

# Energy Information Briefing

Update on System Status:  
Hawaiian Electric Company, Inc.  
Hawaii Electric Light Company, Inc.  
Maui Electric Company, Limited



# Hawaiian Electric Company, Inc. Family of Companies



Oahu

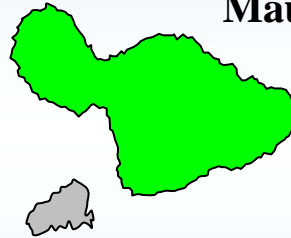
**Hawaiian Electric  
Company, Inc. (HECO)**



Molokai

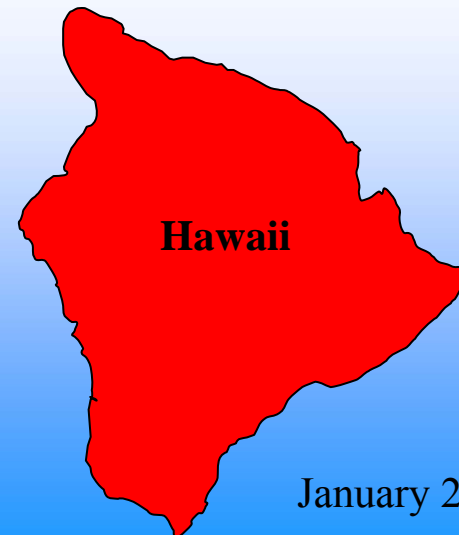


Lanai



Maui

**Maui Electric Company,  
Limited (MECO)**



Hawaii

**Hawaii Electric Light  
Company, Inc. (HELCO)**



# Growing Demand will be Met with a Portfolio of Energy Solutions



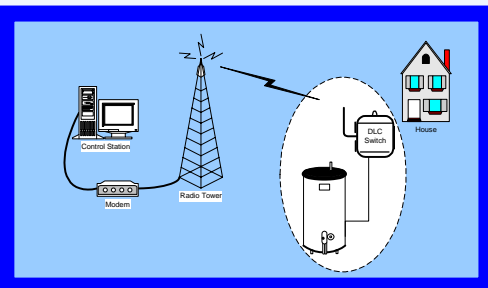
Energy Efficiency and Conservation



Combined Heat and Power



Renewable Energy Generation



Load Management



New Conventional Generating Capacity



# Recent HECO-HELCO-MECO Activities in Support of RPS

- Wind
  - HRD 10.5 MW PPA approved by PUC on May 14, 2004
  - Apollo 20.5 MW PPA PUC application filed
  - Kaheawa 30 MW PPA PUC application filed
  - Kahe meteorological data collection will be completed in March 2005



# Recent HECO-HELCO-MECO Activities in Support of RPS (continued)

- Energy Efficiency DSM and Load Management DSM
  - Proposing new programs
- Combined Heat and Power (CHP)
  - PUC application filed
- Hydro
  - Rehabilitation of Puueo Hydro facility



# Recent HECO-HELCO-MECO Activities in Support of RPS (continued)

- Renewable Hawaii Inc. (RHI)
  - Released Renewable Energy Request for Project Proposals for HECO, HELCO, and MECO
  - Proposals for wind, municipal solid waste, and landfill gas are currently being evaluated
- Renewable Research and Development
  - Electronic Shock Absorber
  - Hawaii Fuel Cell Test Facility
  - Biofuels Assessment Program
  - EPRI Offshore Wave Energy Study



Hawaii Fuel Cell Test Facility



# Overview of the Oahu Generation System

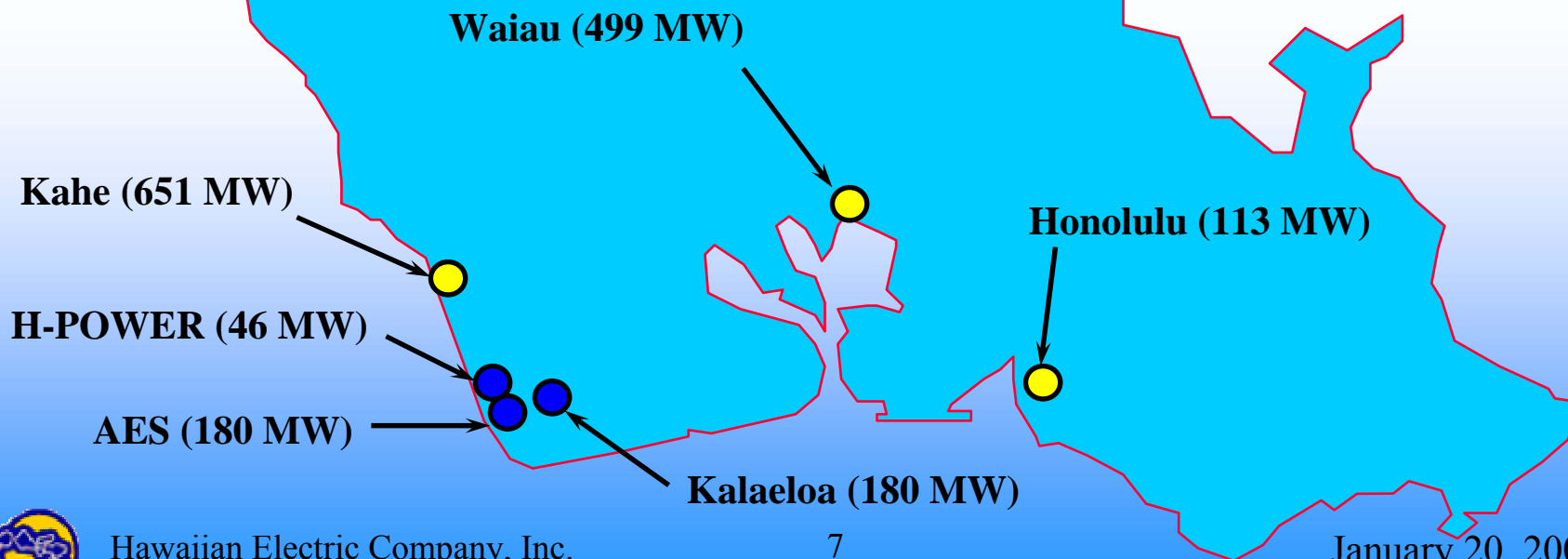
● HECO

● IPP

**TOTAL = 1,669 MW-gross**

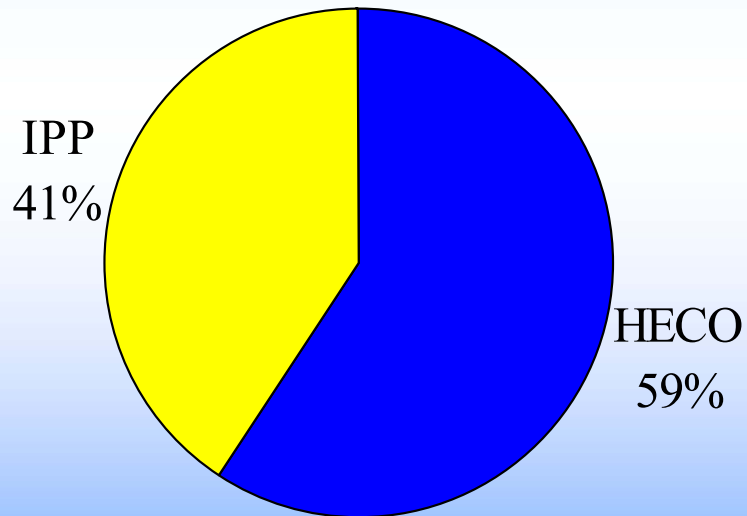
**Recorded Peak = 1,327 MW-gross  
(Oct. 12, 2004)**

**2004 Reserve Margin ~ 24%**

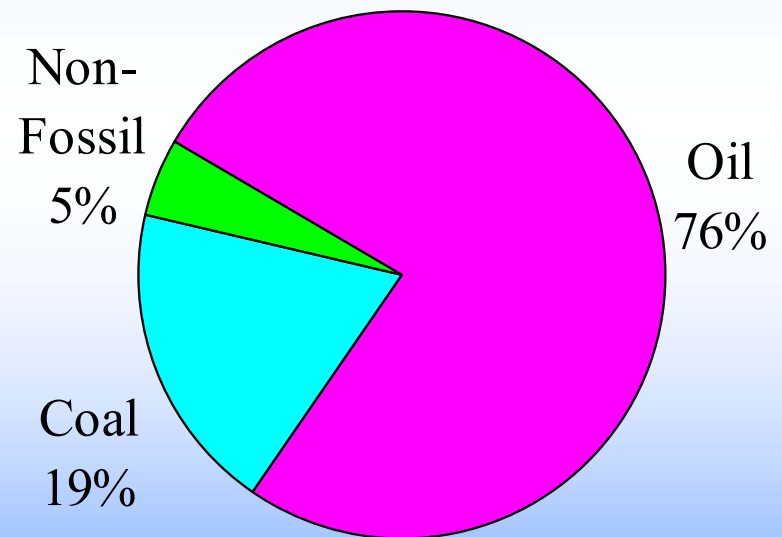


# Oahu Energy Contributions

2003 Net Generation  
(HECO vs IPP)

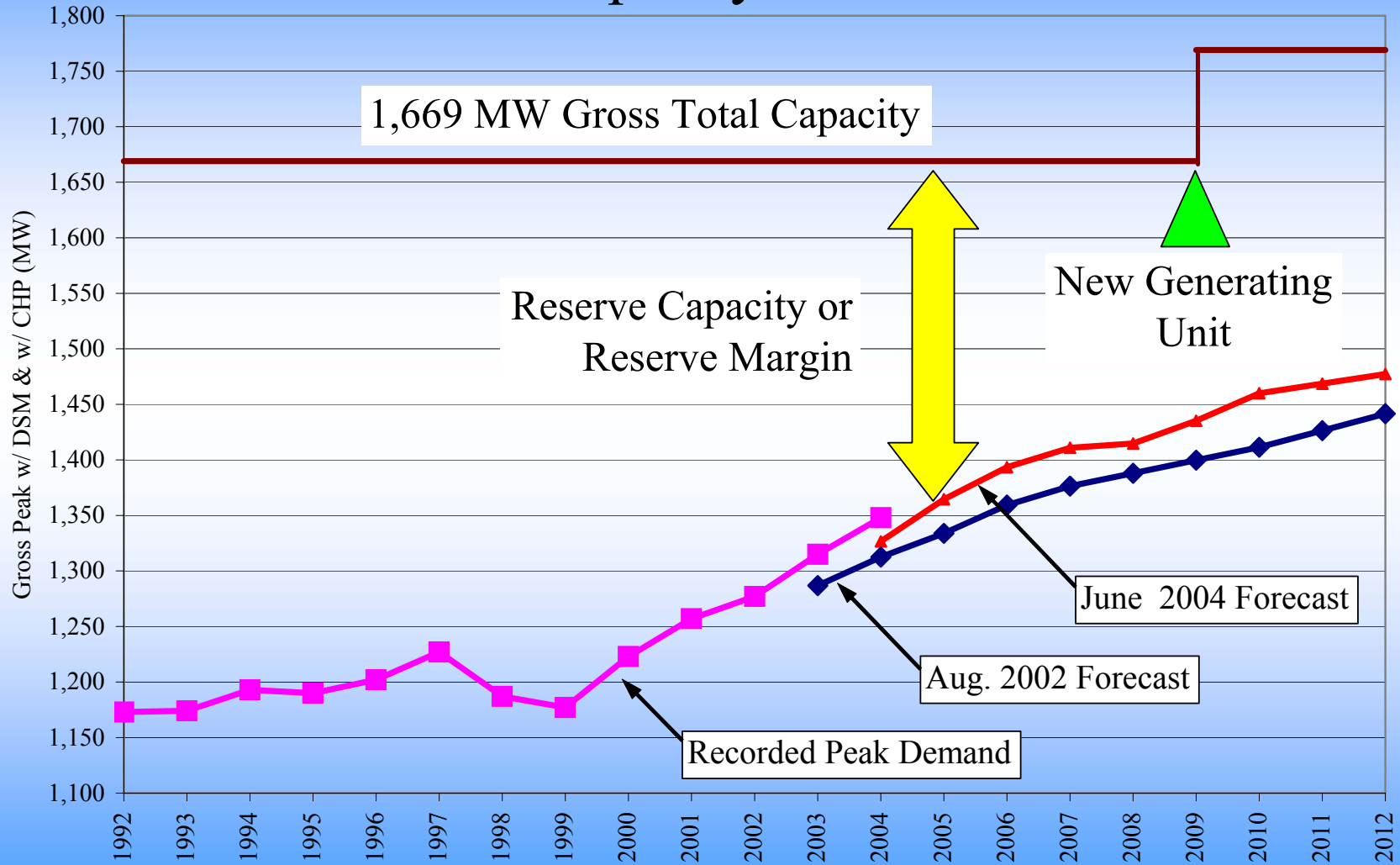


2003 Net Generation  
(Oil vs Non-oil Generation)





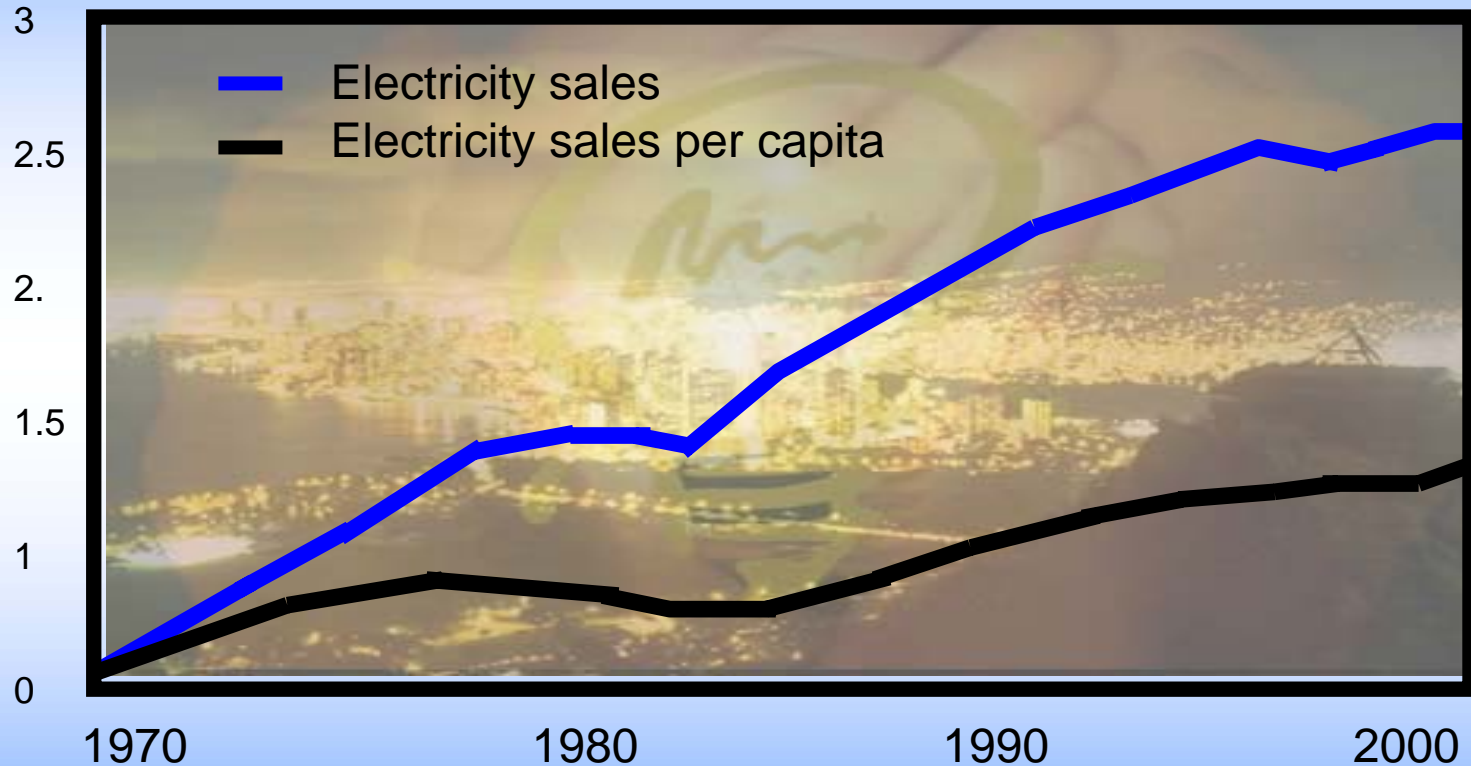
# Oahu Reserve Capacity is Shrinking with Record Demand. New Capacity is Needed



June 2004 vs Aug 2002 gross.xls



# Growth in electricity use



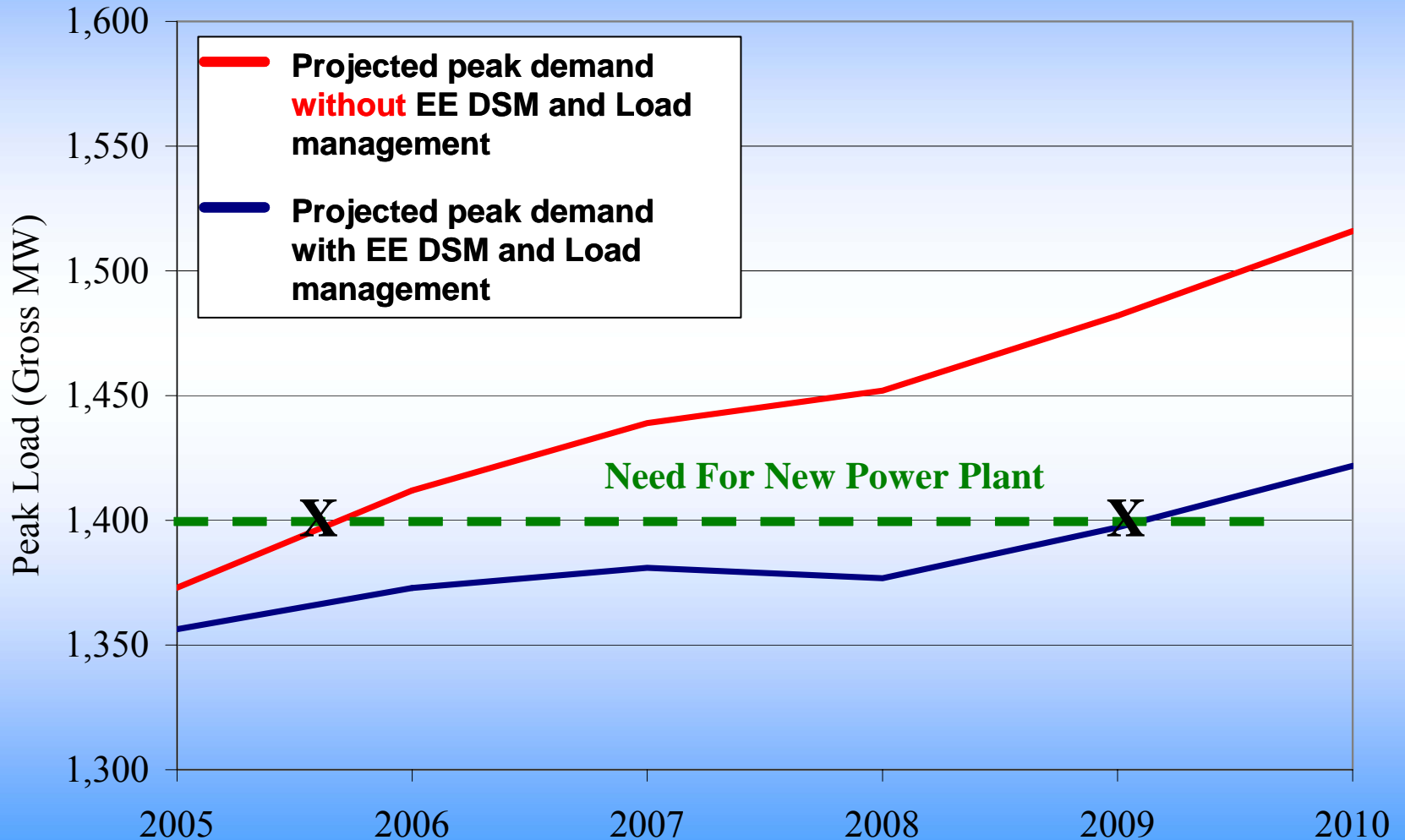
Key Energy and Economic Indicators in Hawaii, 1970-2001

*Energy Resources Coordinator Annual Report, 2002*

State Department of Business, Economic Development & Tourism



# Next Generating Unit: 2009



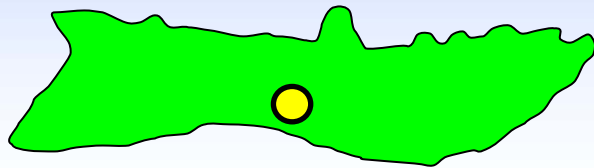
# HECO Energy Plans

- Expansion of energy efficiency DSM
- Implement load management DSM programs
- Combined Heat and Power units at customer sites
- Investigate potential for windfarm at Kahe
- New peaking unit at Campbell Industrial Park
- Additional power from existing Independent Power Producers



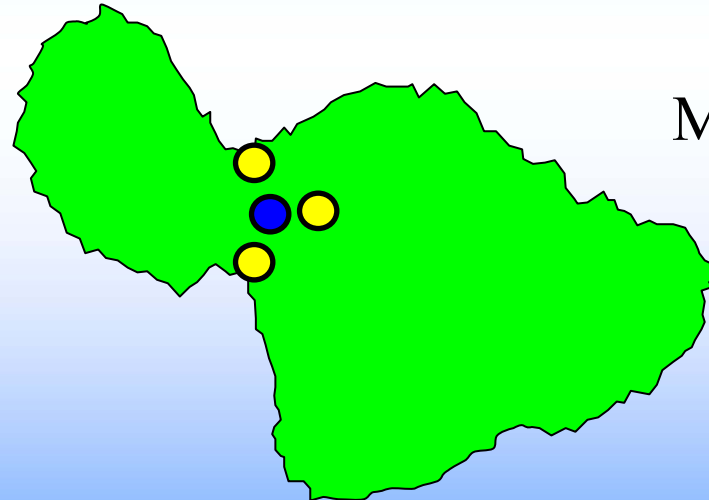
# Maui Electric Company, Limited

Peak = 6.6 MW-gross  
Capacity = 12.0 MW-net  
Reserve Margin = 82%



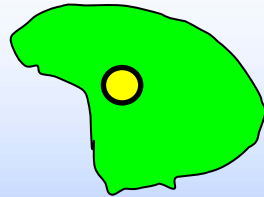
Molokai

Peak = 198 MW-net  
Cap. = 245 MW-net  
Reserve Margin = 24%  
Load Growth  $\approx$  3% or 6 MW per year



Maui

Lanai



Peak = 5.1 MW-gross  
Capacity = 10.4 MW-gross  
Reserve Margin = 105%

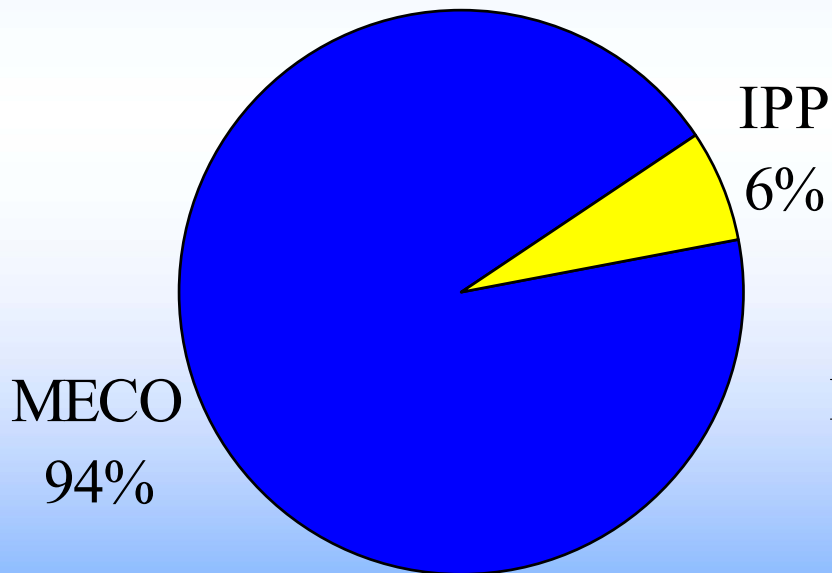
● MECO

● IPP

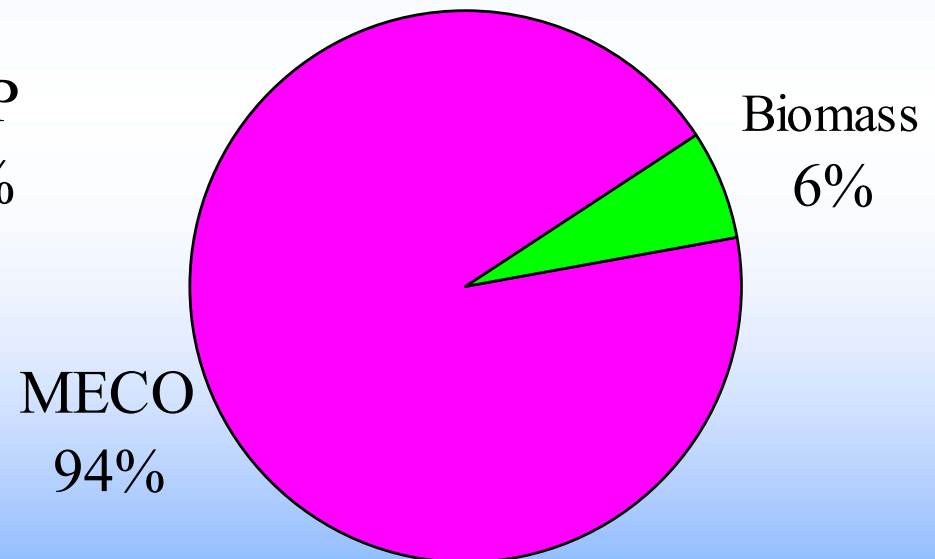


# Maui Energy Contributions

2003 Net Generation  
(MECO vs IPP)



2003 Net Generation  
(Oil vs Non-Oil)

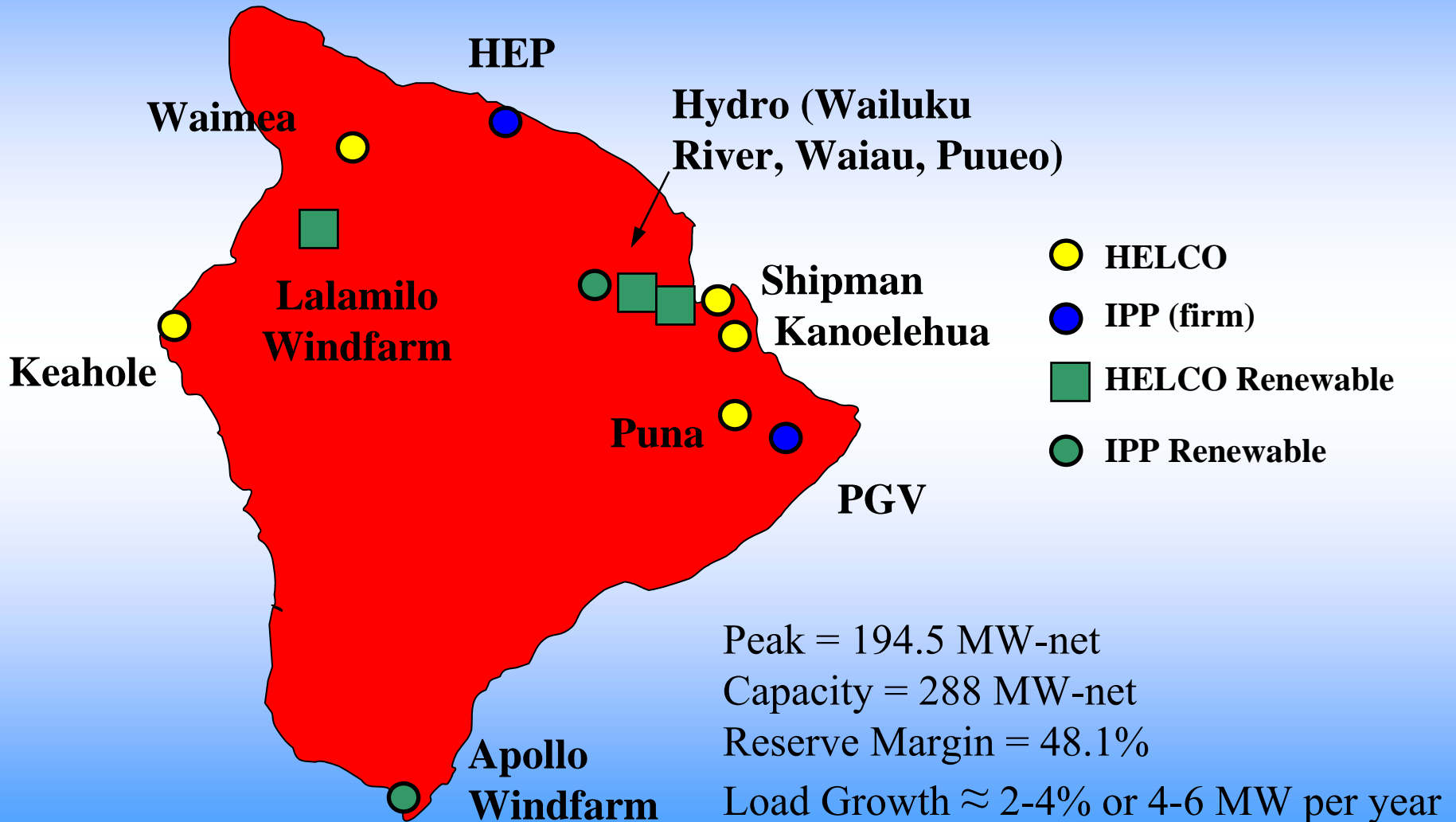


# MECO Energy Plans

- Continuation (and possible expansion) of energy efficiency DSM
- Planned load management DSM programs on Maui
- 30 MW windfarm at Kaheawa in 2005
- Completion of efficient combined cycle (Maalaea Unit 18) on Maui in 2006
- Planned Combined Heat and Power units at Manele Bay on Lanai in 2006
- Energy center at Waena on Maui (including 20 MW combustion turbine) in 2011



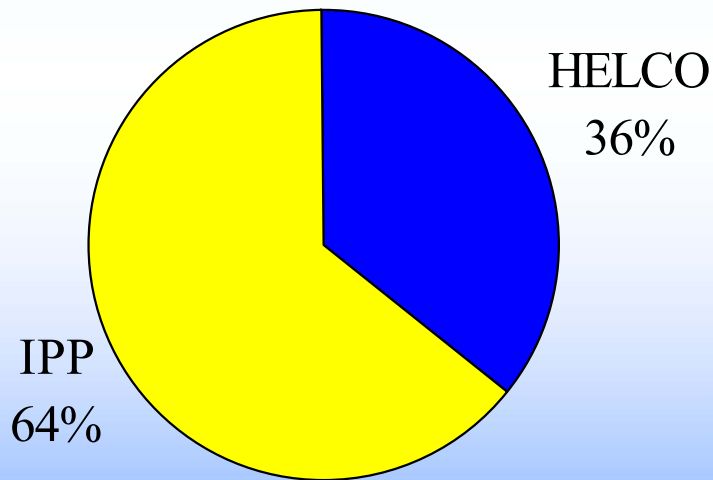
# Hawaii Electric Light Company, Inc.



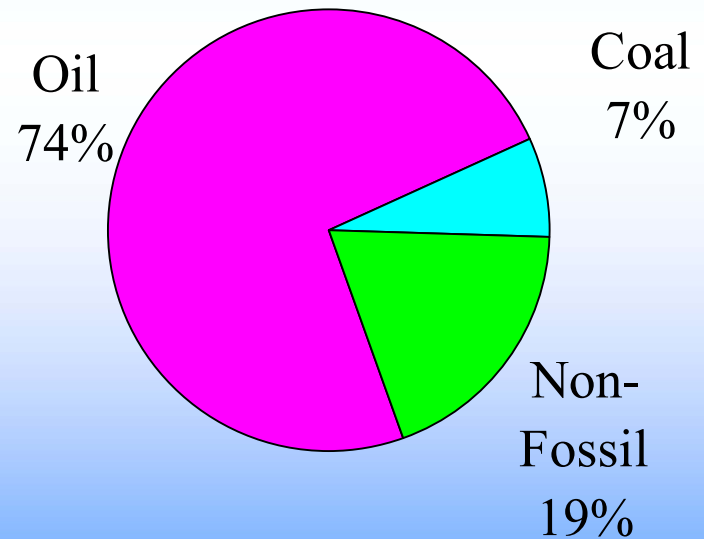


# Big Island Energy Contributions

2003 Net Generation  
(HELCO vs IPP)



2003 Net Generation  
(Oil vs Non-oil Generation)



# Big Island Energy Plans

- Continuation (and possible expansion) of energy efficiency DSM
- Proposed Combined Heat and Power unit at Sheraton Keahou in 2005
- 10.5 MW HRD windfarm at Hawi in 2005
- 20.5 MW Apollo windfarm at South Point in 2005
- Completion of efficient combined cycle (Keahole ST-7) in 2009



# Conclusions

- We need continued support of all of our energy solutions
  - Demand-Side Management
  - Load Management
  - Combined Heat and Power
  - Renewable Energy Generation
  - New Conventional Generating Capacity
- We will continue to face challenges as isolated island grids without interconnections



# Thank You

