Tracking and Reporting Indirect Emissions

Better Measurement for Better Management

3rd Annual CCAR Members Meeting

October 7, 2008

Experience you can trust.

Overview

I. Best Practices for Tracking and Reporting Emissions
II. Our Changing Electricity Market
III. Using Your Inventory I: Managing Risks and Identifying Reduction Opportunities
IV. Using Your Inventory II: Turning Energy Savings into $$$

Indirect Emissions Overview

- Scope 1 – Direct Emissions – GHGs emitted directly by your organization.
  - Vehicles, generators, boilers, refrigerant leakage
- Scope 2 – Indirect Emissions – GHGs emitted **by others** because of your actions
  - Purchased electricity, steam, and chilled water
- Scope 3 – All other emissions
  - Supply chain, business travel, employee commuting

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Best Practices for Tracking Data

Small to medium size organizations

Ask your utility to provide a summary of all electricity use

Or

Collect utility bills for 14 months
- Ideally centralized file
- Electronic or Scanned

Best Practices for Tracking Data

Large organizations (multi-state)

- Designate a utility manager
- Establish protocol for tracking utility data
- Track invoices with a database or software
- Maintain scanned copies of invoices
- Routinely check for accuracy

Best Practices for Tracking Data

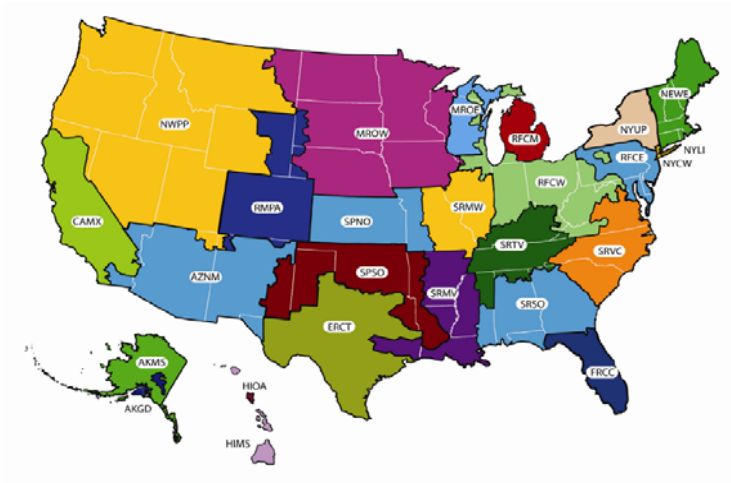
What about shared spaces?

- Estimate based on floor space percentage
- Energy Audit (rare)
- Registry alternative methodology for CA based organizations

Milton from Office Space

Best Practices for Calculating Emissions

- Utility specific emissions metrics
  - CCAR public database covers nearly all electricity providers in CA and NV
- Default emissions factors – eGRID2006
- Stay consistent year to year or document changes in a movement report



Map: U.S. EPA

Special Cases

- Steam
  - Usage
  - Method of production
  - Fuel type
  - Temperature
  - Pressure
- Chilled water
  - Usage
  - Method of production
  - Fuel type

Our Changing Electricity Market

- Utilities under increasing pressure to de-carbonize
  - AB32
  - AB1368
  - WCI, RGGI, EPA(?)
  - Renewable Portfolio Standard
  - IEPR
  - Loading Order

Photo: Wikipedia

What does this mean
for electricity rates?

(Hint: they probably won't go down)

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Using Your Inventory I: Managing Risks and Identifying Reduction Opportunities

Inventorying indirect emissions will allow you to make smart decisions about reducing electricity use

- Identify energy intensive facilities
  - Inefficient HVAC systems, lighting, and control systems
- Identify wasteful procedures / company behavior
  - Data centers running too cold, lights and computers left on

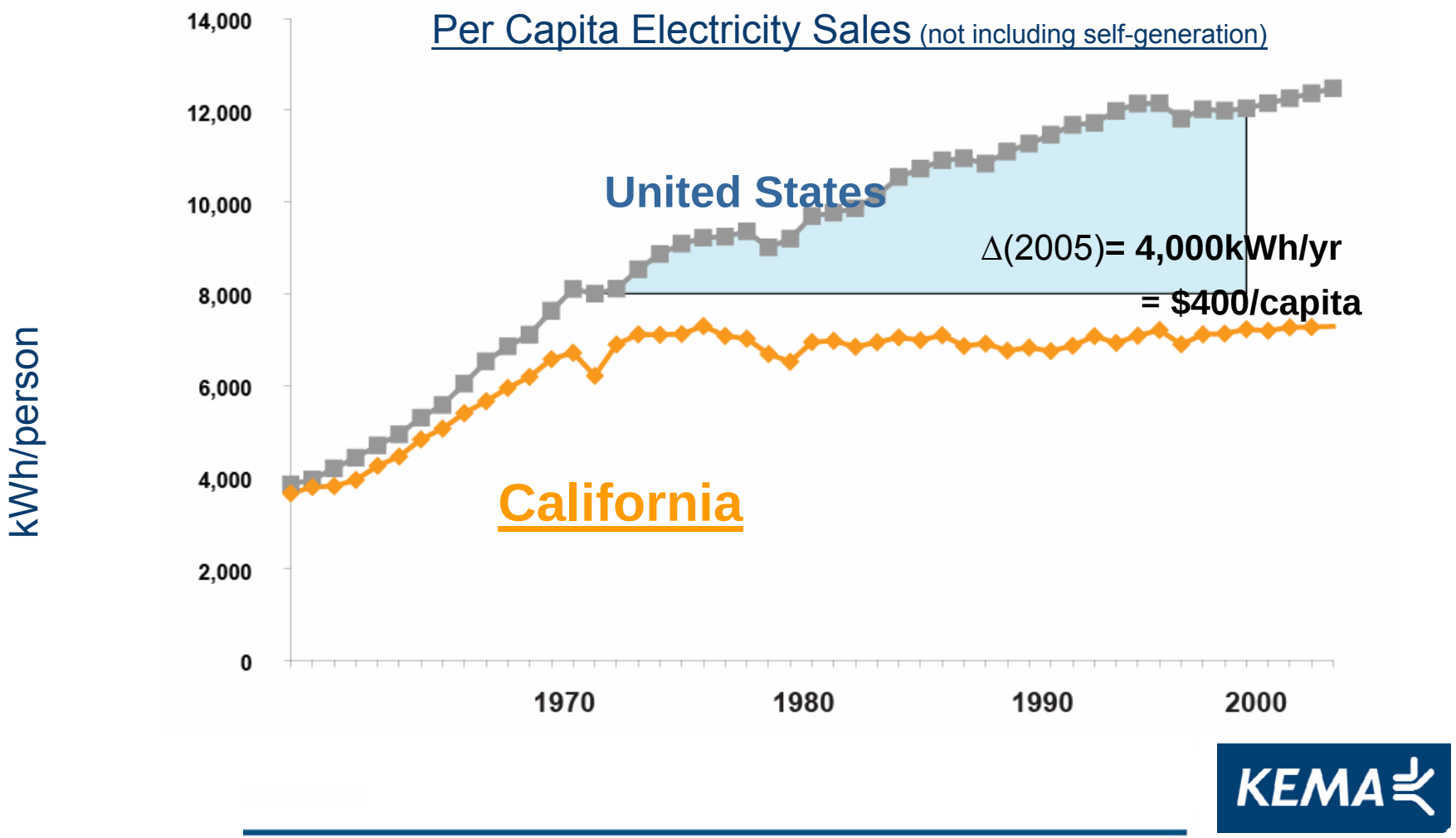
Using Your Inventory I: Managing Risks and Identifying Reduction Opportunities

If carbon is a risk, then reducing your energy footprint is a management strategy

- Planning for reductions
  - Many low cost/no cost options
  - Energy efficiency measures
  - Retro-commissioning
  - Renewable energy systems

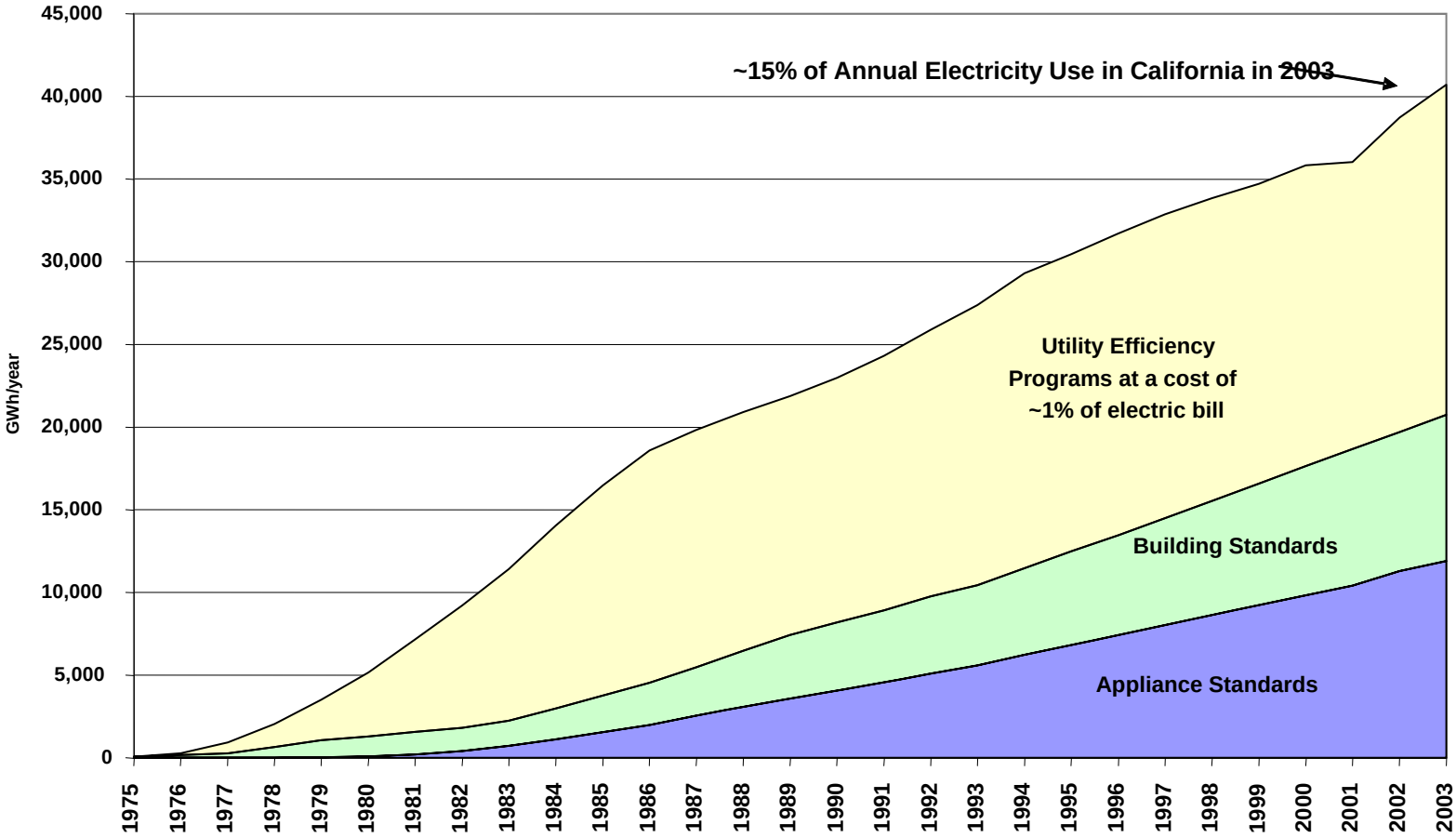
Photo: British Motors. SF Environment

Using Your Inventory II: Turning Energy Savings into $$$



Source: Rosenfeld, California Energy Commission

Annual Energy Savings from Energy Efficiency Programs and Standards



Source: Rosenfeld, California Energy Commission

Types of Energy Efficiency Programs

Rebate – Customer purchases energy efficiency measure at lower cost with the difference paid for by the program

Audit – Inspection of a home or business to identify energy efficiency opportunities

Direct Install – Installation of energy efficiency measures at no cost to the customer

Education – Training for the general public as well as trade allies such as builders or building operators

Performance Contracting – Typically nonresidential programs; provides rebate for equipment and building retrofit per unit of energy saved rather than per measure purchased or installed

Energy Management Services – Typically Nonresidential programs. A combination of audit services, rebates and/or direct install, as well as load management and self-generation

Appliance Turn-In – Takes inefficient appliances out of circulation with free or rebated recycling services

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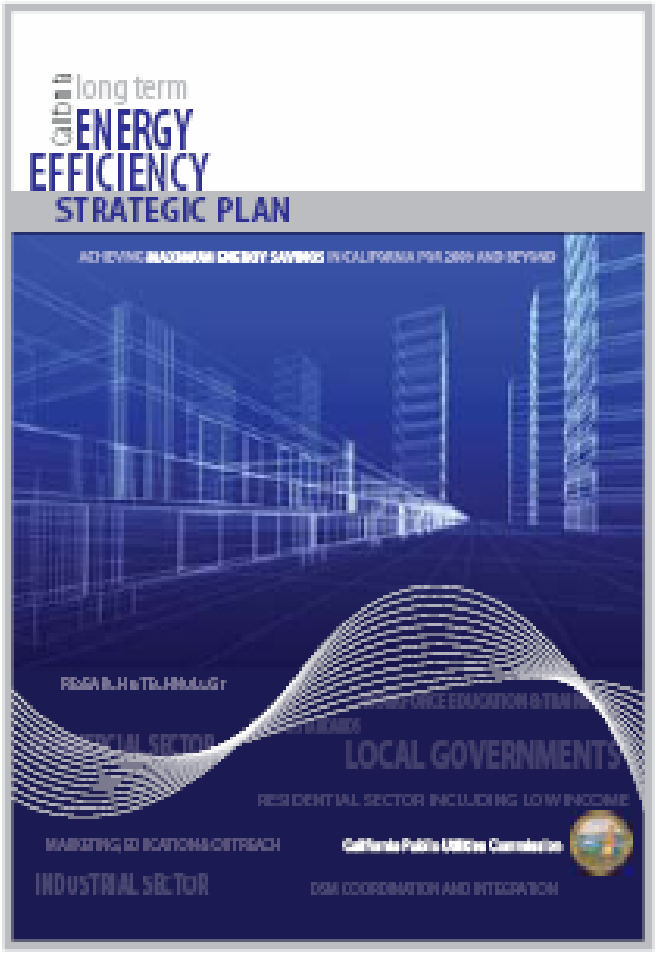
Source: CPUC Energy Division

2006-08 Energy Efficiency Programs (IOUs)

- $2 B program expenditures
- $5 B benefits associated with reduced energy costs
- Eliminates the need to build 3 large power plants
- Reduces global warming pollution by an estimated 3.4 million tons of carbon dioxide by 2008
  - Roughly equivalent to taking about 650,000 cars off the road.

California Energy Efficiency Strategic Plan



Big Bold Initiatives

- Residential Zero Net Energy New Construction by 2020
- Commercial Zero Net Energy New Construction by 2030
- The HVAC industry will be reshaped to deliver maximum efficiency
- Low Income - all eligible homes will be energy efficiency by 2020

www.californiaenergyefficiency.com

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Energy Efficiency and Renewable Energy Program Information

- California Incentives for Renewables and Energy Efficiency: http://dsireusa.org/library/includes/map2.cfm?CurrentPageID=1&State=CA&RE=1&EE=1
- California Energy Commission Web site, Efficiency and Renewable Energy Division: http://www.energy.ca.gov/efficiency/index.html
- California Public Utilities Commission, energy efficiency: http://www.cpuc.ca.gov/PUC/energy/electric/energy+efficiency/

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Key Take Aways

- Good data management practices, including planning and routine QC, will allow for an accurate and verifiable inventory
- A verified inventory allows you to understand your inefficiencies and helps you plan for the future
- Energy efficiency reduces indirect emissions and typically provides significant return on investment
- Energy efficiency and renewable energy programs are available to provide support

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End sheet

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KEMA – GHG inventory, verification, strategy, and reductions