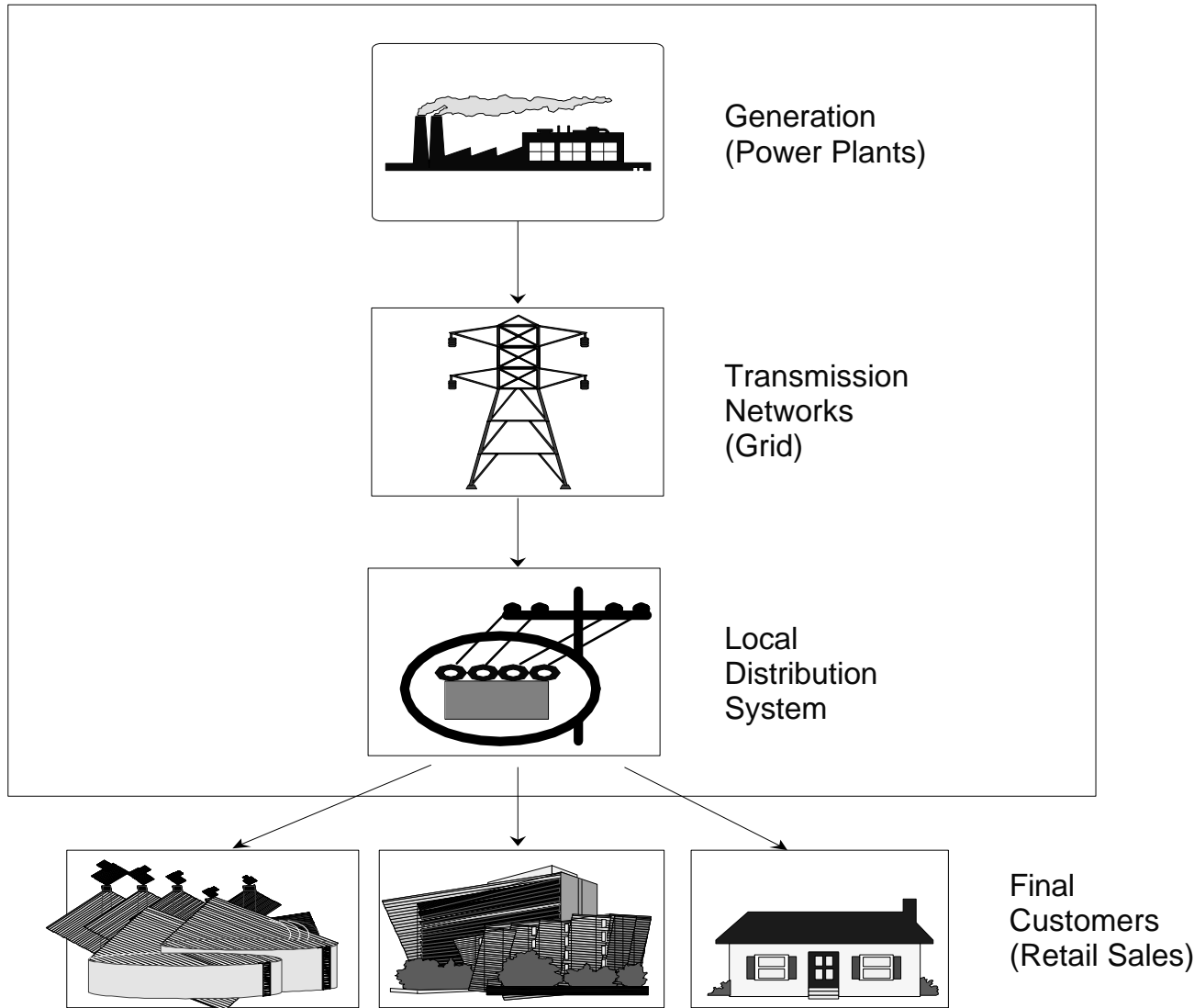


COMMUNITY CHOICE,  
WHOLESALE POWER SUPPLY,  
and CALIFORNIA  
MUNICIPALITIES


City of Willits

June 20, 2005

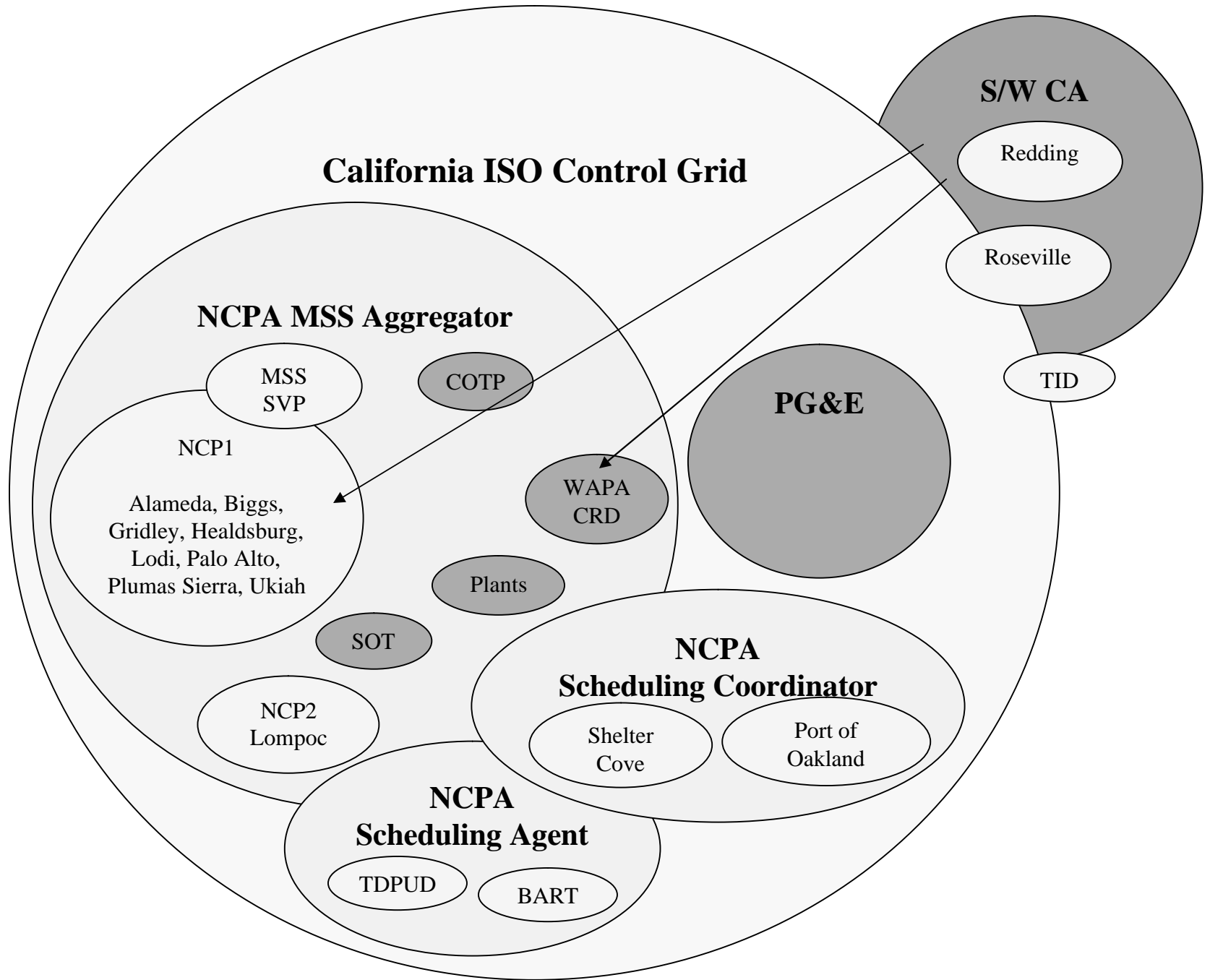
# Power Industry Structure



# Western Systems Coordinating Council Power Areas

	Area I – Northwest
	Area II – Rocky Mountain
	Area III – Arizona-New Mexico
	Area IV – Southern Nevada



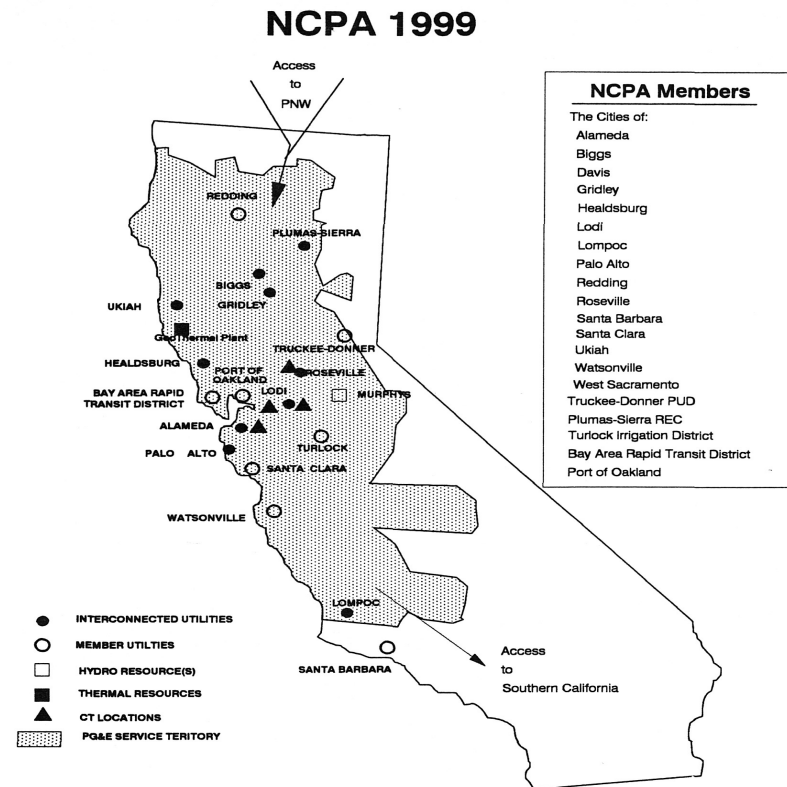


# NCPA

## Northern California Power Agency

### Members:

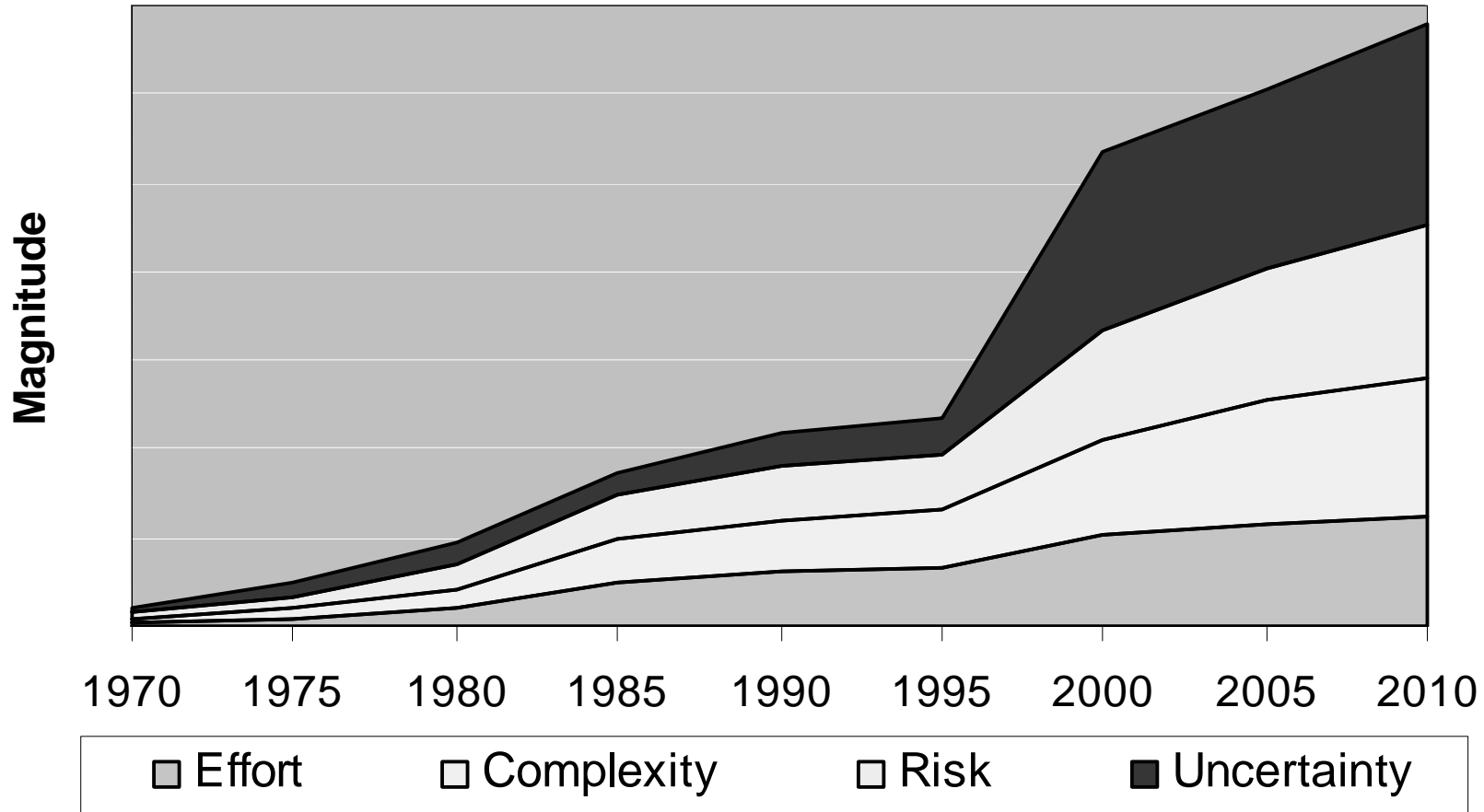
- City of Alameda
- Bay Area Rapid Transit
- City of Biggs
- City of Gridley
- City of Healdsburg
- City of Lodi
- City of Lompoc
- Lassen MUD
- City of Palo Alto
- Placer County Water Agency
- Plumas Sierra Rural Electric Coop
- Port of Oakland
- City of Redding
- City of Roseville
- Silicon Valley Power (Santa Clara)
- Truckee-Donner Public Utility District
- Turlock Irrigation District
- City of Ukiah



# **NCPA Overview**

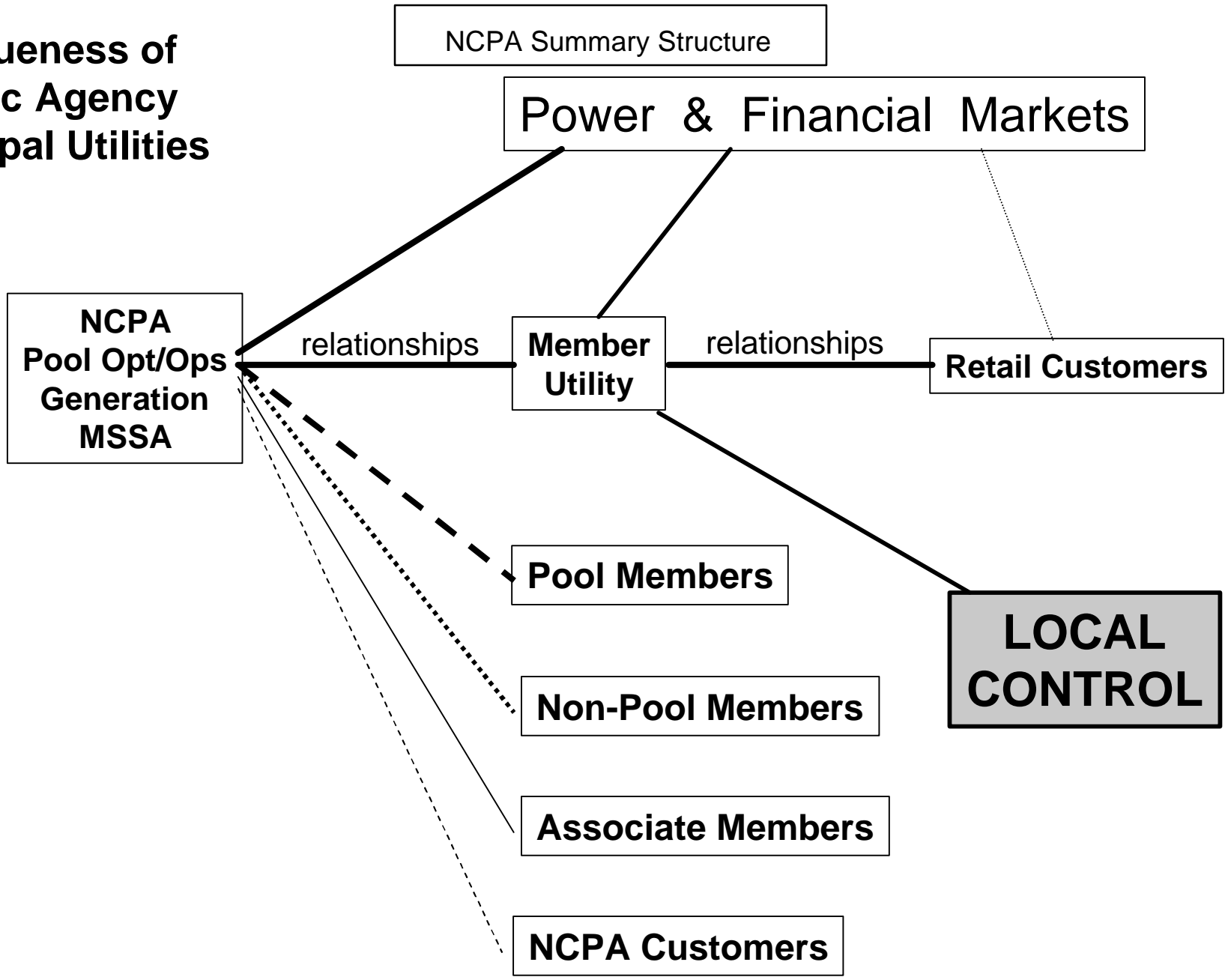
- **Joint Powers Agency - since 1968**
- **18 Public Agency Members**
- **Total Loads, 1800 MW**
- **Pooled Load, 750 MW**
- **MSS Load, 1250 MW**
- **Hydro, Geothermal, Natural Gas Plants**
- **Full Service Wholesale Entity**
- **Budget = \$200MM; 180 Employees**

# NORTHERN CALIFORNIA POWER AGENCY PAST & FUTURE PERSPECTIVES



- Milestones:**
- |                                 |                            |                                |                                   |
|---------------------------------|----------------------------|--------------------------------|-----------------------------------|
| Legislative & Regulatory 1970's | PG&E Interconnection 1983  | Hydroelectric Project 1990     | Market Boom 2000                  |
|                                 | Dispatch & Scheduling 1983 | CT-2 Project 1995              | 10 Minute Market/Settlements 2000 |
|                                 | Geothermal Project 1983    | Deregulation 1996              | Market Bust 2001                  |
|                                 | CT-1 Project 1985          | ISO/PX 1996                    | Metered Sub-System Agreement 2002 |
|                                 | Pooling 1989               | Stranded Cost 1996             | Western 2948A 2005                |
|                                 |                            | Scheduling Coordination 1997   | MD02-LMP 2005                     |
|                                 |                            | Credit/Risk Management 1997    |                                   |
|                                 |                            | Hourly Market/Settlements 1998 |                                   |

# Uniqueness of Public Agency Municipal Utilities

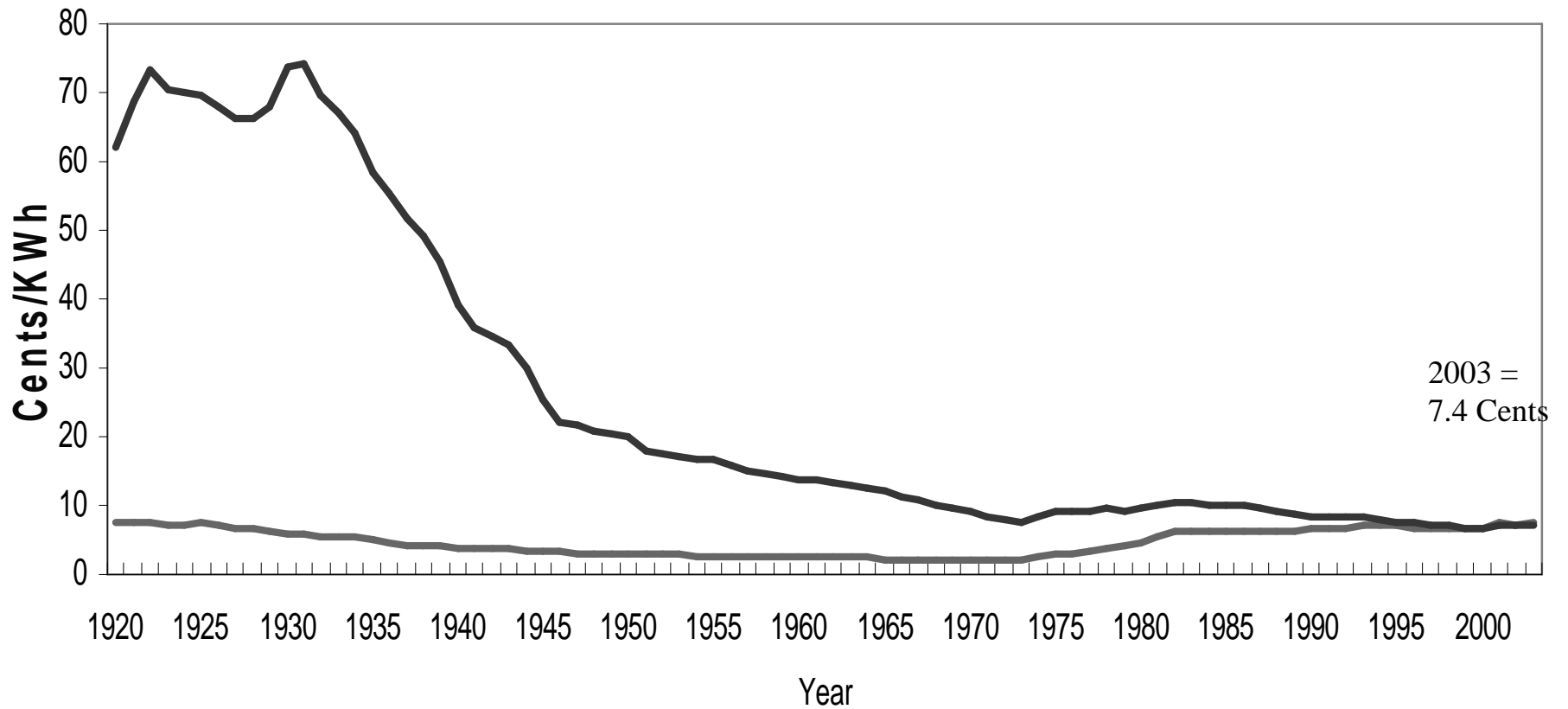




# Public Power Objectives

- **Reliable Electricity**
- **Equitable Rates**
- **Stable Rates**
- **Predictable Rates**
- **Local Control**
  
- **Customer Comes First**

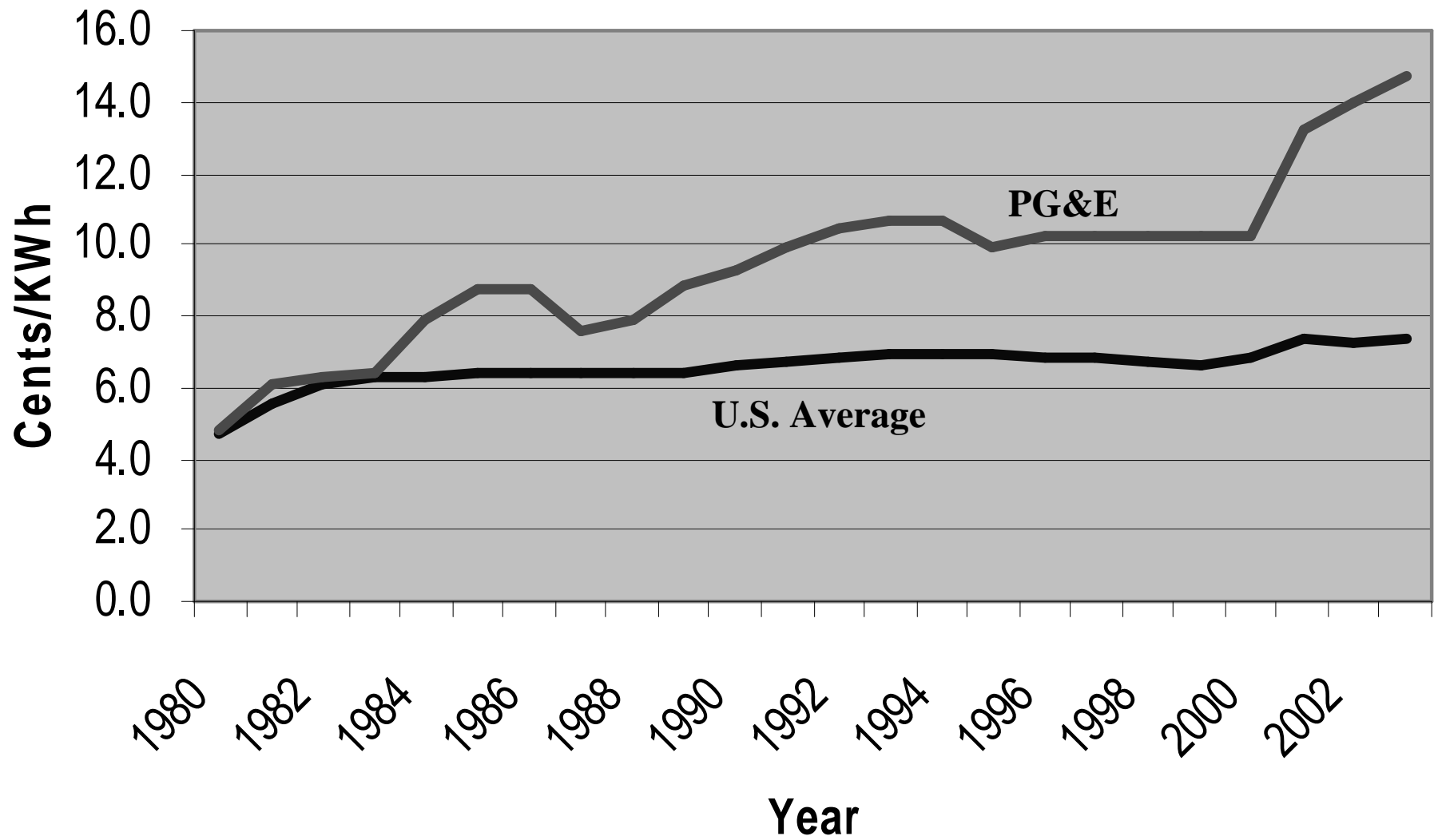
# U.S. Average Electric Price 1920-2003, Cents/kWh



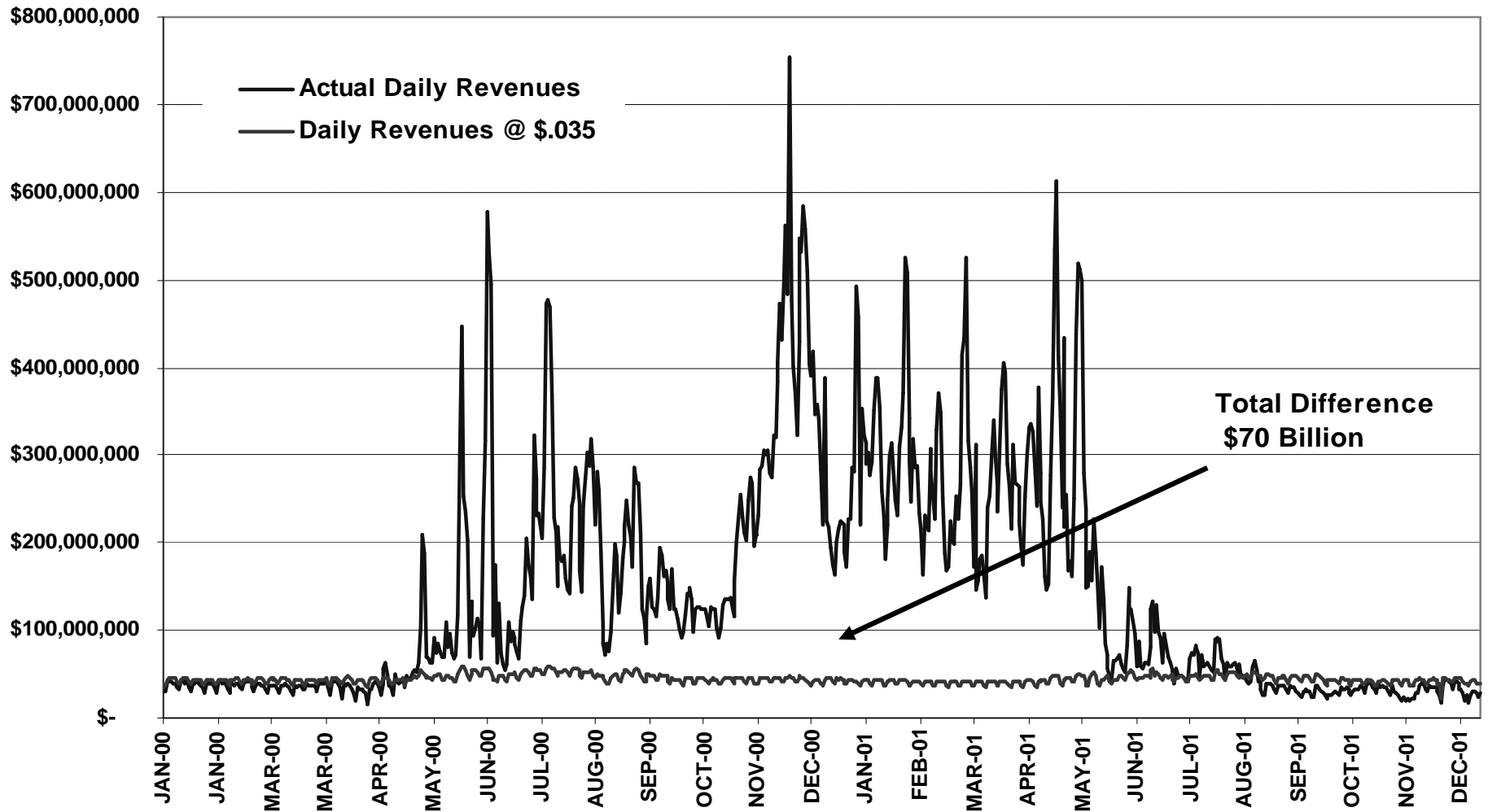
— Nominal — Year 2000\$

# PG&E v. U.S. Average, 1980-2003

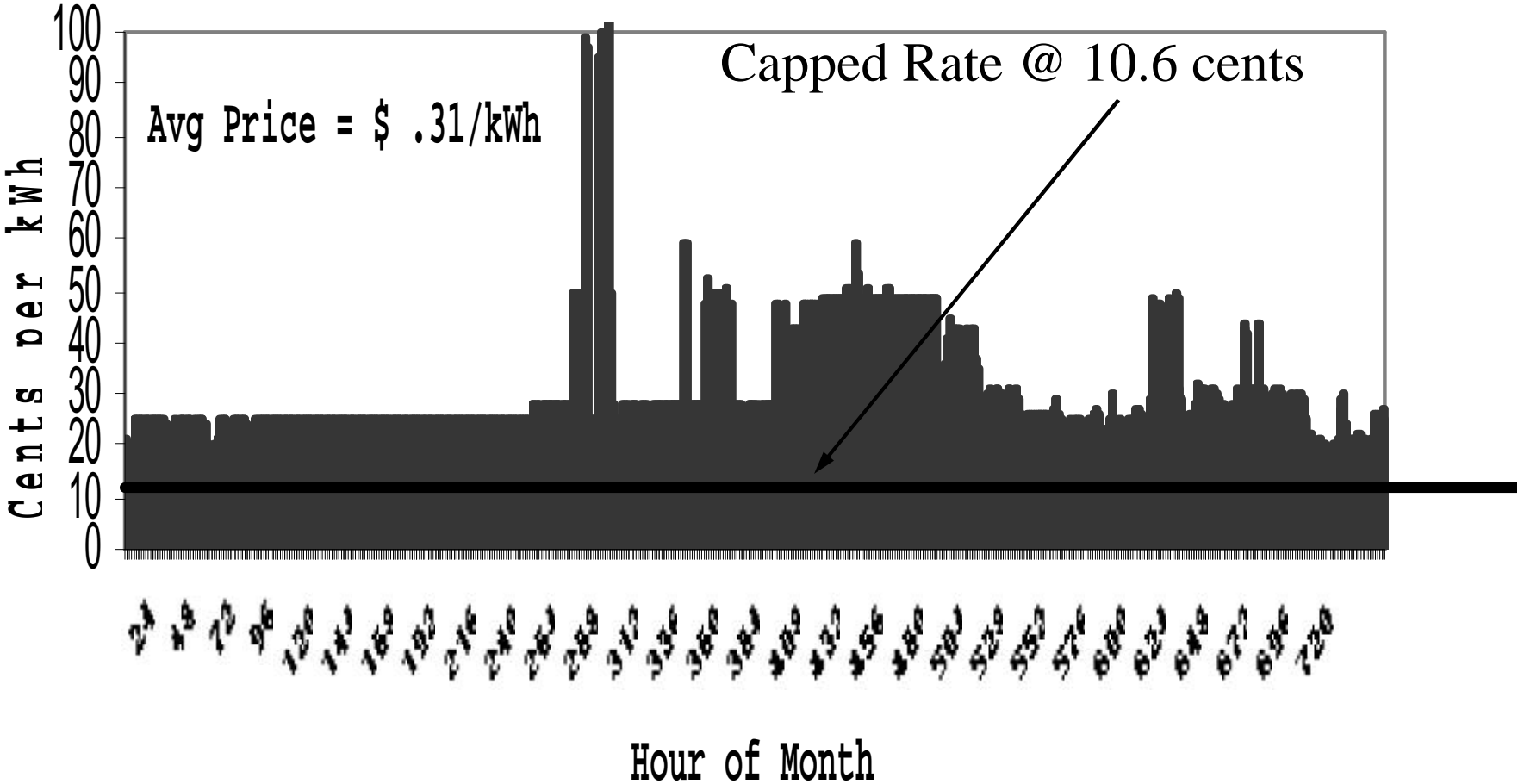
(Nominal Dollars)



# The Economic Damage 2000-2001 in California ~\$70 Billion!



# December 2000 NP15 Prices

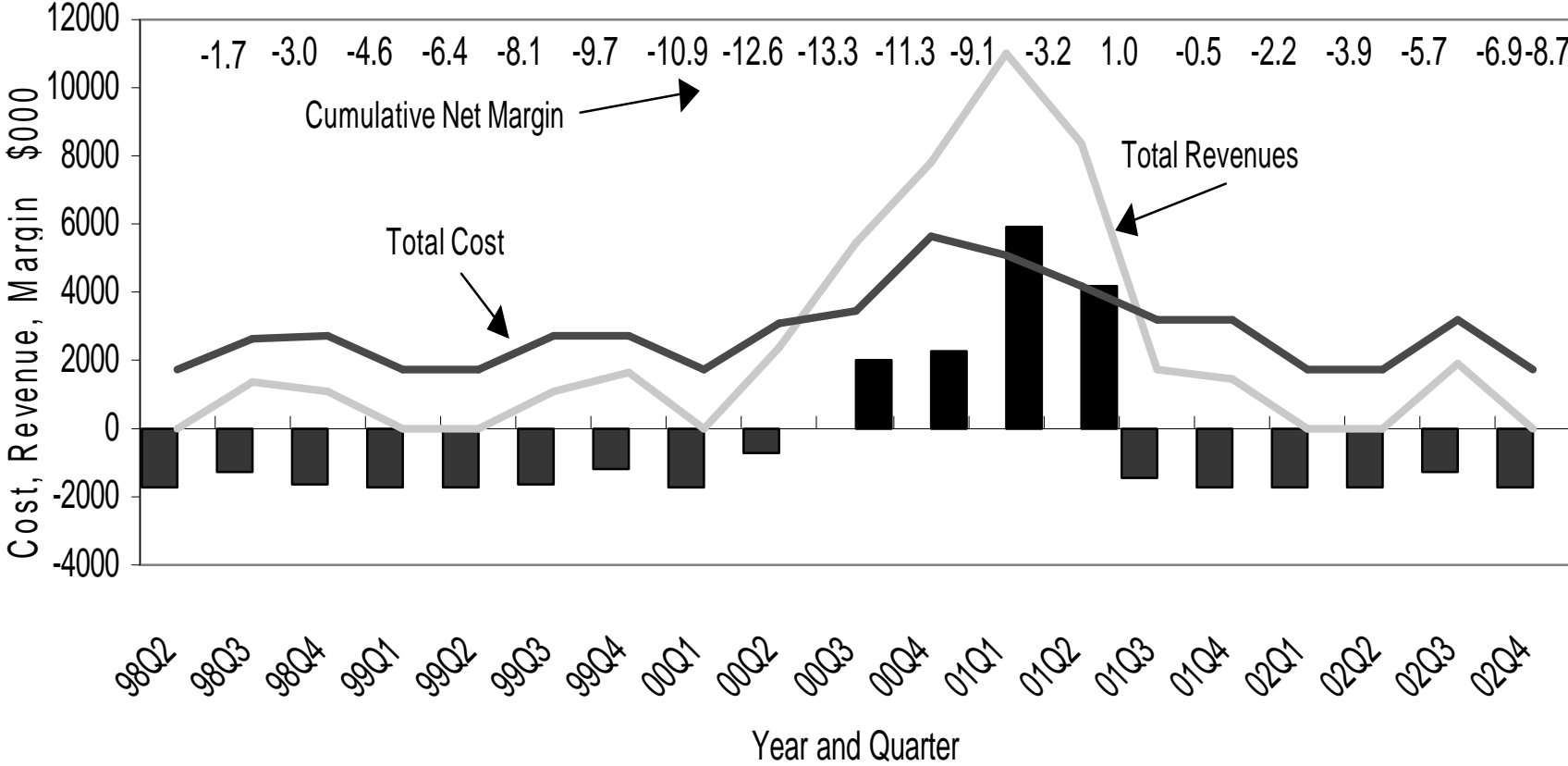


# Economics of December 2000

- ✍ Customer Uses 1,000 kWh @ 10.6 cents Total Bill = \$106
- ✍ PG&E Buys Energy @ 31 cents for cost = \$310.00
- ✍ PG&E Avg UDC charge @ 4.2 cents for cost = \$42.00
- ✍ PG&E “Loses” \$246.00 / customer!

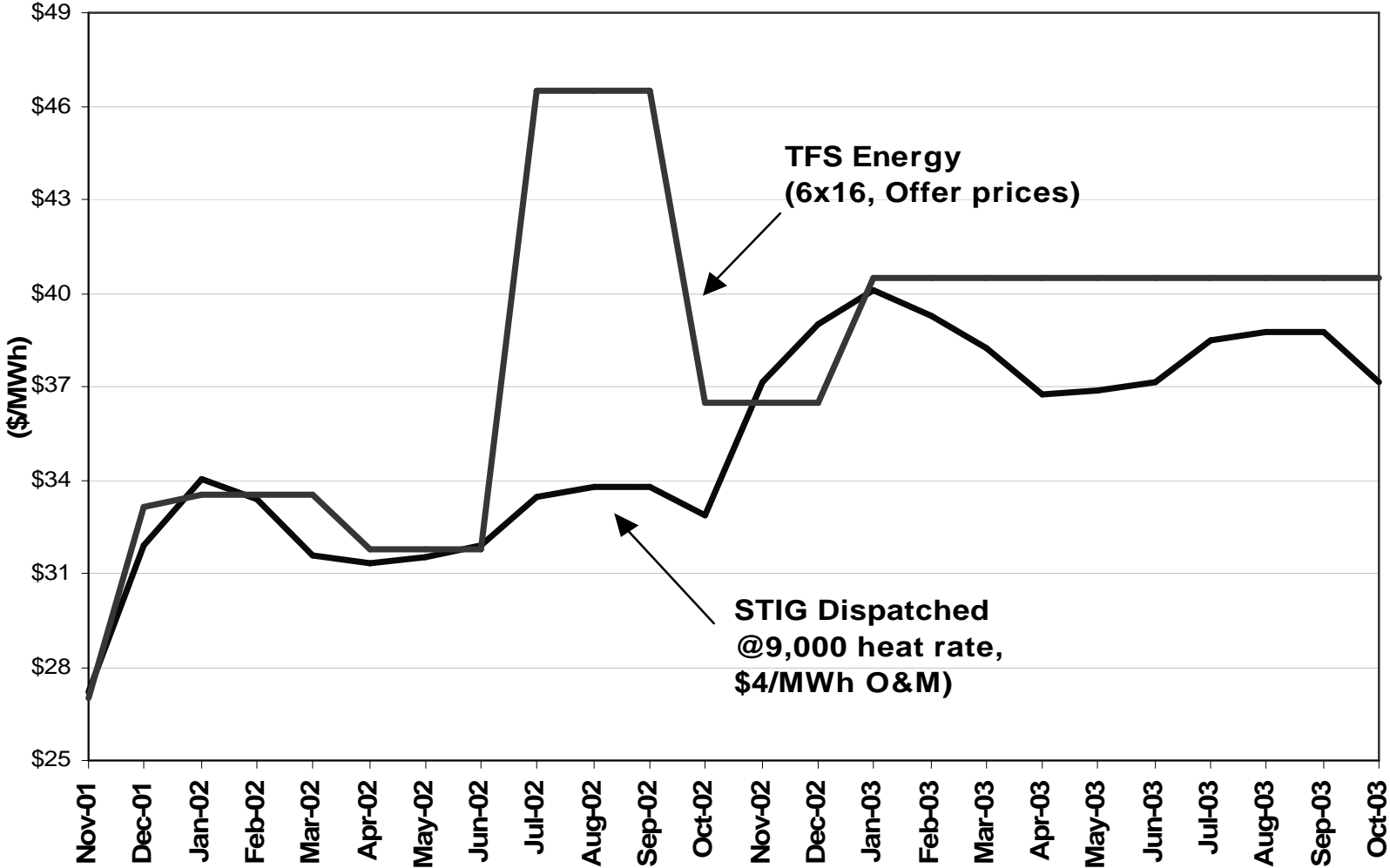
# Stylized NCPA CT2 Costs and Revenues

## April 1998 - December 2002, By Qtr



Net Loss   
  Net Gain   
  Gross Revenue   
  Total Cost



# STIG Costs vs Forward Market Prices





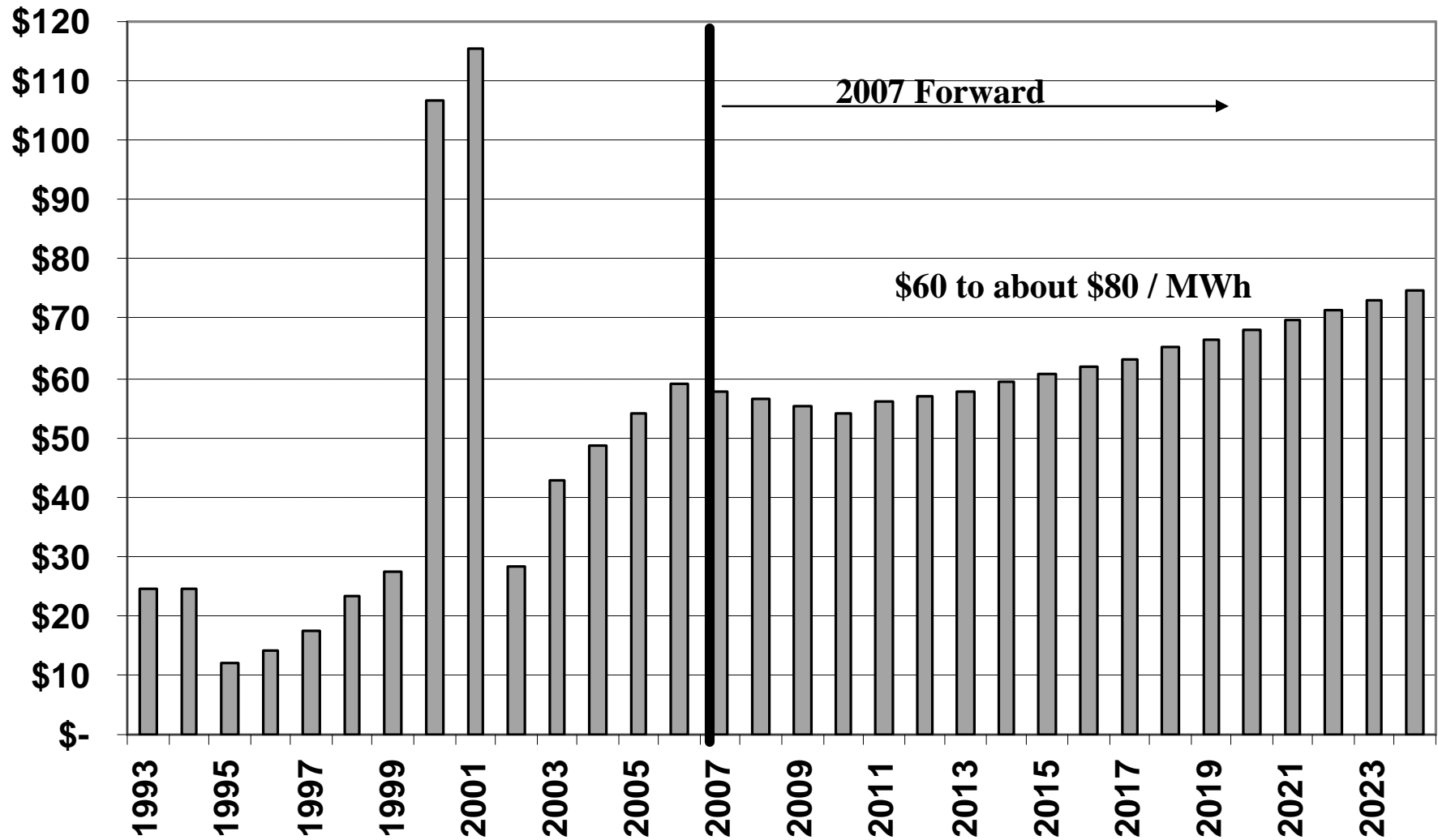
# Power Market Report Card

**Efficiency: accomplishing a job with a minimum expenditure of time, money and effort.**

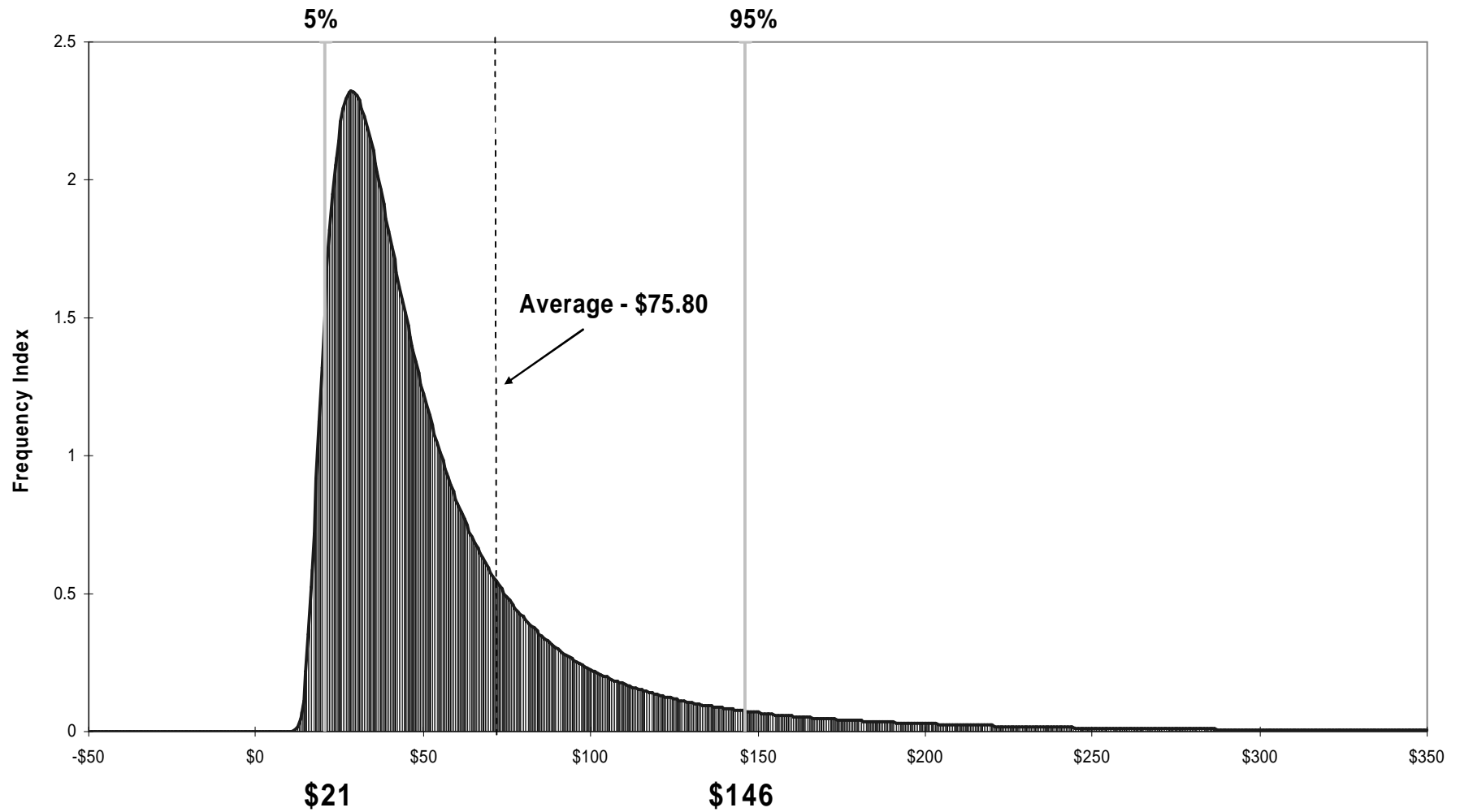
<b>Subject</b>			<b>Subject</b>		
# Blackouts		↓	Cr Worthy Parties		↓
Sys Reliability		↓	State Economy		↓
Legal Costs		↓	LT Planning		↓
# Bankruptcies		↓	Responsibility		↓
Complexity		↓	Bureaucracy		↓
Consulting Costs		↓	FERC Costs		↓
Software Costs		↓	Energy Price		↓

# California “Market” Perspective

## Baseload Wholesale Electricity Prices



# NP15 Monthly Average Peak Period Price Distribution - April 1998 to April 2005



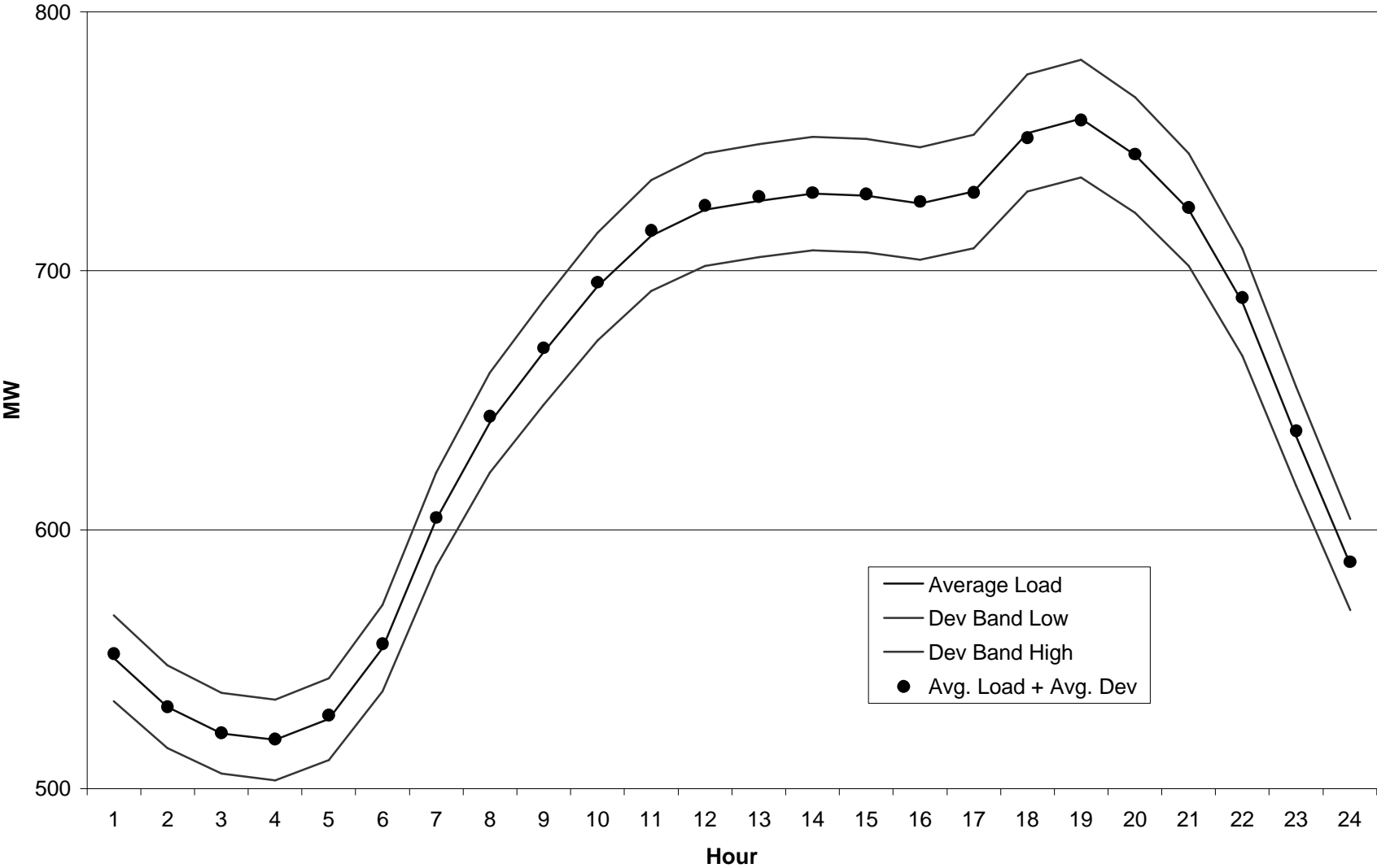
# **What Did We Learn?**

- **Very Complex “Machine”**
- **Economists do not keep lights on**
- **Power Markets do not = Reliability or Lower Prices**
- **Restructuring Cost Billions**
- **115 Charge Types do not = Efficiency**
- **Naïve Application of "free market" to physical power system**
- **Cost of Service Works**

# **City Power Options**

- **Status Quo (let PG&E provide)**
- **Conservation / Energy Efficiency for Municipal Loads**
- **Build / Buy Power Plant as Price Hedge**
- **Attain Higher RPS Percentage**
- **Pursue Full Power Supply Function (become a “muni”)**
- **Community Choice Aggregation (CCA)**

# Load Deviation Average 9/02 - 3/03



# CCA

- **AB117 – Rules still developing at CPUC**
- **City provides full power supply**
- **Customers can “opt-out”**
- **PG&E continues to provide all non resource supply functions**
- **Similar to “direct access” approach during late 1990s**

# **CCA - Pros**

- **City is “natural” utility provider**
- **Enhancement of Local Control**
- **Locally determined renewable percentages**
- **May complement other local services**
- **May provide lower power costs (probably 5% max savings)**



# CCA - Cons

- **Little practical experience / very technical service**
- **Need professional staff**
- **High commodity price risk**
- **Capital Intensive Buisness**
- **Regulatory Risk / Resource Adequacy**
- **Credit Risk / Legal Ensnarements**
- **Entry and Exit Strategies Complicated**

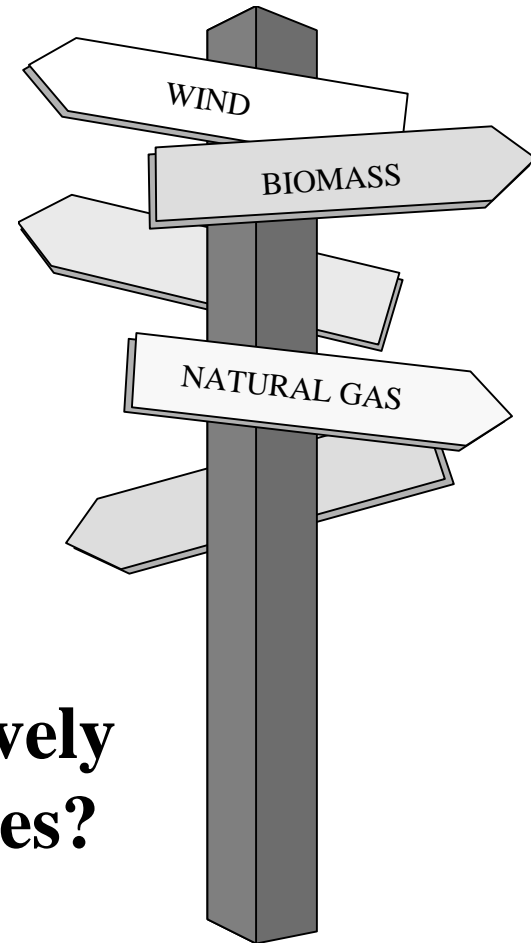
# CCA - Willits

- **Population ~ 5,300**
- **Peak Capacity: 6.6 MW, 7.5 MW with 15% planning reserve)**
- **Energy: 34,500 MWh / yr**
- **Contract Energy ~ \$2.2 MM/yr w/ up to \$.75 MM/yr “load follow \$” (6.5 – 8.5 cents/kwh)**
- **Or “buy” plant(s) @ \$1MM/MW ✍  
\$2.5 - \$3.5 MM/yr (7.2 – 10.1 c/kwh)**
- **Plus staff infrastructure (each \$350k adds 1 cent/kwh to rates)**

# Range of Supply Options

- Bilateral Contracts
- Green RFP Results
- New Combined Cycle
- Firm Wind Product
- Market

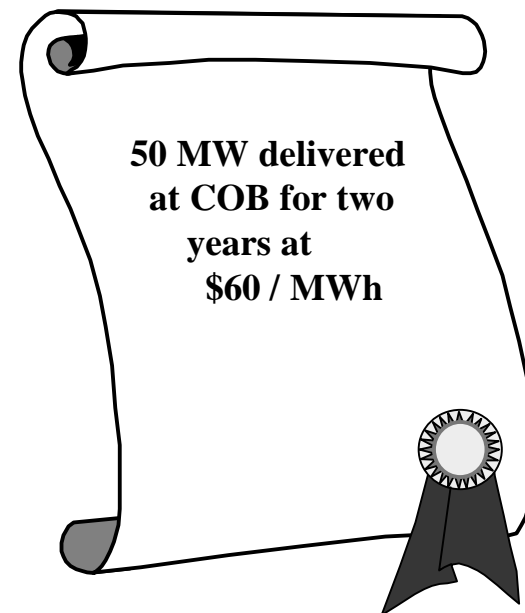
**How to build portfolio w/ relatively  
Small load and many alternatives?**



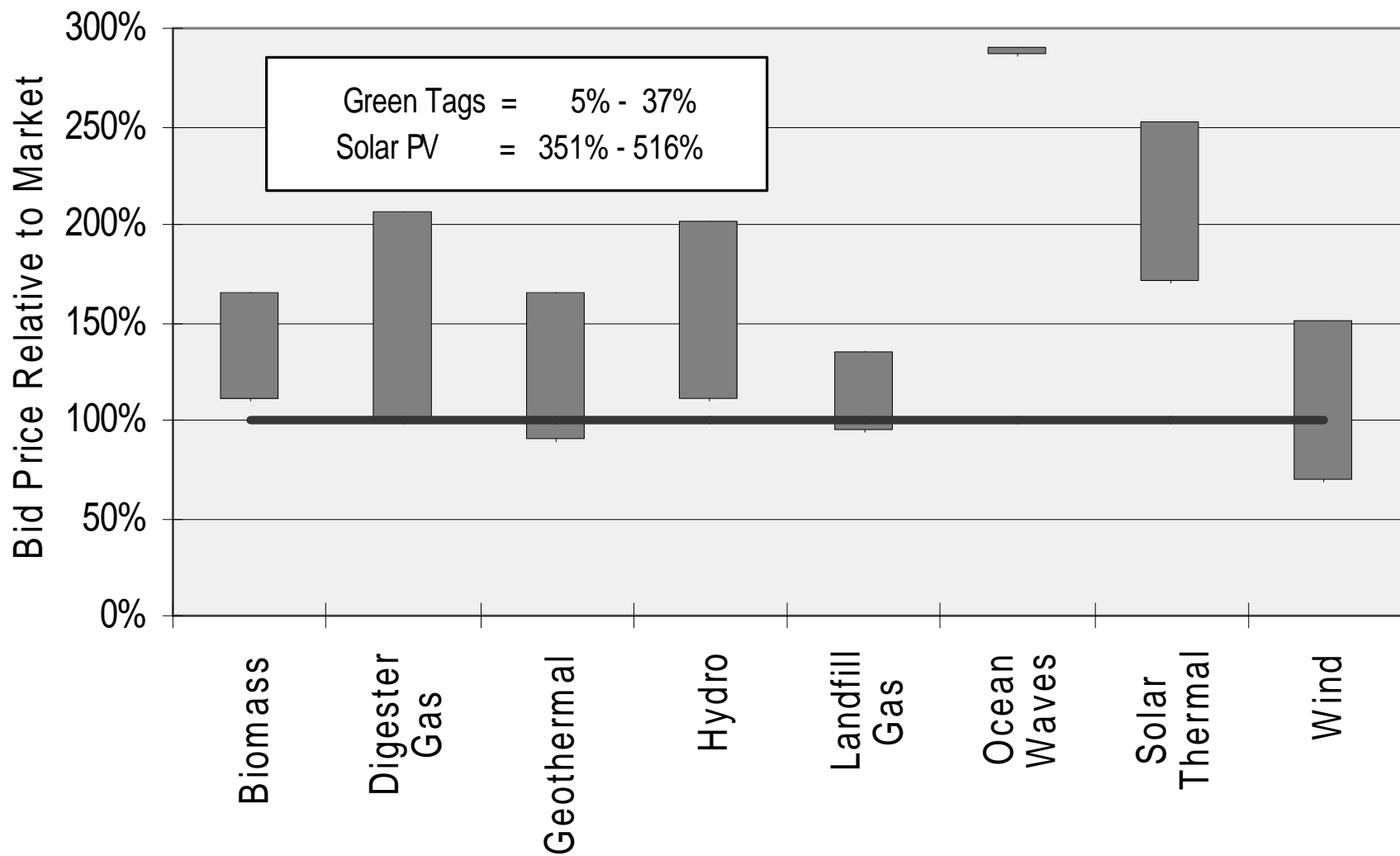
# Bilateral Contracts

- Short- or Long-Term
  - Hourly / Daily / Yearly
- Standard “Blocks”
- Limited Flexibility
- Counter-Part Risk
- Credit Exposure

**Most contracts are 25MW,  
small scale disadvantage**



# NCPA 2003 Green RFP



# **What's Next for Willits**

- **Hire Consultant**
- **Watch Others (SF, Oakland, Berkeley, etc.)**
- **Join others similarly situated**
- **Dovetail with others if successful**
- **Work with PG&E on conservation and efficiency gains**
- **Realistic view of benefits and risks**
- **Keep It Simple**