



LEVELIZED COSTS OF CALIFORNIA CENTRAL STATION ELECTRICITY GENERATION TECHNOLOGIES

DOCKET

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Levelized Cost of Generation

- Levelized costs for different generation technologies last produced for 2009 IEPR
- Considered many variables to develop range of costs and capture important uncertainties
- Staff & Aspen consultants developed Cost of Generation Model for calculations
- Energy Commission staff will be updating costs drivers for key generation technologies for 2013 IEPR



INPUTS

Plant Characteristics

- Gross Capacity
- Plant Side Losses
- Transformer Losses
- Transmission Losses
- Forced Outage Rate
- Scheduled Outage Rate
- Capacity Factors
- Heat Rate (if applicable)
- Heat Rate Degradation
- Capacity Degradation
- Emission Factors

Plant Cost Data

- Instant Cost (\$/kW)
- Installed Cost (\$/kW)
- Construction Period (Yrs)
- Fixed O&M (\$/kW)
- Variable O&M (\$/MWh)

Financial Assumptions (Merchant, Muni & IOU)

- % Debt
- Cost of Debt (%)
- Cost of Equity (%)
- Loan/Debt Term (Years)
- Econ/Book Life (Years)

General Assumptions

- Insurance
- O&M Escalation
- Labor Escalation

Fuel Cost

- Fuel Cost (\$/MMBtu)
- Heat Rate (Btu/kWh)

Deflator Series

COST OF GENERATION MODEL

Tax Information (Merchant & IOU)

- Federal Tax Rate (%)
- State Tax Rate (%)
- Federal Tax Life (Years)
- State Tax Life (Years)
- Tax Credits
- Ad Valorem Tax
- Sales Tax

OUTPUTS

Levelized Fixed Costs

(\$/kW-Yr & \$/MWh)

- Capital & Financing
- Insurance
- Ad Valorem
- Fixed O&M
- Corporate Taxes

Levelized Variable Costs

(\$/kW-Yr & \$/MWh)

- Fuel
- Variable O&M

Total Levelized Costs

(\$/kW-Yr & \$/MWh)

- Fixed Costs +
- Variable Costs

Reports

- Summary of Annual Costs
- High & Low Costs
- Revenue Requirement & Cash Flow

Screening Curves

(\$/kW-Yr & \$/MWh)

- Total Costs

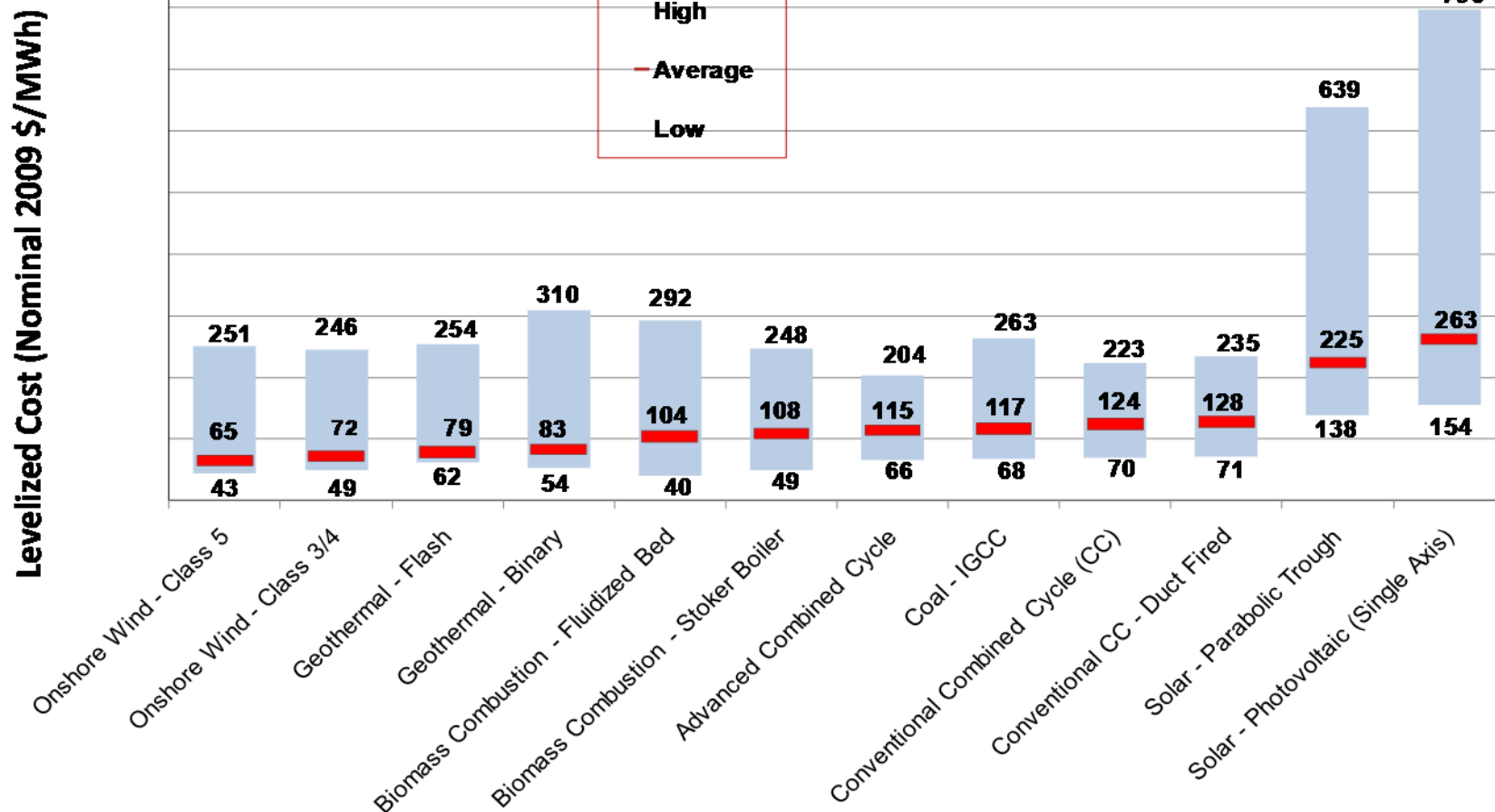
Sensitivity Curves

(Lev Cost, % & %Change)

- Plant Assumptions
- Plant Costs
- Fuel Costs
- Financial Assumptions
- Other



Range of Levelized Cost Merchant Plant In-Service in 2009





2013 IEPR Cost of Generation Work Plan

