

## Sustainability at EPRI

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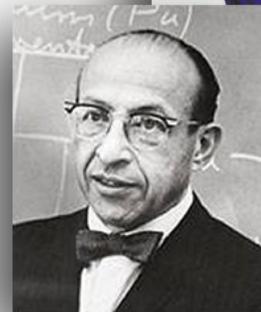
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# Overview

- EPRI's Energy Sustainability Interest Group
- Water Sustainability as a Strategic Issue
- Highlights of Sustainability in the Electric Industry
- Wrap-up

# Our History...

- Founded by and for the electricity industry in 1973
- Independent, nonprofit center for public interest energy and environmental research
- **Collaborative** resource for the electricity sector
- Major offices in Palo Alto, CA; Charlotte, NC; Knoxville, TN
  - Laboratories in Knoxville, Charlotte and Lenox, MA



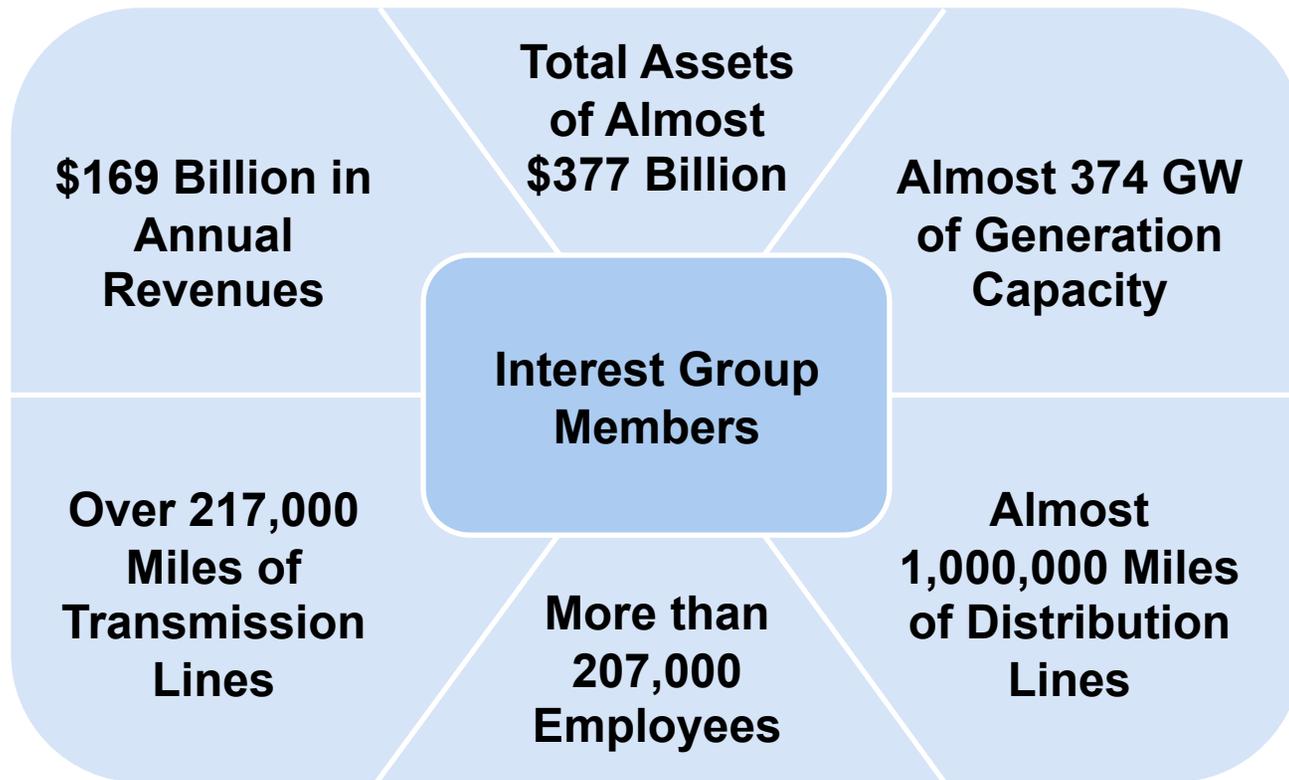
**Chauncey Starr**  
EPRI Founder



# Energy Sustainability Interest Group Members



# Interest Group Reach



# What is Sustainability?

*“Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

*- United Nations, 1987*



# Big Picture



**Water is a shared community resource**

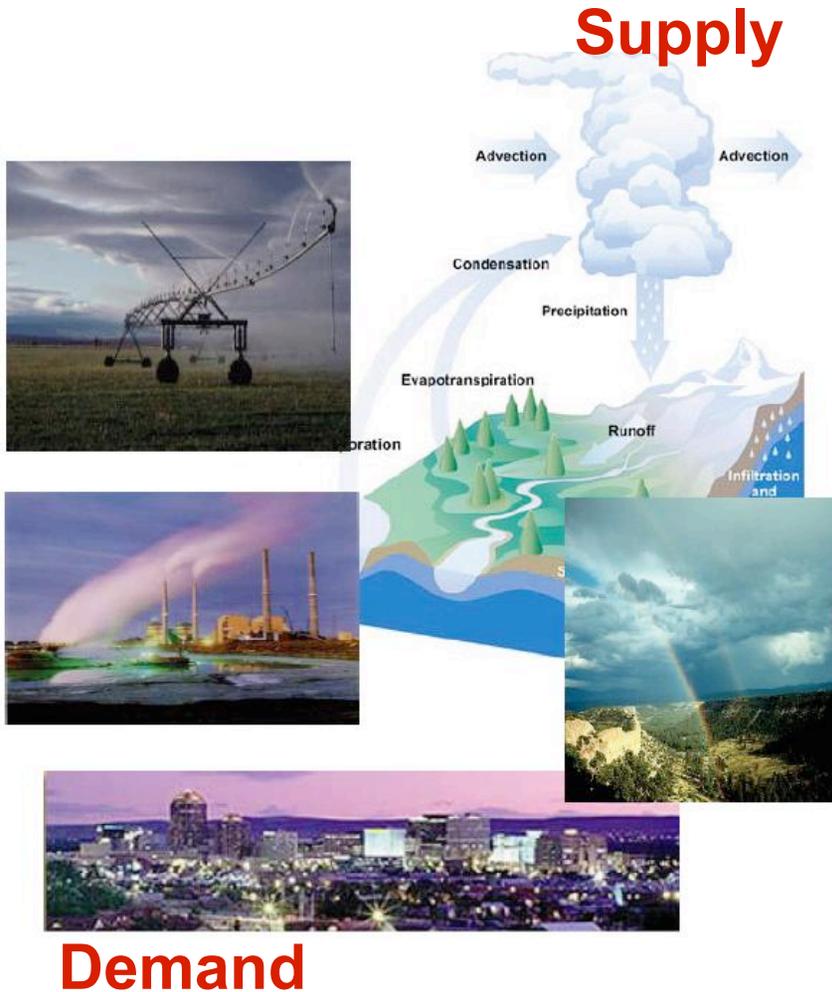
**Water resource management requires broad stakeholder consensus**

**Community social and economic vitality depend on water and electricity availability**

**Demand for both are increasing and inter-related**

**Energy/water sustainability is a real and high priority issue for the U.S.**

# Consequences of Growing Water/Energy Demands



**Pressure to reduce water use**

**More intensive water resource management**

**Greater integration of water and energy planning**

**Emphasis on watershed / regional planning**

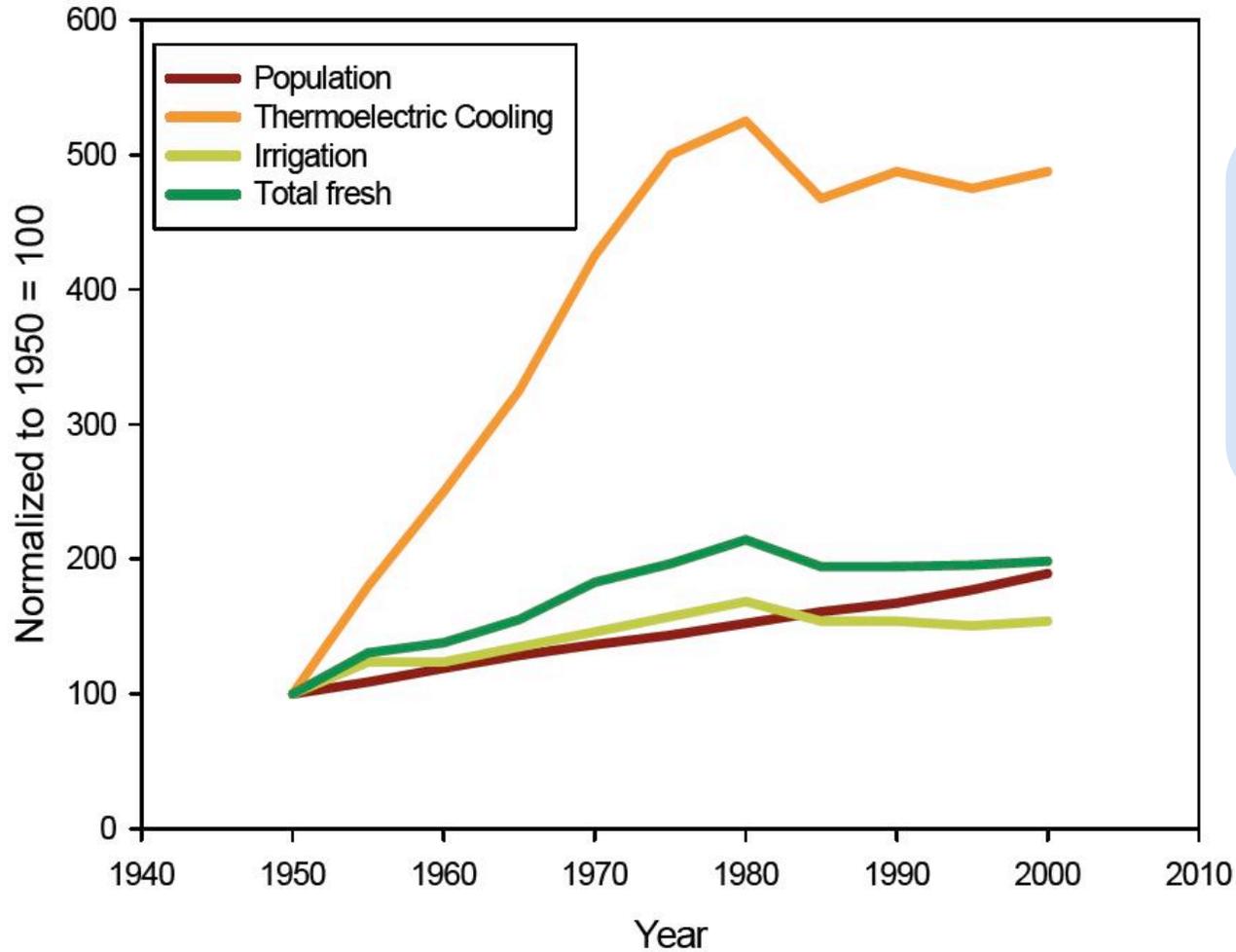
**Demand for new science and technology to support planning and management needs**

# Research Challenge



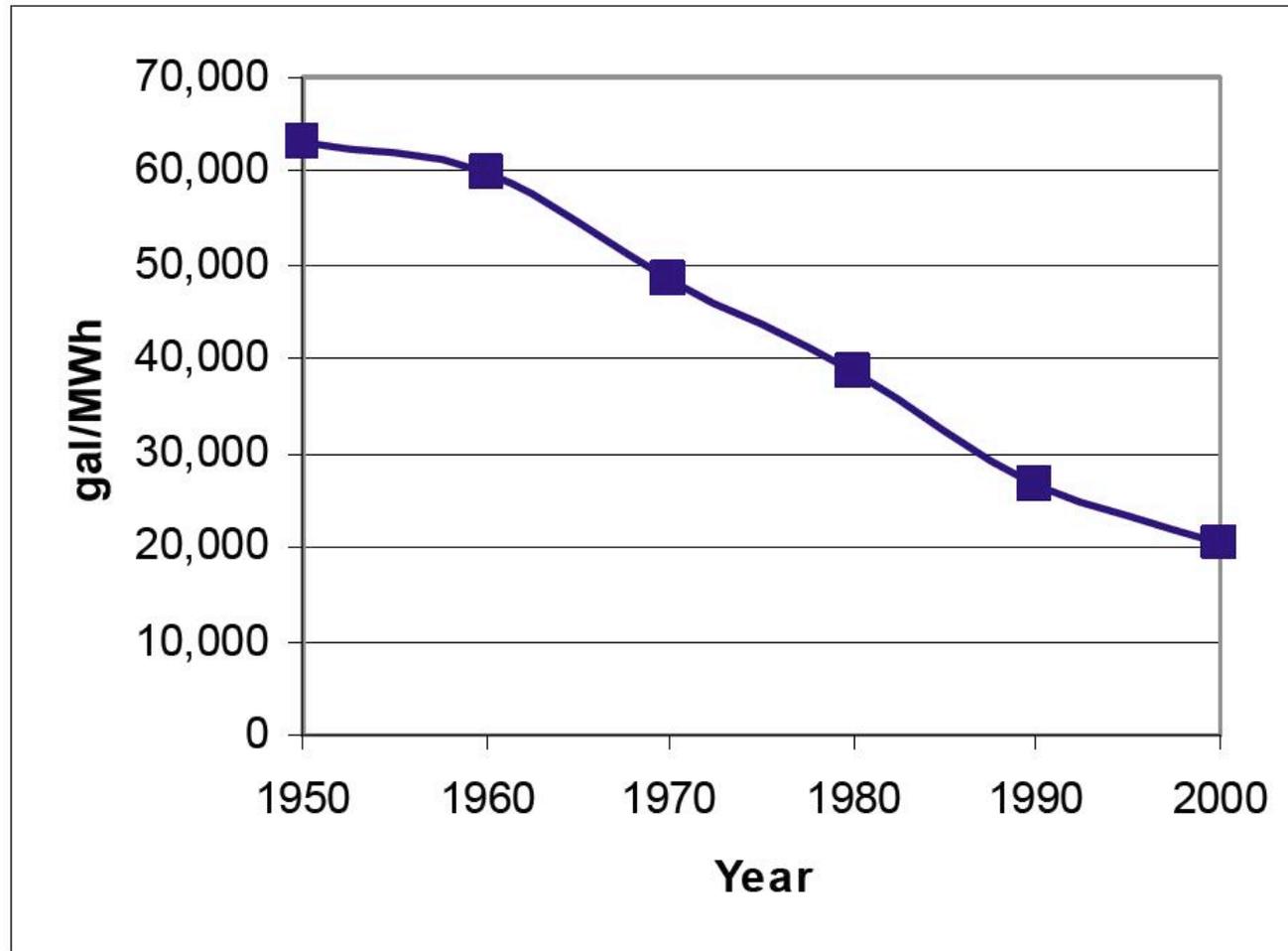
- Technologies exist to increase water use efficiency
- Key challenge
  - Reduce energy cost
  - Reduce dollar cost

# Water Withdrawal Constant Since 1980

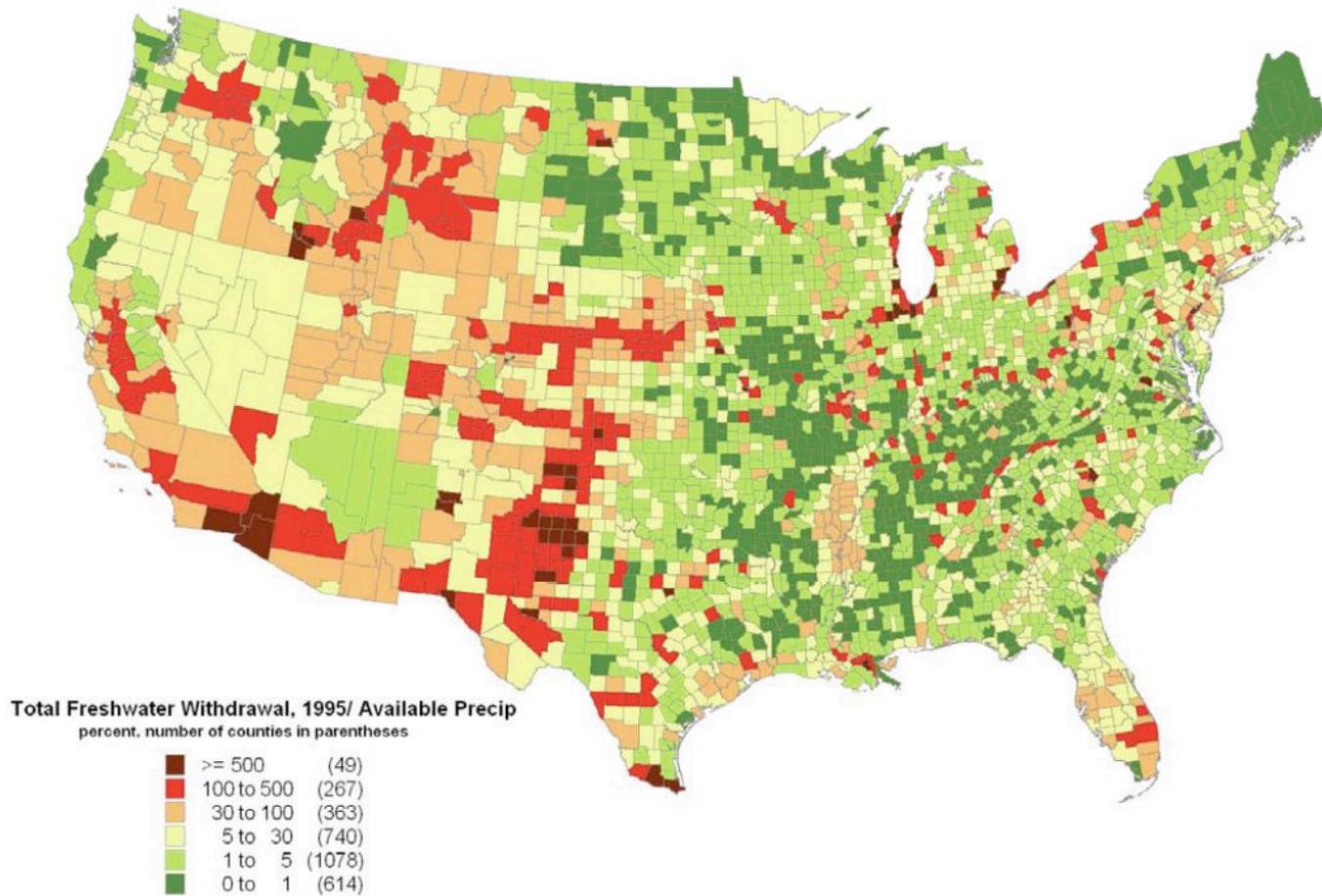


**Electricity generation has increased by a factor of 15 since 1950**

# Trend in U.S. Thermoelectric Power Plant Cooling Water Withdrawal Efficiency, 1950-2000



# Freshwater Withdrawal/Available Precipitation



# Approaches to Reaching Sustainability

## Top Down

**Watershed-based**

**Considers all stakeholder demands**

**Matches aggregate water demands to supply**

**Facility-based**

**Objectives:**  
- Increase water-use efficiency  
- Conservation

## Bottom Up

# Highlights of Sustainability in the Electric Industry



**Formal strategy with long-term stretch goal**



**Driving stakeholder-based strategies**



**Incorporating into existing corporate strategy**



**Integrating Sustainability Planning into Strategic Projects**

# Sustainability Based Strategy



## Definition:

- The responsible and integrated management of the environmental, social and economic aspects of our business over the long term for the benefit of our shareholder, customers and stakeholders

## Reach Goal:

- No net incremental environmental impact by 2024

**Vision & Executive Commitment**

**Integrated Skills, Tools & Performance**

**Relationship Development**

**Maintain Asset Health & Promote Sustainable Technologies**

**Employee Understanding & Investment**

# Strategic Stakeholder Outreach



## Definition:

- A profitable business strategy that enhances opportunities to deliver greater shareholder value by:

**“We felt embracing sustainability was the best way to manage risk on an ongoing basis”**

**Putting People First**

**Respecting & Protecting the Environment**

**Managing Our Impacts and Actions and Holding Ourselves Accountable for them with Transparency and Candor**

**Engaging With Our Various Stakeholders and Listening to All Points of View**

# External Guidance in Strategy



## Definition – Dow Jones Sustainability Index:

- A business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments

**“Sustainability has always been the corporate strategy, now we are focusing our efforts to meet that commitment”**

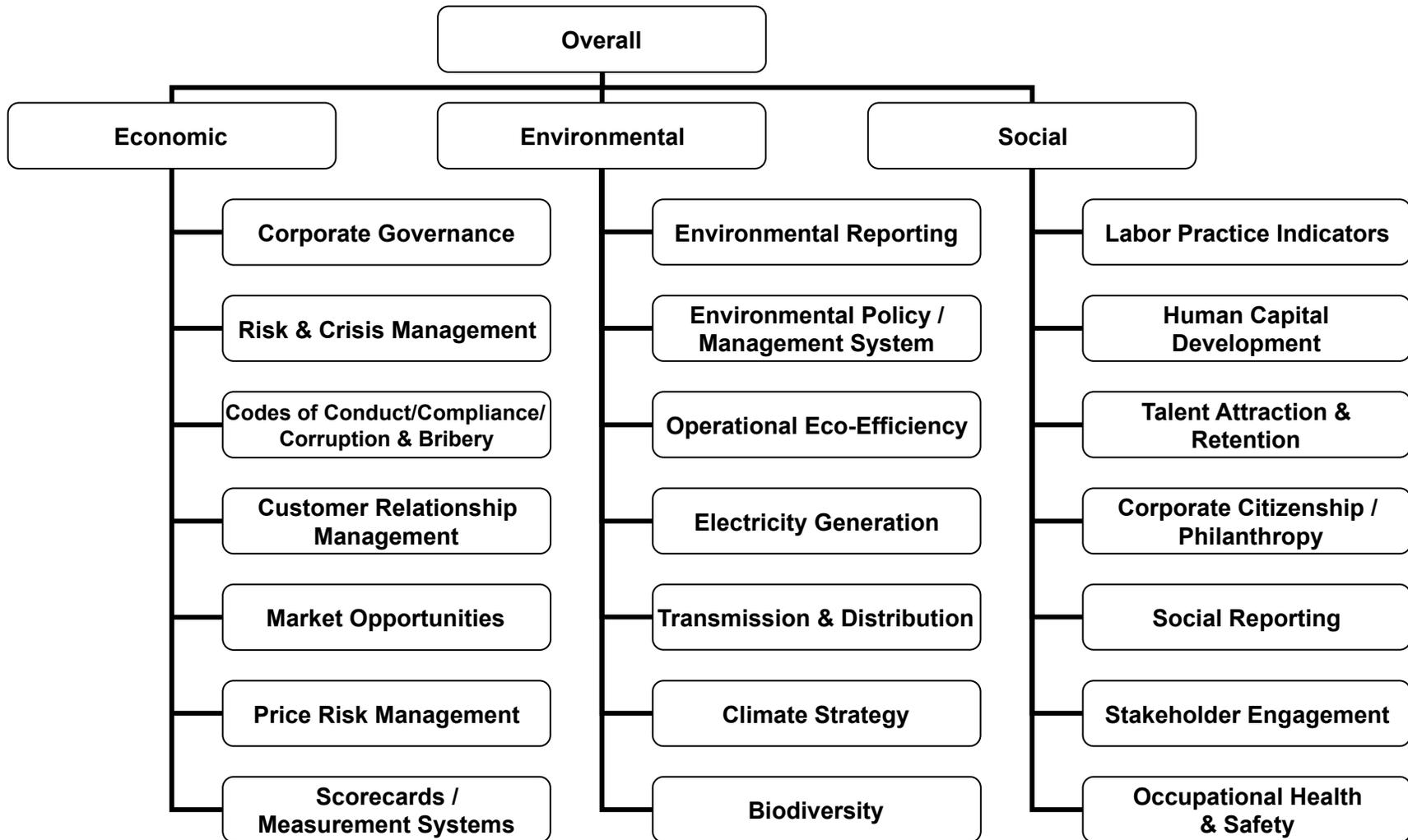
**Analyze Gaps**

**Set Strategy**

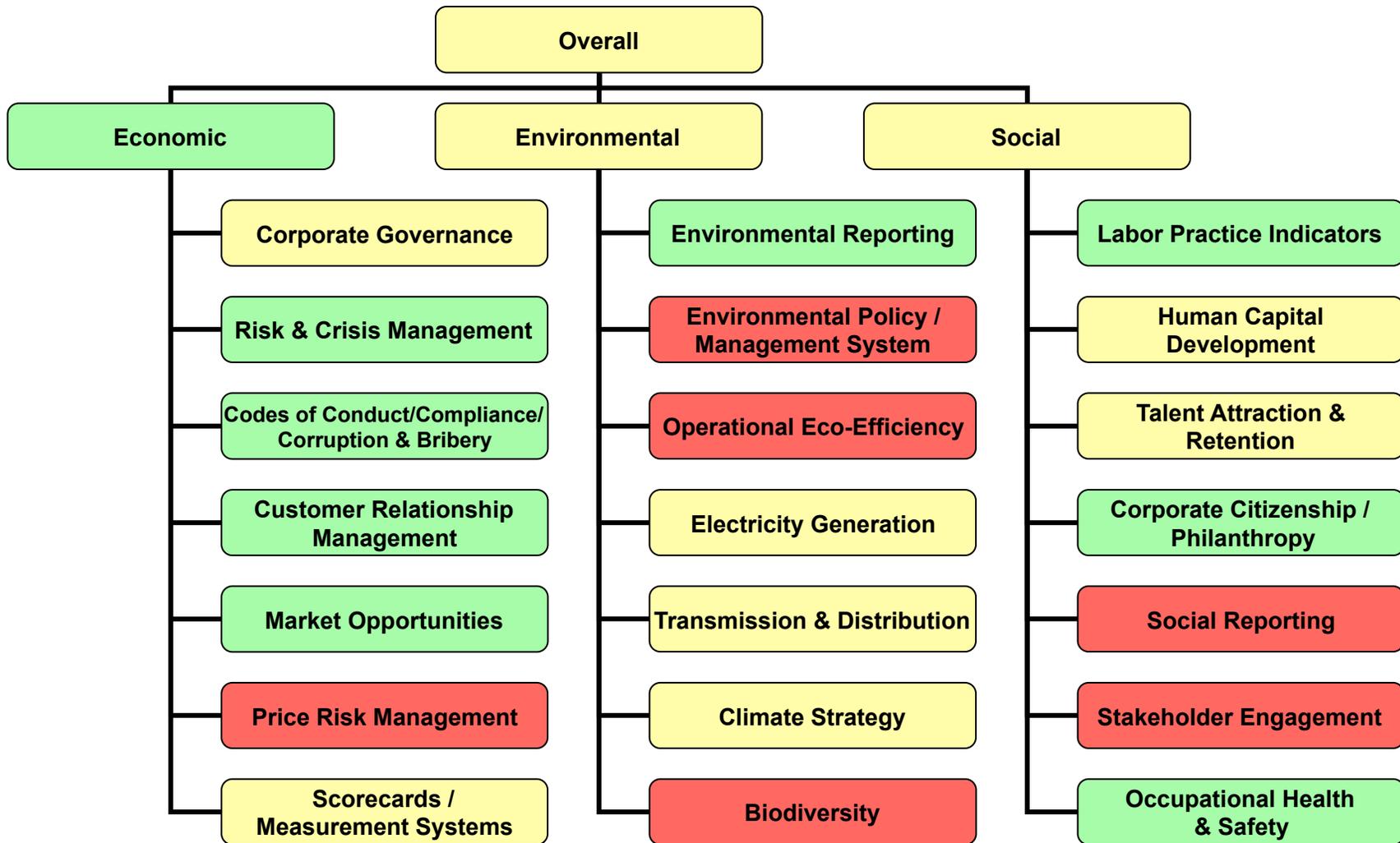
**Develop Key Performance Indicators**

**Drive Business Planning**

# Sustainability in Strategy – Example



# Sustainability in Strategy – Example



# Sustainable Operations



## Definition:

- **SCE provides safe, reliable and low-cost electricity today without compromising the ability of future generations to meet their own needs for electricity.**

**“By being thoughtful about how we supply electricity, we can do a lot better going forward than we have in the past.”**

## Sustainable Operations

**Clean Energy**

**Lean &  
Efficient  
Processes**

**End-to-End  
Lifecycle  
Perspective**

# Sustainability Performance Framework

**Vision:**

- Providing safe, reliable and low-cost sustainable electricity today and for future generations

	Internal Operations	Customer Energy Efficiency	Supply Chain Partnerships
<b>Resource Efficiency</b>			
<b>Energy Intensity</b>			
<b>Transportation Efficiency</b>			
<b>Material Life-Cycle</b>			
<b>Hazard Potential</b>			
<b>Habitat Protection</b>			

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Together...Shaping the Future of Electricity