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# Energy Policy Research

## An Update for Cities

CA League of Cities San Diego Division

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Energy Policy Initiatives Center



# Presentation Overview

- About EPIC
- EPIC Project Review
  - Smart Grid
  - Renewable Energy Certificates (RECs)
  - Solar Laws
- Policy Update

# About EPIC

- Academic and Research Center
  - University of San Diego School of Law
- Funded with settlement monies from a lawsuit against Duke Energy
- EPIC Mission
  - Educate the public and public officials concerning energy issues and policies;
  - Educate law school students about energy law and policy;
  - Conduct research and analysis on energy trends, policy options and their implications; and,
  - Encourage the use and development of less costly and more environmentally-friendly energy resources.

# About EPIC

- Research and Analysis
  - Smart Grid
  - Renewable Energy Certificates (RECs)
  - Solar Laws
  - Energy Legislation
  - Energy Regulation
- Academic Program
  - Energy Law and Policy Course
    - Fall 2006
  - Energy Law and Policy Clinic (in development)
    - Work with energy agencies to conduct legal and policy research

# Research and Analysis

- Smart Grid Study
  - Topic: Assess feasibility of intelligent grid in San Diego region
  - Completion Date: July 31, 2006
  - Study components:
    - Overview of Smart Grid Vision (2025)
    - Smart Grid Scenario Development
    - Cost/Benefit Analysis
    - Pathways to a Smart Grid in San Diego
    - Recommended RD&D and Policy Changes

# Research and Analysis

- What is a Smart Grid?
  - The Internet of the power grid
  - From the wind farm to your dishwasher:
    - Advanced transmission technology
    - Advanced controls, sensors, measurement
    - Advanced communications
    - Smart meters
    - Smart appliances

# Research and Analysis

- What is a Smart Grid?
  - Characteristics of a Smart Grid
    - Self Healing
    - Empowers and incorporates the consumer
    - Tolerated security attacks
    - 21<sup>st</sup> Century power quality
    - Accommodates a wide variety of generators
    - Fully enables electric markets
    - Optimizes asset utilization
    - Minimized O&M

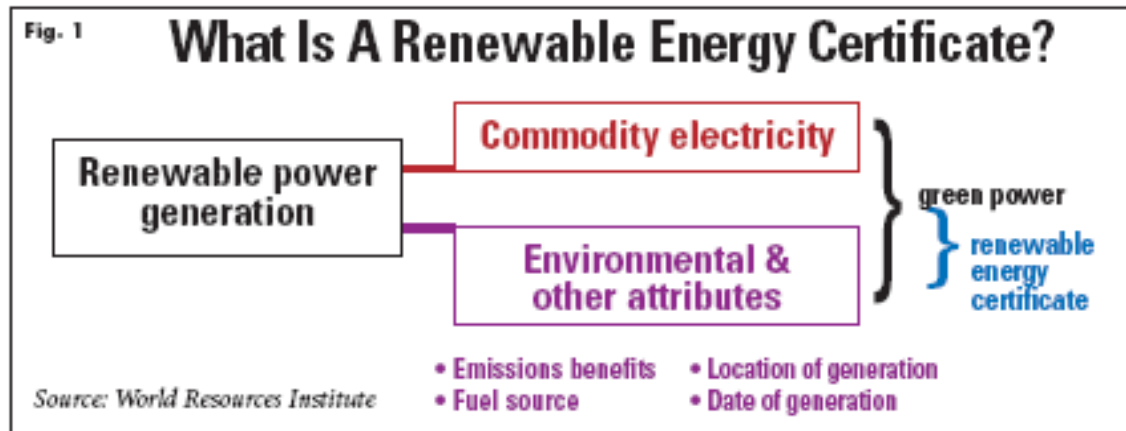
Source: U.S. DOE Modern Grid Initiative

# Research and Analysis

- Why Consider a Smart Grid?
    - Could support regional policy goals
      - Regional Energy Strategy 2030
    - Could integrate policy goals
      - CA Loading Order
        - Efficiency/Demand Response
        - Renewables & distributed generation
        - Generation
        - Transmission
  - Technology advances might demand it
- } How do we maximize these?

# Research and Analysis

- Renewable Energy Certificates (RECs)
  - What is a REC?
    - Right to claim the environmental attributes of renewable energy.



# Research and Analysis

- Renewable Energy Certificates (RECs)
  - Why do we have RECs?
    - Compliance tool for Renewable Portfolio Standard
    - Flexible mechanism to transfer rights to environmental attributes
    - Additional financial incentive for renewable development
  - Who owns a distributed REC?
    - Complicating factors
      - Subsidies
      - Pre-existing contracts for renewable energy
    - Generator owner or utility (ratepayers)

# Research and Analysis

- Argument for IOU ownership
  - Ratepayers provided subsidy
    - Direct financial subsidy
      - Self-Generation Incentive Program
      - Emerging Renewable Program
      - CA Solar Initiative (coming soon...)
    - Net metering subsidy
      - Retail credit in case of photovoltaics
  - IOU responsible for RPS goals
  - If IOUs don't get REC will have double paid
    - Paid for distributed generation
    - Paid for bulk renewable energy

# Research and Analysis

- Arguments against Utility Ownership
  - Owner paid for most of system
  - Subsidy may provide benefits other than REC, therefore not double paying for entire amount
    - Market Development
    - Economic Development
  - DG could reduce RPS requirement
  - Subsidies will eventually be phased out and RECs can continue to provide financial incentives

# Research and Analysis

- Solar Laws – Analysis for Consumers
  - Solar Shade Control Act
    - Provides limited protections to owners of solar collectors against
      - Shade from certain neighboring trees and shrubs
    - Municipalities can exempt themselves by passing an ordinance (CA Res. Code §25985)
      - *Zipperer v. County of Santa Clara*
        - 133 Cal. App. 4<sup>th</sup> 1013 (2005)
        - County of Santa Clara passed an ordinance after trees on County park land shaded a neighboring solar collector
        - Court ruled in favor of County

# Research and Analysis

- Solar Laws – Analysis for Consumers
  - Solar Rights Act
    - Provides limited protections against codes, covenants, and restrictions that prohibit installation of solar collectors (CA Civ. Code §714)
    - Requires municipalities to
      - Demonstrate compliance when applying for state-sponsored incentives for solar. (CA Civ. Code § 714 (h)(1))
      - Design subdivision tentative maps to provide for future solar access to the extent feasible.

# Research and Analysis

- Solar Laws – Analysis for Consumers
  - Solar Rights Act
    - Allows municipalities to require by ordinance the dedication or solar easements (access) as a condition for tentative map approval. (CA Gov. Code 66473.1, 66473.3)
    - Prohibits cities and counties from adopting ordinances that would prohibit or unreasonably restrict use of solar energy systems, except to preserve public health and safety. (CA Gov. Code §65850.5, CA Health & Safety Code §17959.1)

# Regional Energy Summit

- Date: October 25, 2006
- Location: Joan Kroc IPJ (USD)
- Focus: Implications of a Smart Grid in San Diego Region
  - EPIC Smart Grid Report
  - Policy and regulatory issues related to Smart Grid
  - Technological advances in the Smart Grid
  - Regional planning considerations

# Energy Policy Update

- Activity at the CPUC
  - Sunrise Power Link
    - SDG&E to file its amended application (7-31-06)
  - SDG&E Long Term Resource Plan
    - Roadmap for SDG&E's energy procurement
    - SDG&E to file Plan ~ July 2006
  - CA Solar Initiative
    - Phase II: REC discussion is interesting!
  - Climate Change Regulations
    - Cap and Trade

# Energy Policy Update

## ■ Activity in the Legislature

- SB 1059 (Escutia) Transmission Corridors
- AB 32 (Pavley) CA Global Warming Solutions Act
- SB 1368 (Perata) Greenhouse-gas Emissions
- AB 2778 (Lieber) Self-Generation Incentive Program
- SB 1539 (Kehoe) Regional Energy Planning
- SB 1 (Murray) Million Solar Roofs Initiative
- AB 1317 (Torlakson) Tax revenue from Utility Property

# Thank You

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