

Energy Management Congress

Association of Energy Engineers

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President

Energy and Sustainability Policies in LA: Grounds for Satisfaction or Concern?

Use Energy
Responsibly

3COTECH
Profitable Sustainability

Agenda

- Los Angeles Energy & Sustainability Policy Landscape
- Leading Agencies & Their Policies
- San Pedro Bay Ports
- Accomplishments & Lessons Learned
- Resiliency
- Energy Strategy
- Finding The Right Balance



City of Los Angeles

Sustainable City pLAn



TRANSFORMING LOS ANGELES
ENVIRONMENT | ECONOMY | EQUITY



Photo: Psomas



Photo: Gruen Associates



Photo: Los Angeles County

County of Los Angeles

Sustainable Infrastructure Management
Envision Certification



Metropolitan Water District of Southern California

Environmental Stewardship

Photo: Metropolitan Water District of Southern California



Metro

Los Angeles County Metropolitan Transportation
Authority's Sustainability Policy

Photo: LUCY NICHOLSON / Reuters

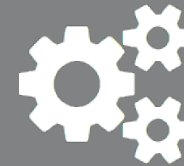
SUSTAINABILITY
CASE STUDIES



METRICS
RESEARCH,
SELECTION AND
ANALYSIS



FRAMEWORK FOR
PERFORMANCE
TARGETS



HOSTING
OPTIONS FOR AN
INTERACTIVE
DISPLAY



OUTREACH AND
COORDINATION



METRO
COUNTYWIDE SUSTAINABILITY ANNUAL REPORT AND PERFORMANCE METRICS

12 **LAX** Los Angeles International



Los Angeles World Airports

**SUSTAINABILITY REPORT
2015**

SUSTAINABLE
DESIGN AND
CONSTRUCTION



CLEAN
CONSTRUCTION
PROGRAM



PAVEMENT
REUSE



COMMUNITY
OUTREACH



LAWA
LANDSIDE ACCESS MODERNIZATION PROGRAM (LAMP)



San Pedro Bay Ports

Balancing environmental challenges
with economic demands

Photo: Kat Janowicz



Port of Long Beach

Green Port Policy

Photo: Port of Long Beach



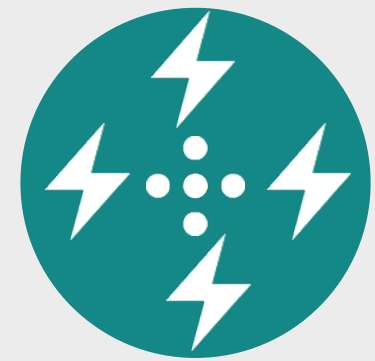
Controllable Load



Energy Storage



Backup Power



Micro-Grid



Renewables



Fuel Cells



Port of Long Beach

Middle Harbor Terminal

Photo: Port of Long Beach



Port of Los Angeles

Energy Management Action Plan

Photo: Kat Janowicz

Pasha Green Omni Terminal



Electric Yard Tractors
High Tonnage Electric Forklifts
Electric Top Handler
Solar Powered Microgrid
Solar panels and battery storage
Electric On-Road Drayage Trucks
Vessel Exhaust Treatment System
Reduces smog-forming NOx emissions by more than 90%

Zero and near-zero emission technologies to improve air quality in our community

3,200
Tons Per Year

Greenhouse Gases
REDUCED

56,000
Pounds Per Year

Diesel Particulate Matter,
Nitrogen Oxides & Other
Harmful Emissions
ELIMINATED

14,100
Cars Off The Road
Per Day

Equivalent South Coast
Air Basin
**CLEAN AIR
GAINS**



For more information visit
www.portoflosangeles.org

CLEAN AIR ACTION PLAN 2017

FREIGHT
INFRASTRUCTURE
INVESTMENT AND
PLANNING



CLEAN VEHICLES,
EQUIPMENT
TECHNOLOGY AND
FUELS



FREIGHT
EFFICIENCY



ENERGY
RESOURCE
PLANNING



Sulfur
Oxides
SOx

Diesel
Particulate
Matter
DPM

Nitrogen
Oxides
NOx

Greenhouse
Gases

14%

50%

85%

7%

97%

2015 Air Emissions Inventory

TEUs



TECHNOLOGY ADVANCEMENT PROGRAM

- FACILITATE THE DEVELOPMENT AND DEMONSTRATION OF CLEAN TECHNOLOGIES TO SUPPORT CAAP
 - 30+ PROJECTS IN 10 YEARS
- MULTI-AGENCY PARTNERSHIPS
- FOCUS ON NEAR-ZERO AND ZERO EMISSION TECHNOLOGIES
 - \$3M+ MILLION ANUALLY

RESEARCH NEW
TECHNOLOGIES



ENSURE THAT
APPROPRIATE FOR
THE PROGRAM



FIND
PARTNERS FOR
PILOT PROJECTS



PURSUE GRANTS
FROM OTHER
SOURCES



ENGAGE IN
COMMUNITY
OUTREACH



Photo: Kaleb Kendall

*“a system’s ability to **anticipate, prepare** for, and **adapt** to changing conditions and **withstand, respond** to, and **recover** rapidly from disruptions through sustainable, adaptable, and **holistic planning** and **technical solutions**”*

– The National Renewable Energy Laboratory

*“The energy sector will need to **develop resilience** to climate change impacts through **technological solutions, flexible management practices** as well as **preventive emergency preparedness** and **response** measures.”*

– International Energy Agency

DATA COLLECTION
AND INTEGRATION



PLANNING AND
CAPACITY BUILDING



MARKET-BASED
APPROACHES FOR
INFRASTRUCTURE AND
EFFICIENCY



COMMUNICATING
RISK TO CRITICAL
INFRASTRUCTURE



COORDINATION
OF FEDERAL, STATE
AND LOCAL ACTIVITIES



INNOVATIVE
WATER USE,
EFFICIENCY, AND
TECHNOLOGY



Energy Goals and Priorities



**IMPROVE
RESILIENCY**



**REDUCE
DEMAND**



**ASSURE
SUPPLY**



**PROMOTE
ENERGY
CONSCIOUS
CULTURE**

Energy Drivers

Ensuring critical service continuity during disruptions —natural and reliability issues (equipment failure)—and resume

AVAILABILITY

Control and reduce of energy use and demand; maximize operational productivity and cost-effectiveness

SUSTAINABILITY

Consistent and high-quality delivery of energy that meets forecasted peaks in demand

SECURITY

Safe installations, supply systems, equipment, and use that meet standards and regulations

RESILIENCY

Access to sources of energy necessary for current and future power demands

EFFICIENCY

Four factors of sustainable development:

- environment
- economics
- politics
- culture

RELIABILITY

Reliable, uninterrupted, accessible, available, affordable, equitable supply, sufficient to meet operational needs

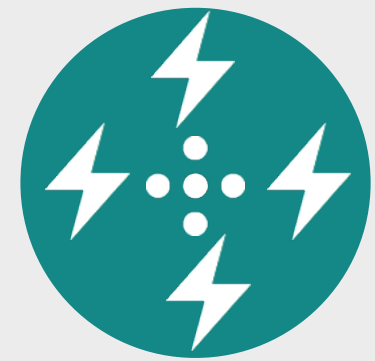
SAFETY



Energy Efficiency



Demand Response



Micro-Grid



Energy Storage



Policy



Renewables



Backup Power



Code Modifications



Fuel Cells



ENGAGE COMMUNITIES EARLY AND OFTEN

DOCUMENT PROJECT OUTCOMES;
COORDINATE WITH **OTHER
PROGRAMS**; LEVERAGE LOCAL
MEDIA; ENGAGE **ASSOCIATIONS**
FOR A THIRD-PARTY PERSPECTIVE;
ASSIGN **RESPONSIBILITIES**;
USE **LANGUAGE** EASY TO
UNDERSTAND

Photo: Kat Janowicz

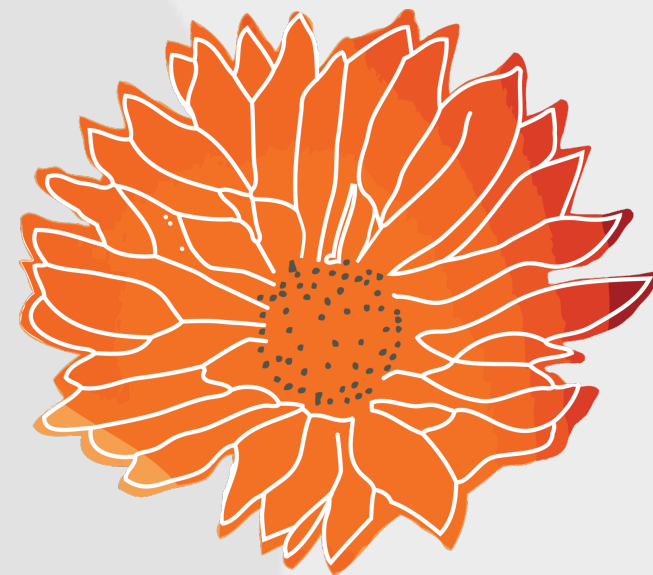
STRATEGIC PARTNERSHIPS

Effective Ways to Collaborate



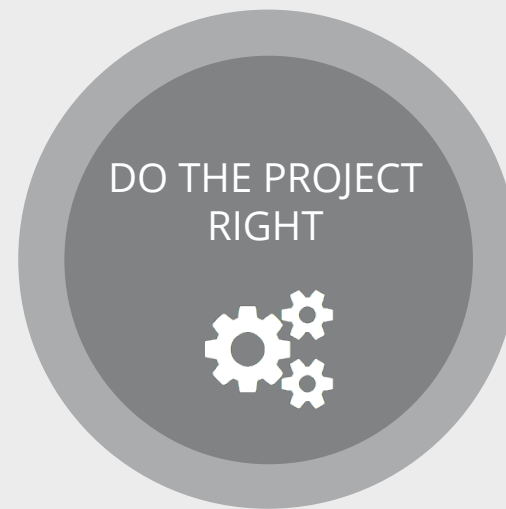


ENVISION™



LIVING BUILDING CHALLENGESM





ENVISION™



ZOFNASS PROGRAM
FOR SUSTAINABLE INFRASTRUCTURE



FOUNDING ORGANIZATIONS (2010)



LAWS AND
REGULATIONS ARE
ALWAYS ONE STEP
BEHIND



GOVERNMENTS
AND AGENCIES
SET LOFTY GOALS



COSTLY
WORKFORCE
DEVELOPMENT



TRANSFORMATIVE
TECHNOLOGIES



LACK OF
NECESSARY
FUNDING



Photo: Julia Caesar

Thank you

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