



DOS use of LEED

U.S. Department Of State

OBO's Sustainability and Energy Goals - Chronology

- 1992 - Energy Policy Act
- 1994 - Executive Order 12902
- 1997 - DoS joined USGBC 1st summit
- 1998 - OBO conducted a LEED analysis
- 1998 - OBO commits to "Energy Star Building™" program
- 1999 - Executive Order 13123
- 2000 - OBO uses LEED as a performance goal

DOS Sustainability & Energy Action Plan

- Eight goals related to sustainability, energy efficiency, and high technology
 - Achieve a 35% reduction in energy use in overseas buildings by 2010
 - Showcase cost effective high tech and US systems and products
 - Establish and utilize sustainable building designs requirements
 - 35% energy use reduction in domestic buildings by 2010
 - Use alternate fuel vehicles in the domestic fleet
 - Establish cradle to cradle recycling
 - Develop awards and recognition of contributions
 - Partnership with other federal agencies

LEED Benefits for DOS

- Represent the best of U.S. thinking
- Can be a show case for American technology
- Part of other outreach and technology programs

Overseas Building Operations Challenges to Leeds

- U,S. Diplomatic Buildings are more complex than standard office buildings.
- Host Nations unique elements
- World Climatic Zones
- Assessment of LEED Rating System for DOS

New Office Buildings

- **OBO's sustainability & energy activities in NOB's**
 - Kampala, Zaire
 - Zagreb, Croatia
 - Tunis, Tunisia

Kampala, Zaire

- Building Features
 - Design meets Energy Star I
 - Extensive wall and roof insulation
 - Energy efficient lighting
 - Solar domestic hot water heating
 - High efficiency air infiltration



Tunis, Tunisia

- Building Features
- Design within 4% of Energy Star
- Energy efficient lighting
- High efficiency air infiltration



Zagreb, Croatia

- Building Features
- Design meets Energy Star
- Extensive wall and roof insulation
- Energy efficient lighting
- High efficiency air infiltration



Accord21

- **American-Chinese Coalition to develop energy efficient demonstration building and design center**

OBO's Sustainability / Energy goals

- Design all new facilities to meet a minimum of LEED Certified Level
- Complete the energy savings performance projects
- Work with DoE, Carnegie Mellon University, and Lawrence Berkeley National Laboratory in advanced energy and sustainable built environment systems

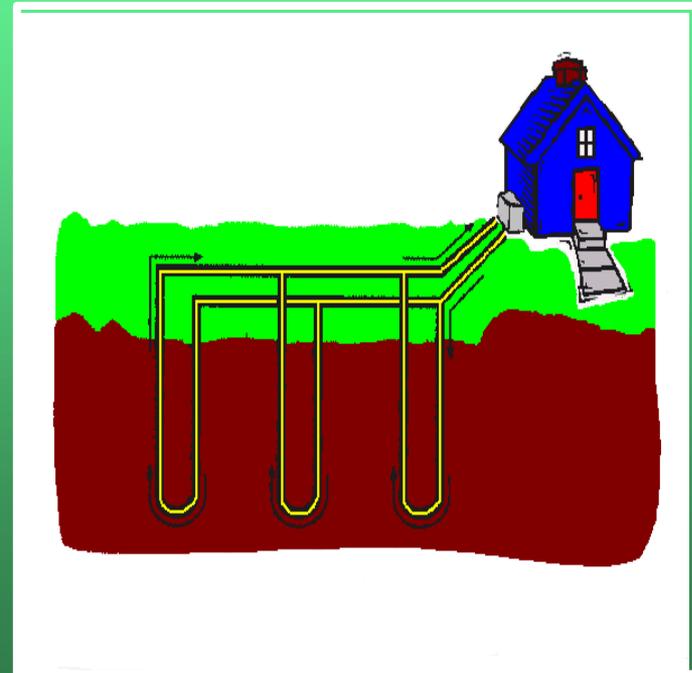
Geothermal Heat Exchange

- **Benefits**

- Good Historic Building preservation retrofit
- Highly efficient
- Works in most world climates
- Applicable in ground water and a variety of soil conditions

- **Challenge**

- Requires substantial space



Fuel Cell

- **U.S. Consulate
General Frankfurt
Siedlung Housing**
 - Installation Cost - \$836,500
 - Annual Savings - \$150,000
- **Embassy Tokyo
Mitsui Apartments**
 - Installation Cost - \$2.5 Million (includes 2 fuel cells and other ECM's)
 - Annual Savings - \$150,000



Renewable Energy Resources



Wind Turbine
Port Louis,
Mauritius

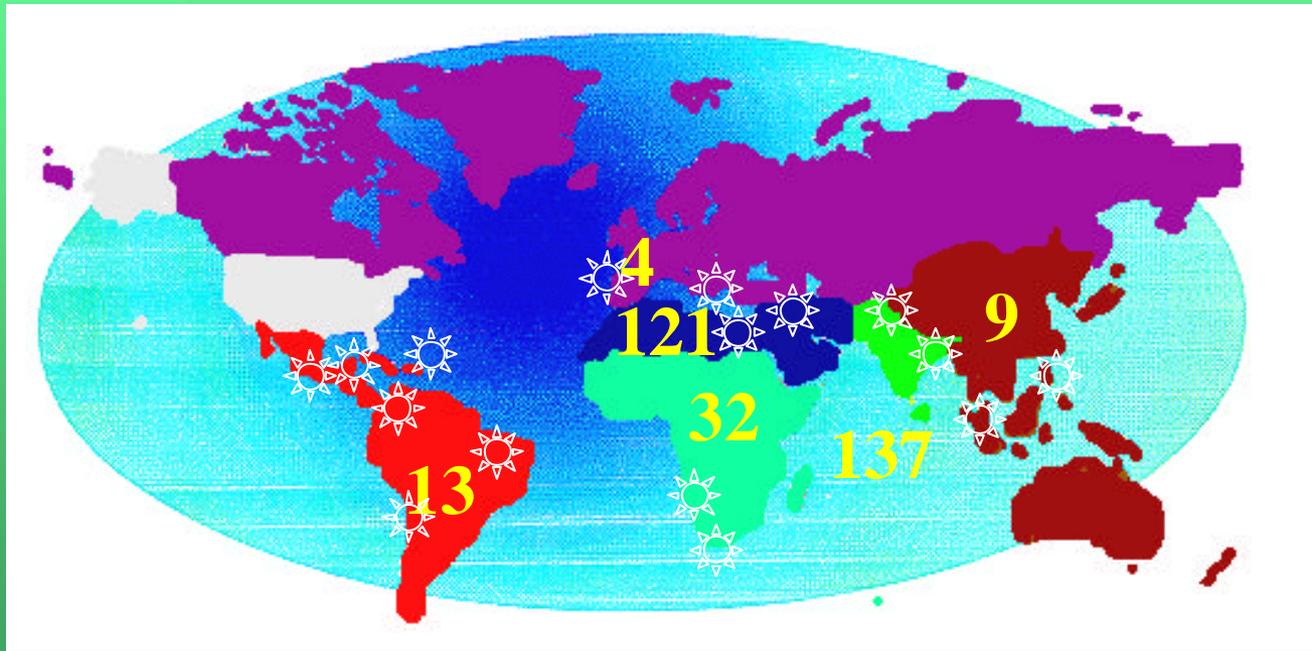


Photovoltaic
Lisbon, Portugal

Solar Water Heaters
Mumbai, India
and Locations
Worldwide



Worldwide Solar Heating Systems



FBO Award Winning Program Recognized by DOE