



• August 15-18, 2010 • Dallas, Texas •
• Dallas Convention Center •



Building a PPA

PPA Basics

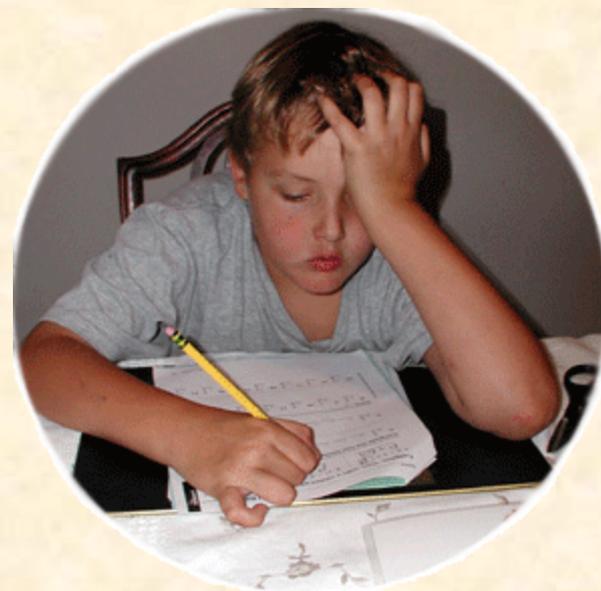
- Definition: Contract between generator and purchaser for electricity or capacity
- Benefits (vs Federal ownership):
 - Tax incentives
 - Funds
 - Sale of RECs
 - Project operation and maintenance
- Drawbacks:
 - May require commission approval
 - May not allow competitive option

The Whole Picture



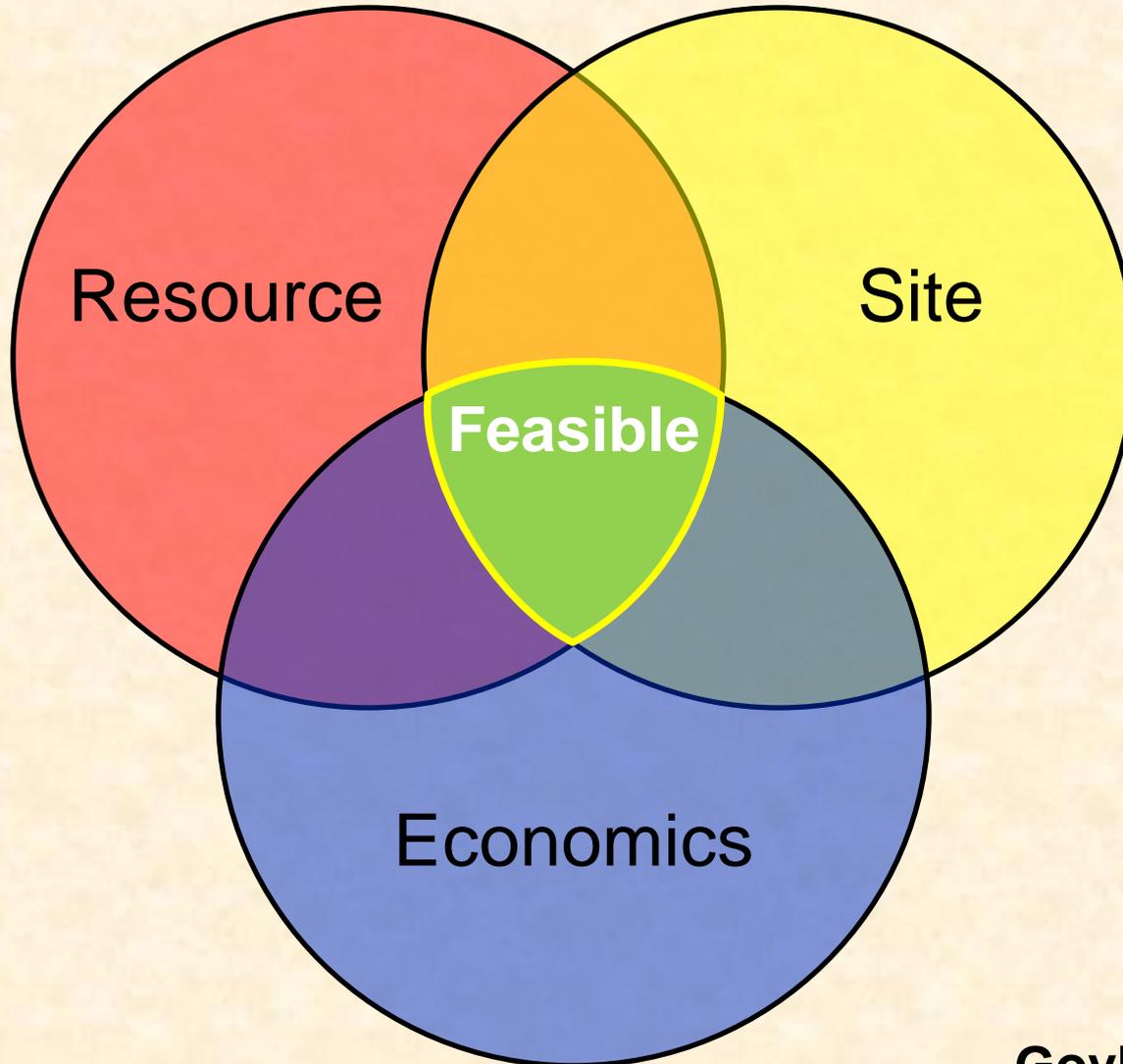
Homework

- Determine basic feasibility
 - Available Resource
 - Suitable Site
 - Realistic Economics
 - Known Showstoppers



Confirm potential feasibility before anything else

Intersection of Potential



Resource Feasibility

- Perform resource review
 - Resource maps (Solar, wind, etc)
 - Available at <http://www.nrel.gov/gis/>
 - Local waste potential (Biomass/MSW)
 - Available geothermal data & local projects

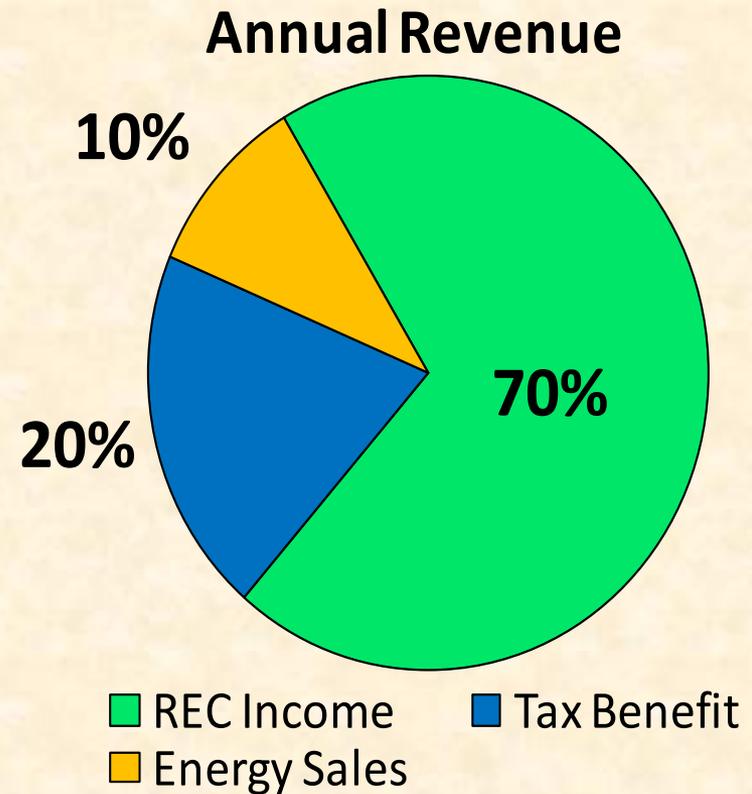
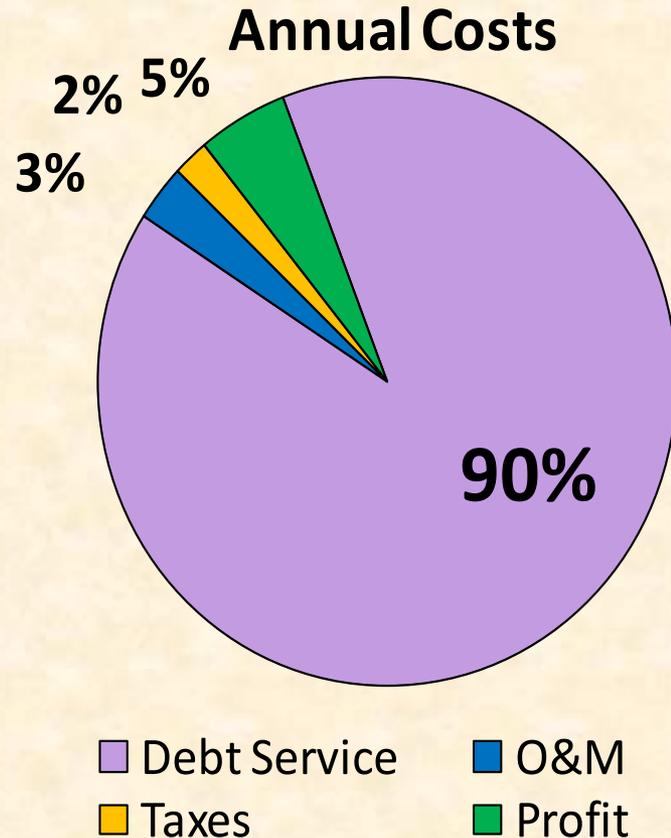
Site Feasibility

- Determine land requirement
 - Solar: 10 to 14 acres/MW
 - Wind: 15 to 20 acres/MW
 - Biomass/WTE: < 2 acres (excluding source)
 - Geothermal Power: 1 to 8 acres/MW
- Review installation maps
 - Access to utilities
 - Topography

Economic Feasibility

- Evaluates potential for win-win arrangement
- Analyze from both points of view
 - Customer & developer
- Major factors to consider:
 - Energy and demand costs
 - REC sales income
 - Standby tariffs
 - Cost of money
 - Tax incentives and rebates
 - O&M costs
 - Production credits
 - Construction costs
- Evaluate but note....we don't know what we don't know

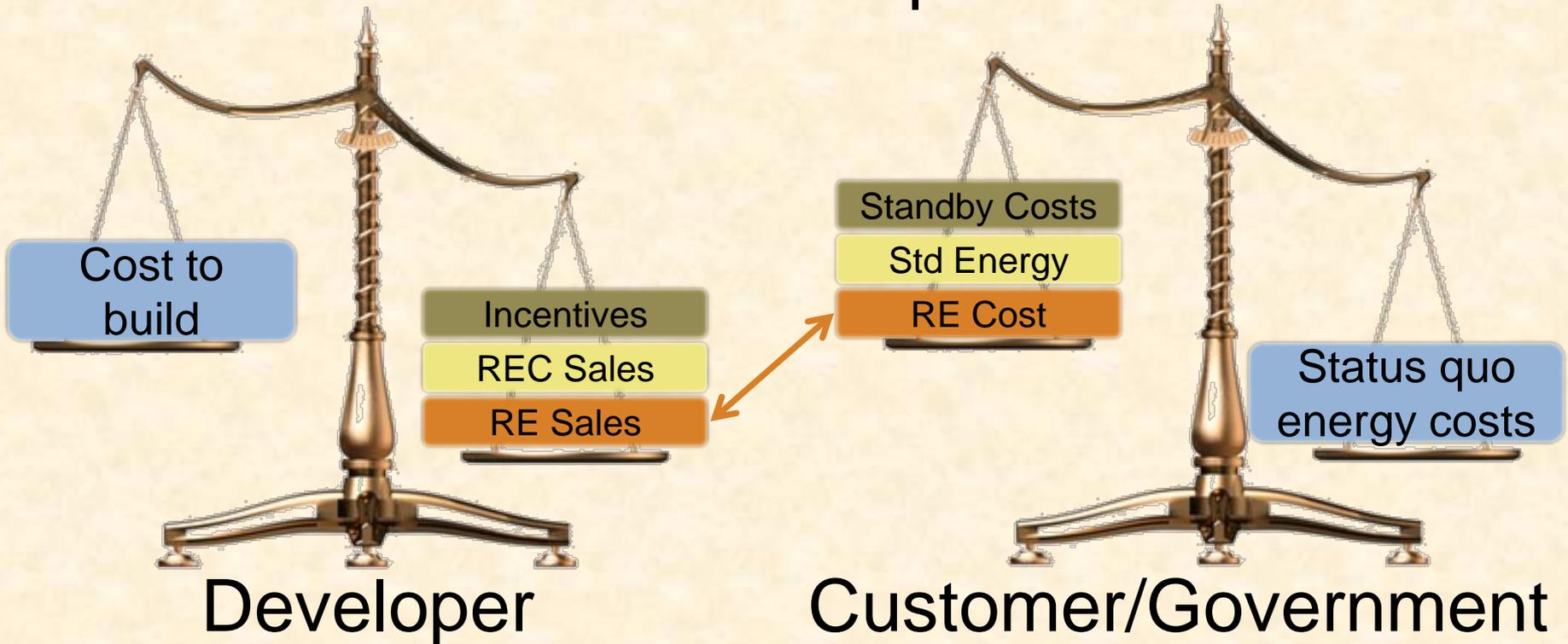
Developer Financial Overview



These are notional figures used only to convey a concept

Economic Feasibility

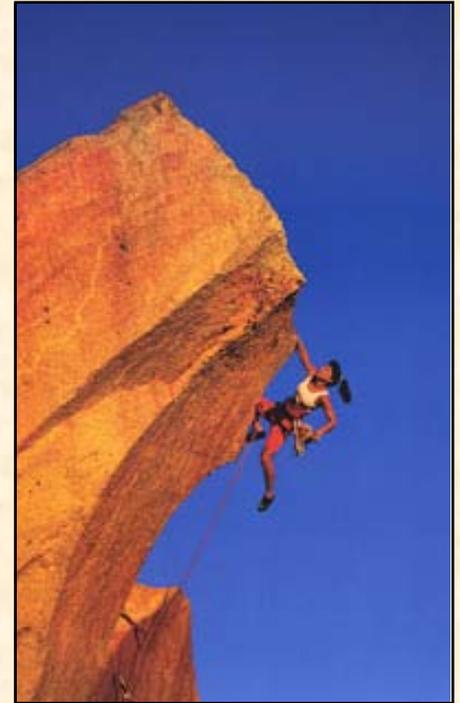
Determine from two points of view



Must find balance with win-win scenario

Challenges

- 10 USC 2667
 - Requires market value for use of land
 - No allowance for EPAAct on-site energy goals
- REC Sales
 - DoE policy – no allowance toward goal if RECs are sold
 - Lack of statutory authority to sell RECs



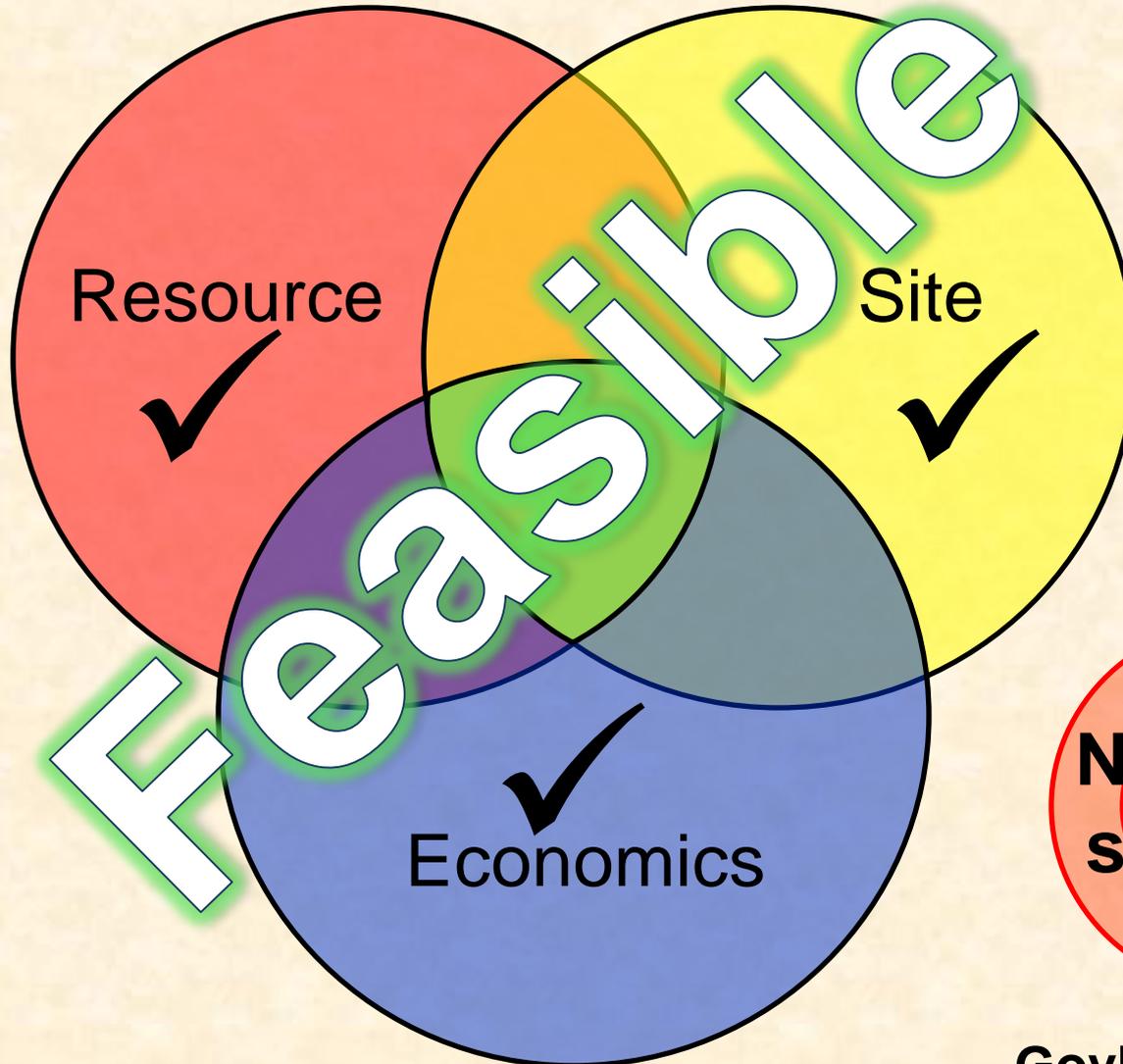
Challenges

- Use of BLM withdrawn land
 - Energy generation may not be considered military use
- Value of Energy Security
 - No guidance on value of energy security benefit
 - Establishing economic value will increase viability
- Lack of Transmission Service
 - Wheeling from remote sites not usually available

Potential Showstoppers

- Mission
 - Height/size restrictions, radar issues, etc
- Environmental
 - Endangered species, contamination, etc
- Legal or regulatory
 - Land use restrictions
 - Commission regulations
- Community Opposition

Feasible project



Lay a Solid Foundation

- Recruit a local champion - a must
- Secure buy-in from stakeholders
 - Explain roles, responsibilities, and timelines
 - Seek understanding of others' challenges
 - Manage expectations
- Establish core acquisition team
 - Include contract, tech, legal, economics, etc
 - Establish direct, frequent communication
 - Small team provides flexibility, feeling of ownership

Environmental Analysis

- Long lead requirement
- Funded/developed by proponent
 - May be customer or developer
- Must accomplish before award
 - Catex *or*
 - Environmental Analysis w/FONSI *or*
 - Environmental Impact Study
- Use typical values for applicable technology
 - Require successful offeror to amend if needed



Ensure Mission Compatibility

- Height/size restrictions (Wind, solar, WTE)
- Radar interference (Wind)
- Mission growth
- Bird Air Strike Hazard (WTE)
- Air emission permit limitations (WTE)
- Water/wastewater loads

Identify Regulatory Issues

- 40 USC 591 - Federal entities must follow state utility rules (electricity only)
 - May eliminate competitive procurement option
 - Commission approvals (contract, REC sales)
 - Regulation requirements (CPCN)
 - Other potential commission oversight/regulation
- Utility interconnect rules
- Other Federal regulations – FAA, EPA, etc

Develop Detailed Model

- Model total cost of energy for “status quo”
 - Apply actual tariffs/rates to historic data
 - Compare result to actual bills to validate
 - Adjust historic data for known changes
- Model cost of renewable and conventional energy under proposed scenario
 - Adjust status quo data for projected output
 - Incorporate applicable tariffs/charges
 - Standby tariffs
 - Net metering

The Acquisition

- Contract and lease term
- Performance requirements
 - Describe what you want, not how to do it
- Evaluation factors
 - Experience, capability, financial health, etc.
- Selection process



Contract / Lease Term

- PPA contract term options
 - 10 year (FAR Part 41)
 - Indefinite term (FAR Part 41 - PGI 241)
 - 30 year (10 USC 2922A)
 - OSD approval required
 - Differing legal opinions on applicability
 - Longer term is generally more attractive
- Lease term
 - Must have Secretary approval for >5 years

Performance Requirements

- Describe what you want, not how to do it
 - Type of utility service
 - Allowable sources/technologies
 - Minimum/maximum quantities
 - Take or pay amounts
 - Demand reduction
 - Availability
 - Quality (free from noise, BTU content, etc)

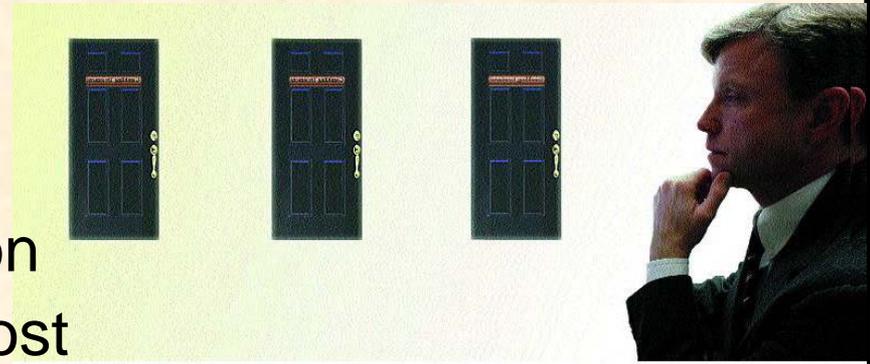


Evaluation Factors

- Technical
 - Financial
 - Management Capability
 - Technical Capability
 - Relevant Experience
- Price
 - Compute single value reflecting ‘total cost ’
 - Include cost for balance of conventional energy
 - Account for:
 - PPA power rate
 - REC replacement (if sold)
 - Standby tariff costs
 - Cost of money (discount)
 - Length of agreement
 - Escalation
 - Lowest ‘total cost’ is low bid

Selection Process

- Best Value
 - Highly subjective
 - More flexibility in selection
 - Not necessarily lowest cost
 - Protest may be more difficult to defend
- Low Bid
 - Highly objective
 - Higher risk of performance problems
- Lowest Price Technically Acceptable (LPTA)
 - Compromise between objective & subjective
 - low performance risk, lower protest risk, low price



LPTA Selection Process

Contractor Proposals



Offered Rate

Offered Rate

Offered Rate

Escalation

Escalation

Escalation

System output

System output

System output

Historical usage

Historical usage

Historical usage

Lease length

Lease length

Lease length

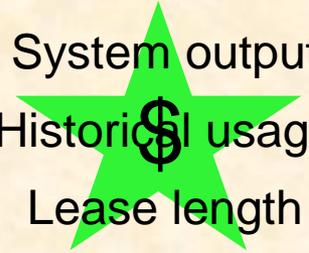
Utility Rate

Utility Rate

Utility Rate

\$

\$



\$

Unacceptable

Winning contractor identified with competitive proposal factor
Filtering eliminates uncompetitive proposals

Post Selection

- Develop PA Plan
 - Leadership: briefings/papers
 - Media: press releases
 - Political: point papers – less is better
- Congressional Notification
 - 30 or 45 day notice before award
- Environmental Baseline Survey
 - Complete before lease execution
- Site Land Survey
 - Incorporate into final lease



Summary

- Do Your Homework - preparation is key
- Understand the market - economics is vital
- Secure Support - an ounce of prevention...
- Keep It Simple – complication invites issues
- Go For It – you can't win if you don't play

For More information

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Questions?