greening ATL

ISO 50001 Energy Management System for IFMA Airport Council
June 21, 2016

Working toward a greener future, brighter
Sustainability Management Plan of 2011

Reduce Energy and Water Intensity 20% by 2020 from 2008 levels

- Energy Conservation Measure with plan
- Renewable Energy (Solar, Ground Source Heat Pump, etc.)
- Monitoring protocols for indoor and outdoor use
- Evaluate building tenants by actual usage
- LED on airfield
- Lighting improvements
- Water recovery from stormwater
- Rainwater harvesting
- Water conservation opportunities
- Evaluate water meters for tenants
- Evaluate waterless urinals
- Adopt Water Management Plan
- Reduce bleed-off water from cooling towers
How do we get there?

- Plans
- Passenger Growth
- Baseline

- Renewable Energy
  - Solar Power
  - Ground Source Heat Pumps

- Design

- Performance Monitoring
- Efficiency

- Conservation
ISO 50001 is an international standard for organizationwide energy management process that has continuous improvement and accountability as the foundation.

ISO 50001 guidelines serve to develop energy management system.

In the U.S.,

<table>
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<tr>
<th>ANSI-ASQ National Accreditation Board</th>
<th>ISO 14000 – Environmental Management Systems</th>
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<tr>
<td>ISO 9001 – Quality Management Systems</td>
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<td>ISO 13485 – Quality Management Systems for design and manufacture of medical devices</td>
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<td>ISO 22000 – Food Safety</td>
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<td>ISO 55001 – Asset Management Systems</td>
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**ISO 50001** is an international standard for organizationwide energy management process that has continuous improvement and accountability as the foundation.

ISO 50001 guidelines serve to develop energy management system.
• Improves energy performance and reduces energy costs
• Implementation of an EnMS will help sustain savings and drives continual improvement over time
  ➢ Helps avoid the project-by-project approach to energy management
  ➢ Implements and formalizes energy management practices
• Reduces GHG emissions
• Support’s ATL Sustainability Management Plan and the Department of Aviation’s Master Plan Goals/Strategic Priorities
• Competitive advantage – no airports certified in U.S.
• Establishes ownership
  ➢ Drives ownership and accountability across the organization (top management and employee)
  ➢ Engages employees through dialogue and behavioral changes to improve energy performance
ISO - 50001 Energy Management System

- General Requirements
- Management Responsibility
- Energy Policy
- Implementation and Operations
- Energy Planning
- Management Review
- Checking
- Performance Measurement
- Continuous Improvement

Performance Measurement

Act

Plan

Check

Do

Performance Measurement
Beginning Infrastructure

- Appoint a management representative
- Continuous senior management involvement
- Communication
ISO 50001 Energy Management System Standard Gap Analysis

Outcomes of Gap Analysis

- Average 47% Conformance. 100% is not necessary to reap benefits.
- Continual improvement.
- ATL has already met or will meet many requirements of the standard such as master plans.
- Self-declaration is achievable
- Other International Airport adopting standard: Aeroports De Paris by end of 2013

Beginning: 47%  
Short Term  
Goal: 90%

Total Conformance Score

- General Requirements
- Management Review
- Management Responsibility
- Energy Policy
- Implementation and Operation
- Energy Planning
Energy and Water Policy

Ensure Conservation & Efficiency

Monitor Performance (targets & objectives)

Regulations Compliance

Utilize Renewable & alternate Energy; & Recyclable Water

Provide Communication and Training

Working toward a greener future brighter
Utility Information Readily Available to ATL Employees

- Monthly Utility Report
- GIS Utility Information (Real-Time Data)

- Monthly Reports to Area Managers by Facility
  - Fire Stations
  - Parking
  - Other
Identify Significant Energy Users

- Rank all facilities from highest to lowest energy user.
- Full inventory of energy usage and sources
Within the Facility (Significant Energy User)

- Where is the energy used
  - Lighting
  - Office Equipment
  - Data Center
  - Heating and Cooling
  - Elevator and Escalator

Opportunities to save?
Refunds and Rebates

- Rebates (Georgia Power) $163,898
- Refunds $145,544
- Total Rebates & Refunds $309,442
Insulating Glass with silkscreen at International Terminal Saves Energy
Minimum Design Standard

- City of Atlanta Code of Ordinances, §75-19, “Policy and Goals”
  - New construction or renovations
  - >5,000 square feet of occupied space
  - Or cost >$2M
  - Minimum LEED Silver rating

- Point System
  - Sustainable (26 Points)
  - Water Efficiency (10 Points)
  - Energy and Atmosphere (35 Points)
  - Materials and Resources (14 Points)
  - Indoor Environmental Quality (15 points)
  - Other (10 Points)
LED Runway Lighting Saves Energy at ATL

- ATL has installed thousands of LED runway lighting, which uses approximately 50% less electricity and require less maintenance than typical incandescent lighting.
- Completely changed
Day Lighting at Rental Car Center

- 18-day lighting structures built into facility
- Estimated 12%-35% savings on energy usage for lighting purposes
Solar Energy Production

Other Opportunities

Taxi Assembly Facility

Solar-Powered Cameras
Energy Services Performance Contract

![Diagram showing operations budget or utility bill before, during, and after performance contract.](image)
Communication

- Energy Awareness Month
- ATL Ecodistrict
- Contractors and Vendors
- College-Energy Symposium
- Partnership Schools
- Business Unit Meetings
- DOA-Wide Energy Fair
Energy Management Trailblazing

- Created an Airport-wide EcoDistrict
- ATL receives the highest airport rating (B+) for any U.S. airport from the Global Reporting Initiative (GRI). GRI is a nonprofit organization that works toward a sustainable global economy by providing sustainability reporting guidance.
SAVE THE DATE
June 23-25, 2015

INTERNATIONAL SUSTAINABLE ASSET MANAGEMENT CONFERENCE 2015

Conference Tracks
- Benefits from Investing in Asset Management
- Asset Life-Cycle & Total Cost of Ownership (TCO)
- New ISO 55000 Facility Asset Management Standards
- Climate Action Plans
- Sustainable Operations & Maintenance Best Practices

Who Should Attend
- Executive Directors
- Asset Managers
- Facility Managers
- Sustainability Managers
- Transportation Managers
- Operations & Maintenance Personnel
- Policy Makers

When and Where
June 23-25, 2015
Georgia Int'l Convention Center
Atlanta, GA, USA

Contact:
ISAMinfo@atlanta-airport.com

www.isamconference.com

BACK BY POPULAR DEMAND!

INTERNATIONAL SUSTAINABLE ASSET MANAGEMENT CONFERENCE
June 22-24, 2016

ARE YOU INTERESTED IN UNDERSTANDING THE SYNERGY BETWEEN ASSET MANAGEMENT AND SUSTAINABILITY?

Join Hartsfield-Jackson Atlanta International Airport and IFMA for an exciting two-day event devoted to education in these progressive industry areas.

Held at the Georgia International Convention Center, the second annual ISAM conference brings together professionals from a variety of industries interested in increased sustainability practices and improved asset management techniques.

Conference topics will include:
- Benefits from investing in asset management
- New ISO 55000 Facility Asset Management Standards
- Climate action plans
- Sustainable operations & maintenance

For more information or sponsorship opportunities, contact April Yuen, Corporate Programs Sales Specialist, at apyuen@ifma.org p: 1-888-301-1331 (direct)

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