

A blue-toned map of North America with a grid overlay. A small black circle marks the location of Denver, Colorado, with the word "DENVER" written in white capital letters to its right.

● DENVER

# **Colorado Airport Operators Association**

## **June 2, 2011**

presented by  
**Norm Higley**



**DENVER INTERNATIONAL AIRPORT**  
*TOGETHER WE SOAR*

# Photovoltaic Projects at DIA



# DIA Solar 1 Project



# DIA Solar 1: Project Specifications

- **Constructed 2007; \$14M cost**
- **8.81 acres; 9,254 solar panels**
- **2 MW; 3.5 GWH/yr.**
- **No local load, sold into grid**
- **Tracking system**
- **About 3.6% of DIA's peak demand; 2% annual usage**
- **About 6M lbs./yr. GHG reduction**



# DIA Solar 1: Transactional

- **Ground lease for site & PPA with developer**
- **Developer carried construction costs (except site grading)**
- **Developer holds Renewable Energy Credits (RECs)**
- **REC contract with Excel pays about 19¢ per KWH**
- **DIA has buy-out option in 2014; RECs also transfer**



# DIA Solar 2: Project Specifications

- **Constructed 2009; \$7.5M cost**
- **9.37 acres**
- **7,392 solar panels**
- **1.6 MW; 2.4 GWH/yr.**
- **Powers fuel farm**
- **Net meter for excess**
- **Fixed tilt system**



# DIA Solar 3: Project Specifications

- **Completed May, 2011**
- **About 25.4 acres**
- **18,980 solar panels**
- **4.5 MW; 6.7 GWH/yr.**
- **Powers lift station 1**
- **Net meter for excess**
- **Fixed tilt system**



# DIA Solar 2 & 3: Transactional

- **Ground lease for site & PPA with developer**
- **PPA price formula, with minimum per KWH**
- **Post-construction DIA loan to developer**
- **Promissory note**
- **Developer holds Renewable Energy Credits (RECs)**
- **DIA has buy-out option; RECs also transfer**



# DIA Sustainability Grant Project

- **Why participate in FAA Sustainability Grant Pilot?**
  - **The Program will allow DIA to evaluate growth in terms of social, environmental, and economic benefits**
  - **Facilitate integration of DIA's EMS, Strategic Plan, Greenprint Action Agenda, and Denver's Climate Action plan into all aspects of DIA business**
  - **Consumer awareness and expectations of DIA**



# DIA Sustainability Grant Project

- **What are DIA's expectations?**
  - **Identify sustainability goals and objectives**
  - **Conduct a baseline assessment**
  - **Conduct a gap analysis**
  - **Set performance objectives**
  - **Develop an implementation and monitoring program**
  - **Research grant/funding sources for sustainability initiatives**
  - **Develop a sustainability report card**



# Current Lighting Sustainability Projects

- **T-12 lighting replacement**
  - **4,500 T-12 fixtures**
  - **9,000 4ft. lamps & 1,500 U-bend lamps**
  - **Funding acceleration to complete by 12/31/2011**
- **Parking structure lighting replacement**
  - **6,600 lamps, mostly 150W high pressure sodium**
  - **Replace with LED (or fluorescent)**
  - **Contractor gets tax credits (or performance-based)**
  - **DIA will lease to own from contractor**



# Where Can We Go From Here?

- **Waste Minimization**
  - **Waste diversion beyond recycled pavement**
  - **Expansion of recycling and composting programs**
- **Water Quality**
  - **Continued increases in ADF capture and recycling**
  - **BOD load reduction opportunities**
  - **Greywater reuse**
- **Alternative / Sustainable Energy**
  - **Sustainable design & demand reduction opportunities**
  - **Expansion & diversification of on-site power production**



Thank You

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