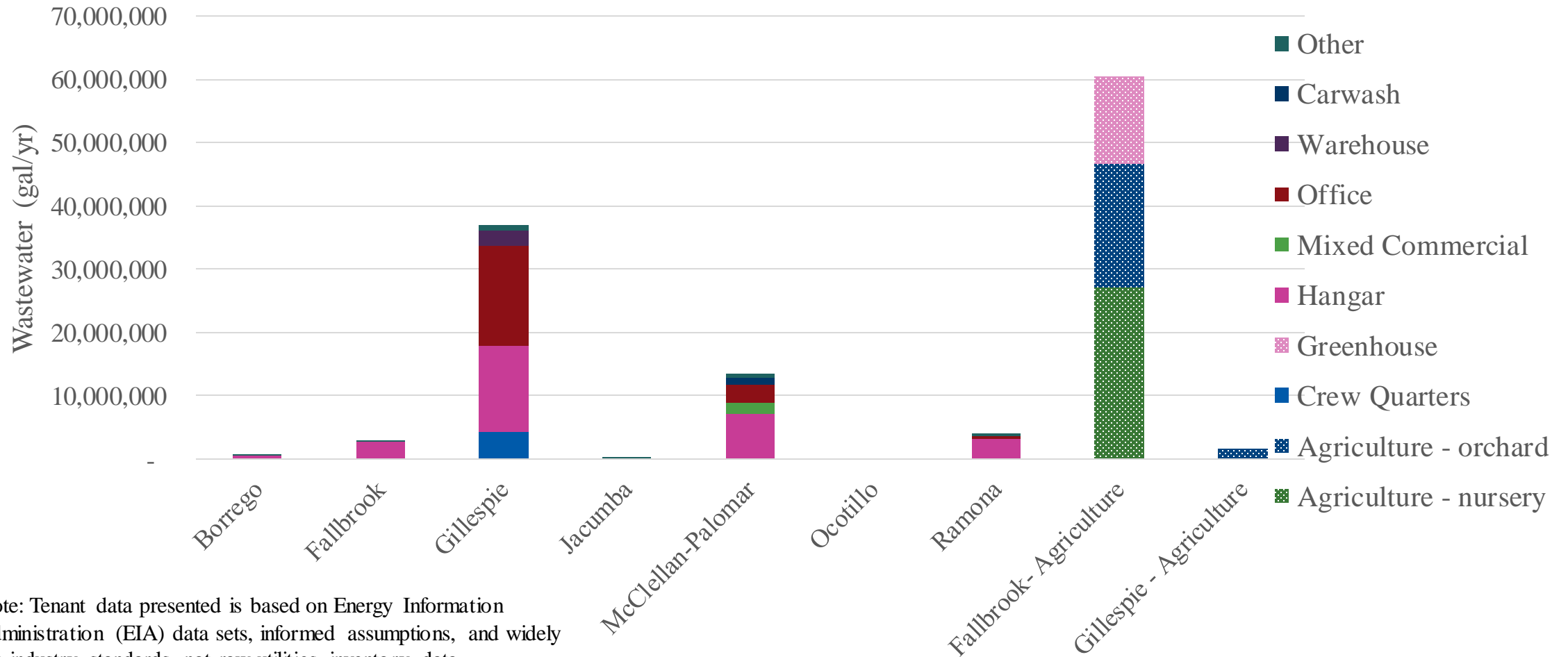Tenant Water Use by Typology and Airport
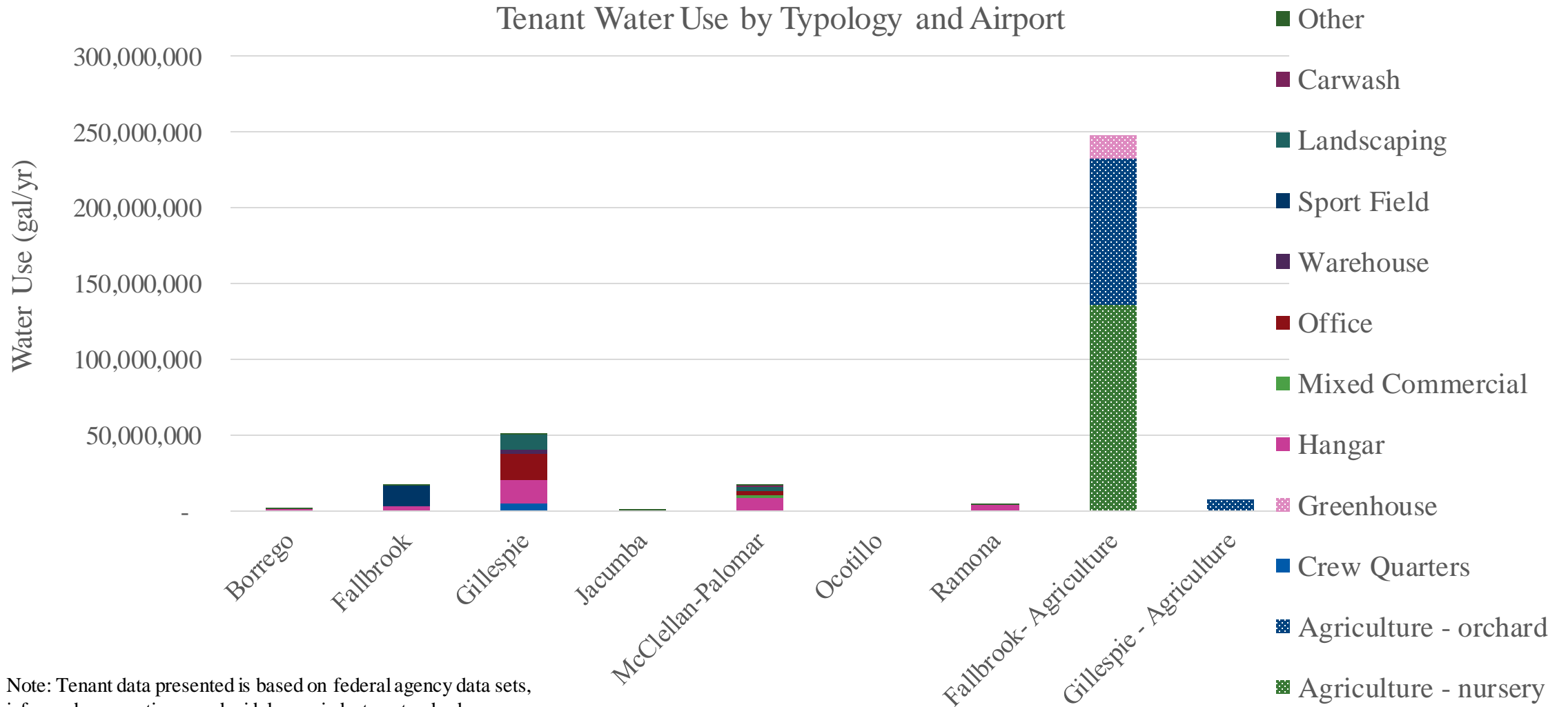
Note: Tenant data presented is based on federal agency data sets, informed assumptions, and widely use industry standards.

Wastewater Generation

Estimated Tenant Generation by Airport

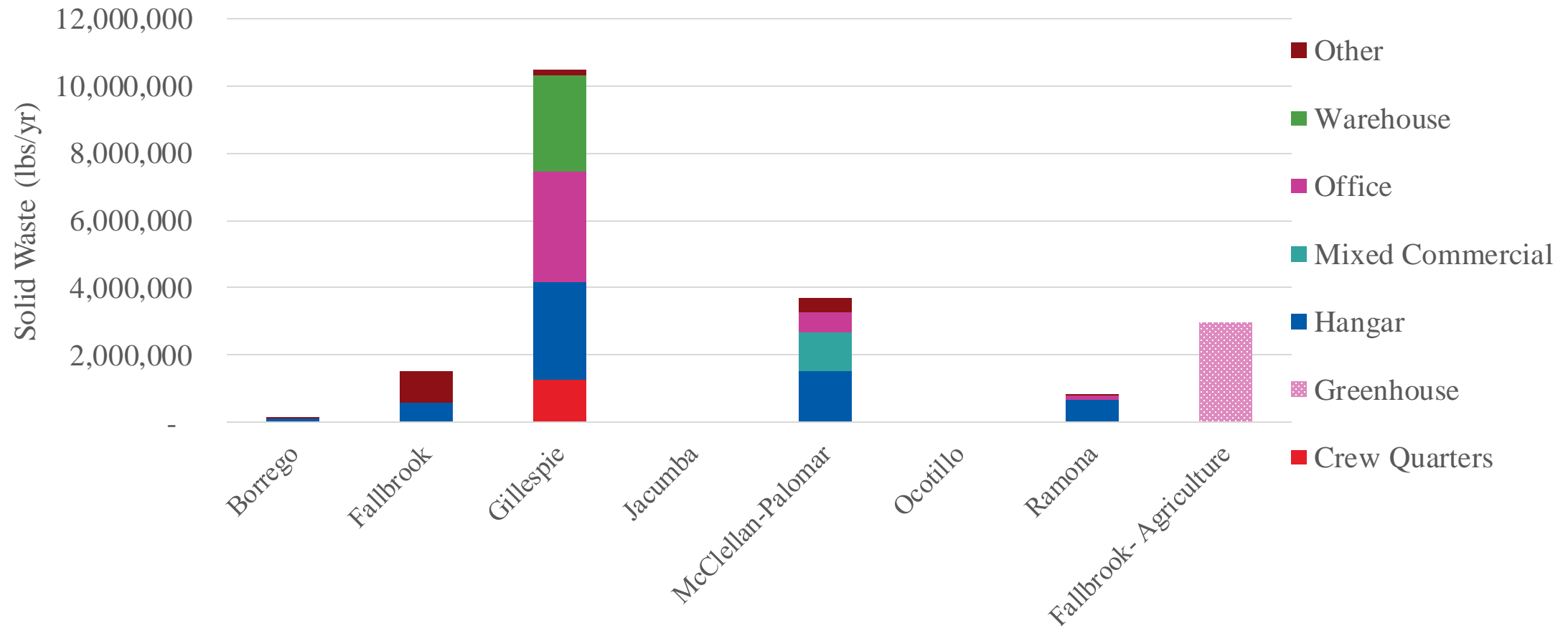### Tenant Wastewater by Typology and Airport

Note: Tenant data presented is based on Energy Information Administration (EIA) data sets, informed assumptions, and widely use industry standards, not raw utilities inventory data

Solid Waste Generation

Estimated Tenant Generation by Airport – Excluding Agriculture

Tenant Solid Waste by Typology and Airport

Note: Tenant data presented is based on Energy Information Agency (EIA) data sets, informed assumptions, and widely use industry standards, not raw utilities inventory data
Waste generation includes all materials discarded, whether or not they are later recycled or disposed in a landfill

Discussion Questions

- What questions do you have?

- Do you analyze your utility bills and implement subsequent energy reductions or water use reductions?

- Would you be willing to share with the County utility bills, to see if the County can help to identify and recommend areas of GHG reduction and potential sustainability measures?

Future of Sustainable Aviation

What are the sustainability opportunities for aircraft fuel types and electrification?

Emerging Industry Technologies

Sustainable Aviation Fuel

Similar properties to jet fuel

Made from biomass

Unleaded Aviation Gasoline

CA counties have banned leaded fuel sales or waived fees on unleaded

Electric Aircraft

None fully certified by FAA yet

Several in FAA certification process

Hydrogen Aircraft

Longer-term technology

Electric Aircraft

Where the Industry is Going

Pipistrel – Velis Electro

Velis Electro has received EASA type certification, and is flying at international flight schools as well as US flight schools under experimental category

Bye Aerospace – eFlyer2

FAA has approved means of compliance certification and working towards Part 23 certification. Total of 800 aircraft in production backlog

Eviation Alice

Maiden test flight completed in Sept. '22, working towards certification with 2027 target enter service date. Estimated 250-mile range.

Beta Technologies – CX300

The 5-seat CX300 electric aircraft produced by **Beta Technologies** available by pre-order. Other eVTOL version also being developed. Flight testing ongoing and certification target of 2025.
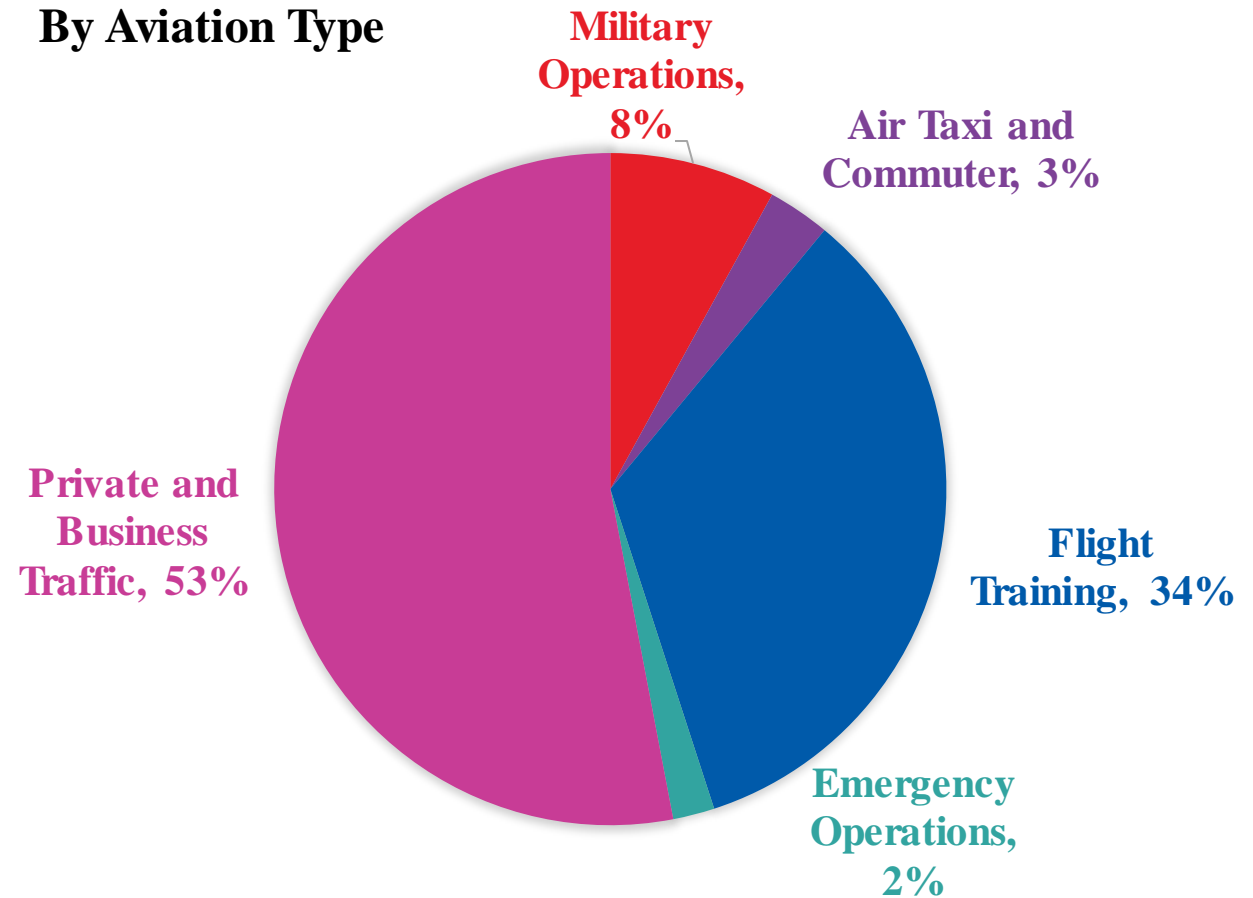
Greenhouse Gas (GHG) Emissions

Estimated for County Airports' Tenant & Users

The County is not responsible nor in charge of aircraft operations or GHG emissions, as they are within the FAA's purview.

Potential for sustainable alternatives in small aircraft

- Flight training emissions estimated at 34% total

- Private / business traffic emissions also include light aircraft

By Aviation Type

Military Operations, 8%

Air Taxi and Commuter, 3%

Private and Business Traffic, 53%

Flight Training, 34%

Emergency Operations, 2%

*from County Airports Sustainability Management Plan Baseline Inventory

Discussion Questions

- What questions do you have?

- What are your thoughts on electric aircraft?

- What are any aviation-specific initiatives for electrification you've considered undertaking?

County Airports Solar Potential

How much energy could be generated at each airport for County and tenant uses?
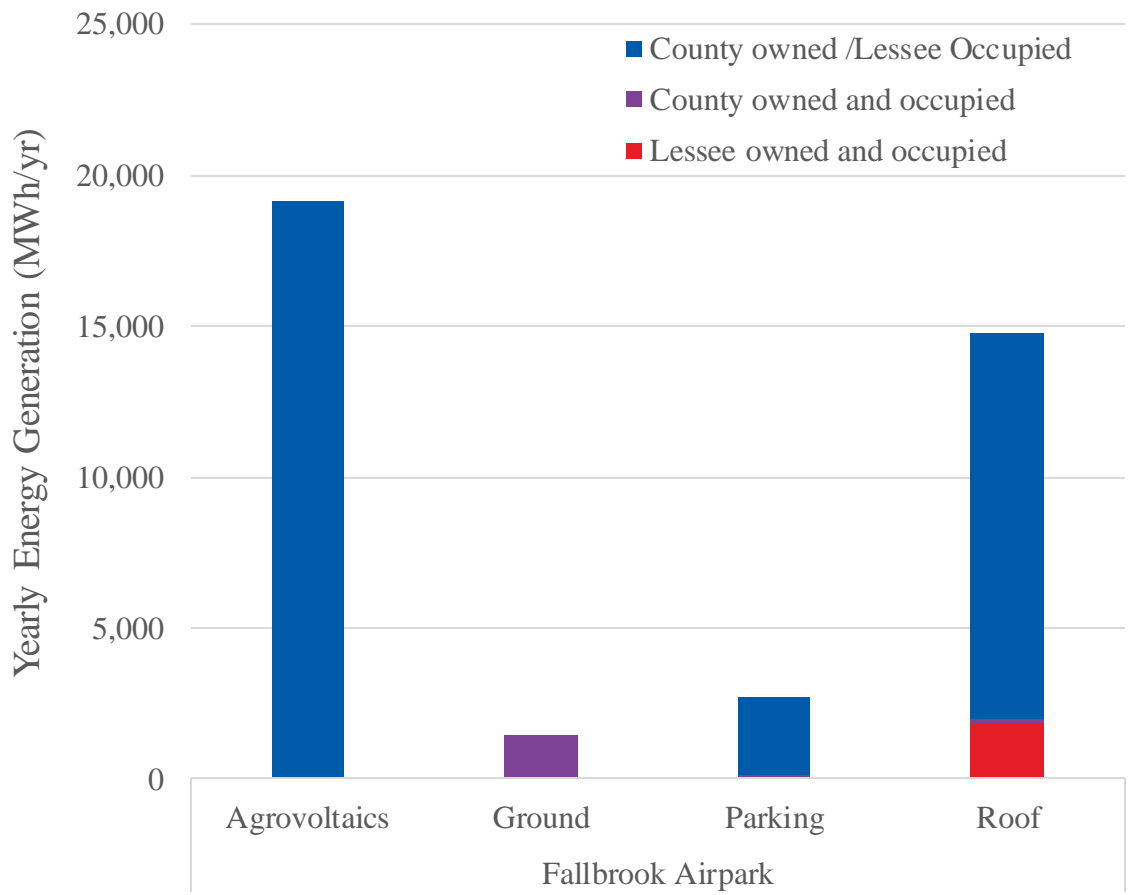
Types of Solar Available in the Industry:

☼ Agrivoltaics

☼ Ground Mounted Solar

☼ Parking Cover Solar

☼ Rooftop Solar

Estimated Solar Potential

Fallbrook Airpark

Bar chart titled "Fallbrook Airpark" showing Yearly Energy Generation (MWh/yr) on the y-axis from 0 to 25,000. Legend: County owned /Lessee Occupied (blue), County owned and occupied (purple), Lessee owned and occupied (red). Categories: Agrovoltaics (~19,000, blue), Ground (~1,500, purple), Parking (~2,700, blue), Roof (~14,800, blue with ~2,000 red portion).

Aerial photograph of Fallbrook Airpark with solar potential areas highlighted in blue.

Available Sustainability-Based Incentives

What resources are available to make sustainability more affordable for airports' tenants?

Incentives for Tenants and Users

Vehicles and Ground Service Equipment (GSE)

Federal Inflation Reduction Act (IRA) Commercial Electric Vehicle Tax Credit

SDG&E Power Your Drive Program

up to 15% of purchase price

for plug-in hybrid electric vehicles

up to 30% of purchase price

for full electric vehicles or fuel cell vehicles

50 - 100% of installed cost

for electric vehicles chargers up to $2,000

Incentives for Tenants and Users

Buildings

Federal Energy-Efficient Commercial Buildings Tax Deduction

interior lighting, controls, & sensors	building envelope (windows, insulation, roof, etc.)	heating, cooling, ventilation, & hot water systems

- Reduce energy use by at least 25%
- Tenants are eligible if they make construction expenditures

Incentives for Tenants and Users

Solar Power

Business Energy Investment Tax Credit (ITC) & Production Tax Credits (PTC)

ITC:
30%+ of installed cost
of solar power system

PTC:
Up to $2.75/kWh of
produced by a solar
power system

- Must meet prevailing wage requirements to receive full incentive
- Extra 10% for US-made equipment

Incentives for Airports

Alternative Fuels

Federal Inflation Reduction Act (IRA) Alternative Fuel and Low-Emission Aviation Technology Grants

$46.5 million

for low-emission aviation technologies

Eligible entities include
- states or local governments
- entities engaged in research and development of low-emission aviation technologies

FAA's Zero Emissions Airport Vehicle and Infrastructure Pilot Program

up to 50% of purchase price

for Zero-Emission **airport-owned vehicles** & chargers used **exclusively for airport purposes**

Additional Incentives for Tenants and Users

Federal Grants for Energy and Climate Projects

- IRA Greenhouse Gas Reduction Fund

- IRA Environmental and Climate Justice Block Grants

Vehicles and Ground Service Equipment (GSE)

- Domestic Clean Vehicle Tax Credit

Onsite Power Generation

- Virtual net metering (VNM)

- Power Purchase Agreements (PPAs)

- Community Choice Aggregation (CCA)

- California Energy Commission (CEC) Electric Program Investment Charge Program (EPIC) grants

Questions?

- What questions do you have?

- What are some sustainability-related changes you've contemplated for your facilities in the near future or long-term?

- What do you think are the greatest opportunities for solar installation at this airport or on your leasehold?

Additional Discussion Questions
We want to hear from you!

Discussion Questions

Current and Future Sustainability Activity
- Does your business or organization have any sustainability plans, programs, or measures currently in place? If so, can you tell us about them?
- Are you encountering any barriers in implementing sustainability measures or considering new measures? If so, can you describe them?
- How could the County help you improve the sustainability of your operations? (e.g., provide recycling bins, links to green power purchasing, water conservation tips, etc.)?

Jobs and Connection to Community
- Would you be interested in participating in a job fair with other airport tenants to help identify local candidates?

Wrap Up

Wrap Up and Next Steps

THANK YOU for participating in this meeting.

We really appreciate your input and engagement!

Stay posted for the first round of public meetings in July.

Please look for contact from us about the second round of stakeholder meetings in Fall 2023.

Visit the County Website at Please visit the County's website at

www.sandiegocounty.gov/content/sdc/dpw/airports/airportsmain/sustainability.html

Thank You!