

Making Your City Clean and Green

New Cities Project Meeting

Las Vegas

June 2, 2006

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Sacramento Municipal Utility District (SMUD)



Agenda

- SMUD Info
- Work with local governments
- What others are doing
- What you can do



SMUD Profile

- Electric utility with a 900 square mile service territory
- Governed by seven-member Board of Directors elected by voters
- Revenues: \$1 Billion
- 2,000+ employees
- Serve 6 cities and the County of Sacramento



LEEDERS Project

Leadership in Energy Efficiency, Demand and Environmental Resource Solutions

- SMUD executives asked staff to look at ways to enhance our leadership position in the areas of energy efficiency, load management and demand response, customer renewables and environmental stewardship.



LEEDERS Core Mission

To propose a new long-term strategy for the aggressive integration of demand-side (energy efficiency, load management/demand response, renewables, and customer-generation) opportunities in district resource investment and operations

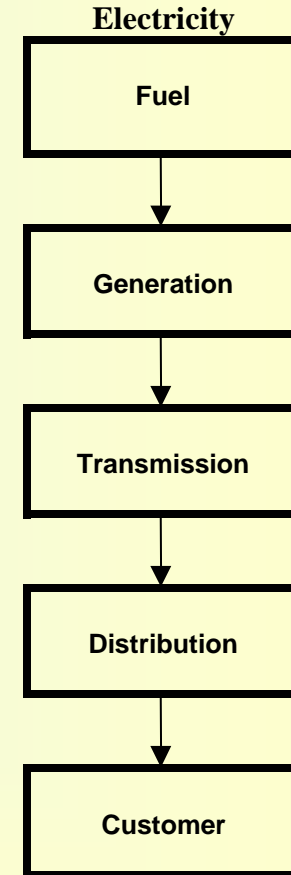
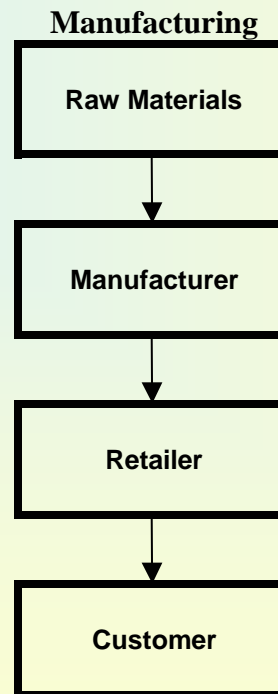
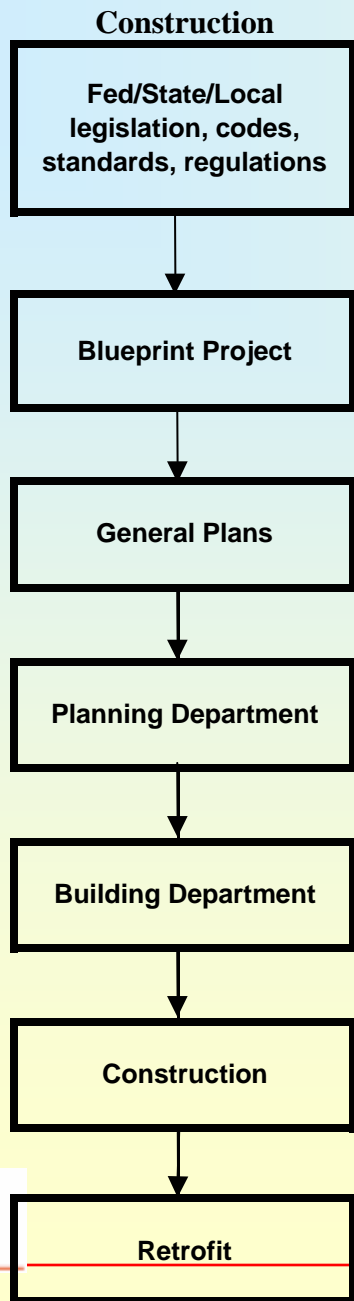


First LEEDERS Recommendation

- Assign a full-time person to work with the County and the Cities in our service territory to promote energy efficiency, renewables and environmental stewardship through General Plans, Development Agreements and other avenues.



Opportunities to impact efficiency

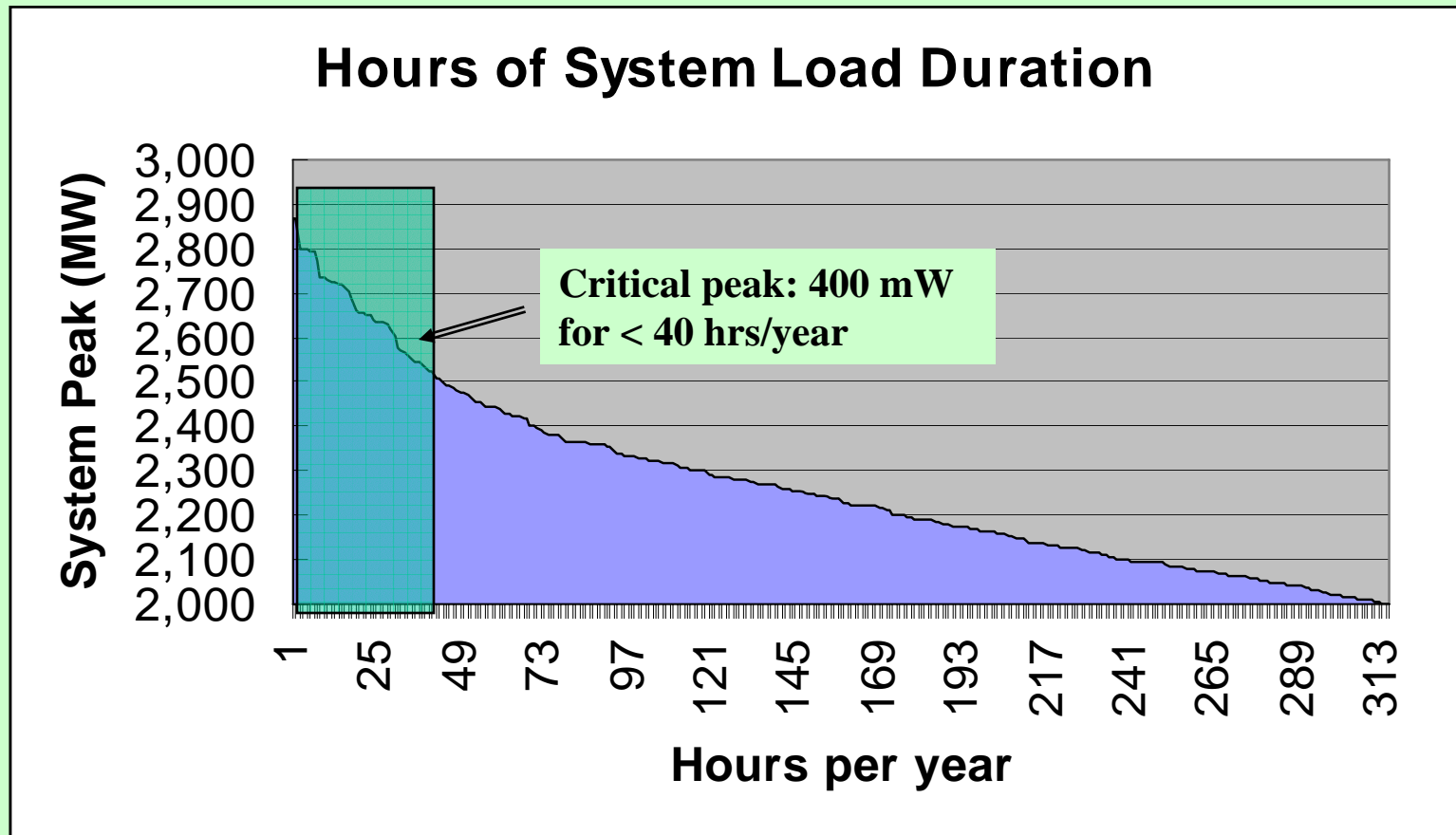


Growing Interest in Renewables and Energy Efficiency

- Impact of higher energy prices
- Impact of houses on environment
 - American residences responsible for 21% of U.S. greenhouse gas emissions in 2003 (US DOE)
- Impact on health
 - NO_x, carbon dioxide, toxic building materials
 - Power plant emissions



Load Duration Curve



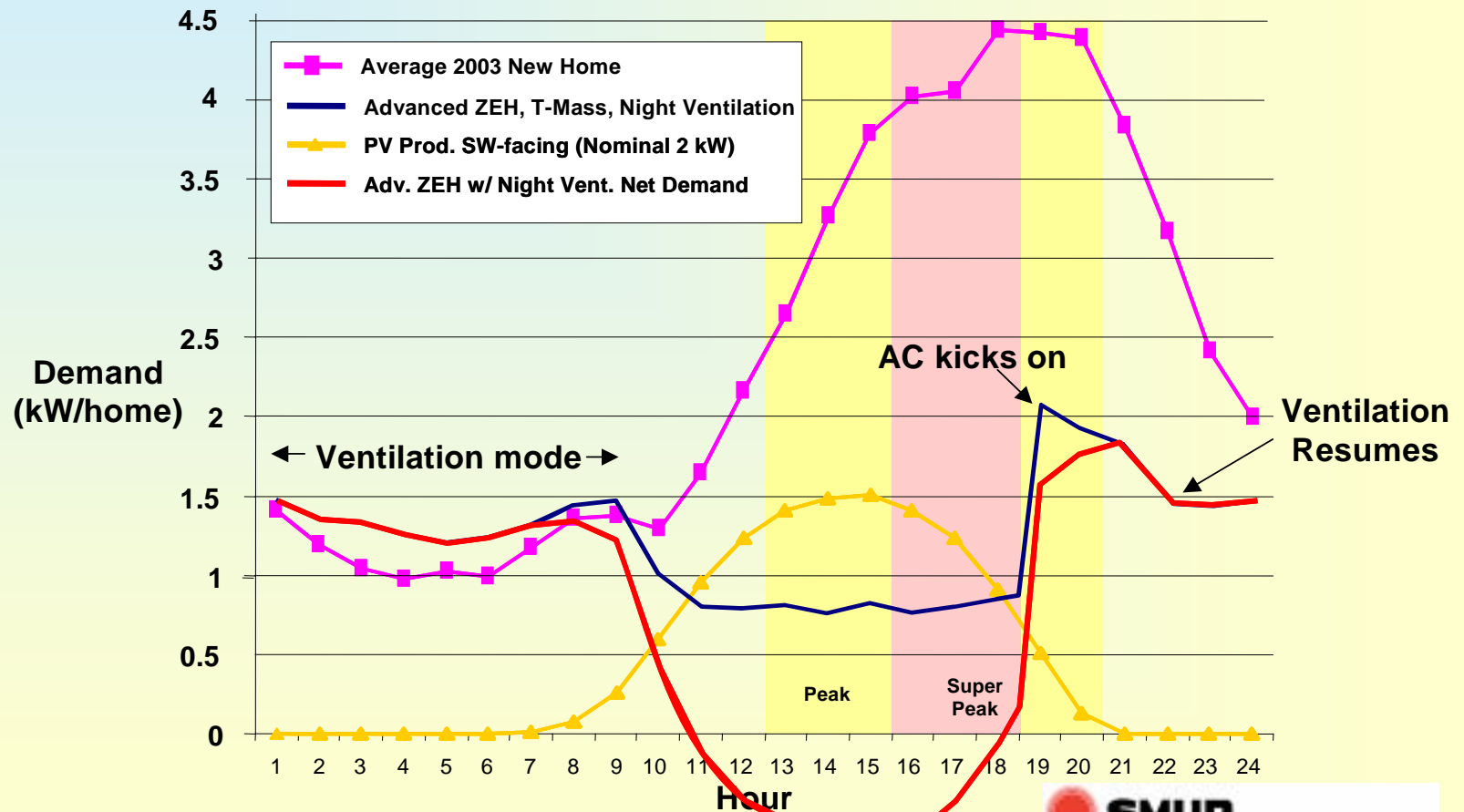
Renewable Energy Sources

- RENEWABLE ENERGY
 - Electricity generated using a non-fossil, non-carbon based fuel, e.g.,
 - Wind
 - Photovoltaic (solar)
 - Biomass (landfill, straw, dairy gas, “Leftovers to Lights”)
 - Small hydroelectric (< 30 MW)
 - Ocean wave / tidal current
 - Geothermal
 - Above qualify as “eligible renewable energy resources” to meet renewable portfolio standards in California



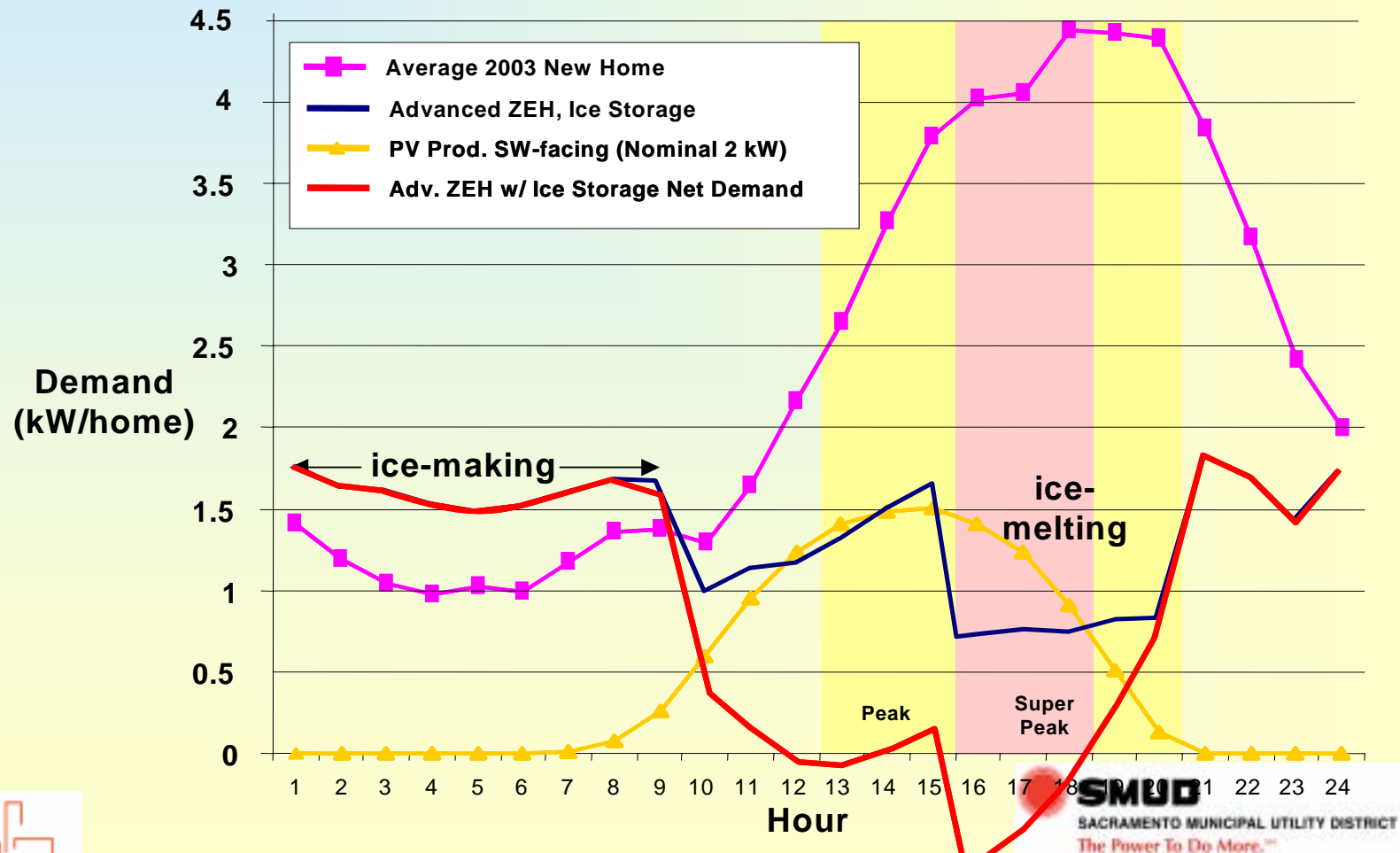
Zero-Peak Home Example

Average Summer Day - Residential New Construction



Zero-Peak Home Example2

Average Summer Day - Residential New Construction



What Others are Doing

- Sacramento
 - Energy Freedom Challenge – race to be the first to achieve 50% energy use through renewables.
 - Signed on to UN Urban Environmental Accords.
 - 10% of peak through renewables and other elements
 - Signed U.S. Climate Protection Agreement
 - Staff assigned to create and implement Sustainability Agenda



What Others are Doing

- Chicago
 - Planting 30,000 new trees annually
 - Provides developers faster permits if they construct green buildings
 - Set goal of 20% of city's electricity to come from clean and renewable sources
 - Largest green roof in the world
 - Millennium Park, over parking garage & RR tracks



What Others are Doing

- Palm Desert
 - Adopted Target: 30% less energy use citywide in 5 years
 - Creating an Office of Energy Management
 - New large residential projects may require
 - solar-powered pool pumps
 - above-code (Title 24) energy efficiency



What Others are Doing

- City of Roseville
 - Blueprint for Energy Efficiency and Solar Technology (“BEST”) Home Program (\$4/W incentive up to 50% of system cost)
 - Goal: 4,000 solar homes in 10 yrs
 - 8 MW of (PV) solar power
 - May require 10% solar rooftops in new residential developments
 - BEST Home features:
 - 1-2 kW solar rooftop, Energy Star appliances, high SEER air conditioning (2 points above code, minimum EER of 12), improved insulation.



What Others are Doing

- Alameda County
 - Green Building Guidelines
 - For multi-family and single-family new construction
 - Rating system / checklist for permit process
 - “Green Home” if earn 50+ points across 3 categories
 - Indoor Air Quality
 - Energy Efficiency
 - Resource Efficiency



What Others are Doing

- City of Pleasanton
 - Adopted a Green Building Ordinance (2002)
 - Civic & commercial projects 20,000+ sq.ft. must incorporate LEED measures
 - Amending code to include single-/multi-family residential development (50+ green points)
 - Expedited review of rooftop solar applications



Wide Range of Permit Fees and Review Period

- Standard 3kW solar rooftop unit
- Application Fee (7 jurisdictions in Sacramento County)
 - Flat vs. value-based
 - \$192 to \$823
 - 428% difference in adjacent cities!
- Review period
 - 1-day over-counter to 20 days
 - 1900% difference!



Energy in General Plans

- Housing Element
 - Energy-efficient design as a goal
 - Require improvements to meet minimum EE standards upon sale/change of lease of residential property
 - Offer incentives (e.g., density bonus, **expedited process**, fee reduction/waiver) for projects that exceed state's energy efficiency standards



Energy in General Plans

- Housing Element
 - Recognize long-term economic and environmental benefits of EE, as weighed against any increased initial costs of EE measures.
 - Increase accountability of landlords to make improvements to meet minimum EE standards upon sale or change of lease.
 - Sponsor a program to promote use of energy efficiency mortgages.



Energy in General Plans

- Natural Resources Element
 - Establish guidelines to require planting of trees to reduce “heat island” effects, to reduce air conditioning and conserve energy.
 - As a condition of approval, require that a Community Plan, Specific Plan, or development project include a finding that all feasible and cost-effective options for EE and use of renewable energy have been incorporated.



What You Can Do

- Incorporate energy efficiency and renewable goals in General Plan, Specific Plans, Developer Agreements
- Require applicant to identify energy efficiency/renewable opportunities
- Offer incentives (expedited permit, fee reduction/waiver, density bonus) to projects that exceed state standards
- Adopt Green Building Guidelines or Ordinance



What You Can Do

- Promote Solar Rooftops
- Standardize application packet
- Streamline permit review
 - One-day over-the-counter
- Flat fee (< \$195) for solar rooftop permit
- Offer training workshop for plan checkers
- Place solar permit information on website



What You Can Do – Lead by Example

- Require LEED certification on all city-owned new construction (Leadership in Energy and Environmental Design).
- Establish recycling targets.
- Establish procurement policies that favor efficient products.
- Establish a renewable energy target.
- Establish an efficiency target.
- Establish environmental policies that include reductions in chemical use, friendly landscaping techniques and practices, friendly cleaning products, etc.



Build a Sustainable Future

Sustainability is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Let's make our cities Clean and Green!



NBC Today Show

May 26, 2006

National

