



GUAM POWER AUTHORITY

# IRP and Competitive New Resource Acquisition



OCTOBER 18, 2007

R·W·BECK

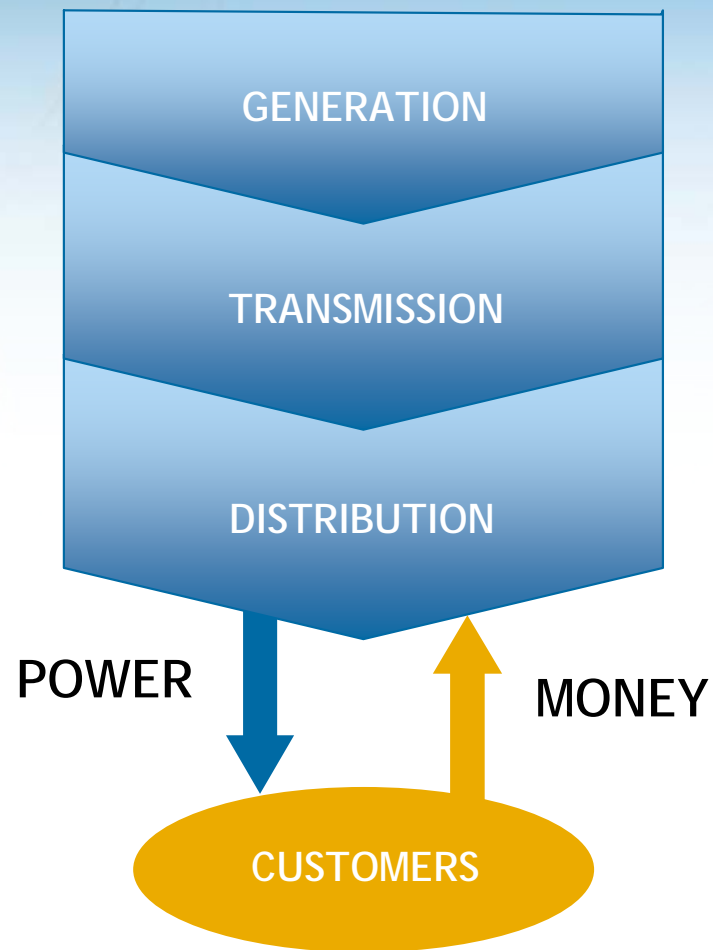
**Mind Powered:** Insight with Impact.

# Integrated Resource Planning

- Provides...
  - A guide for the type of generation that would best meet the needs of customers
  - A guide for the best demand side management programs that should be implemented
  - An indication of timing for resource acquisition over the next 20 years
- *And it's the starting point for the Competitive Acquisition Process --- but first a few comments about competition in the electric industry*

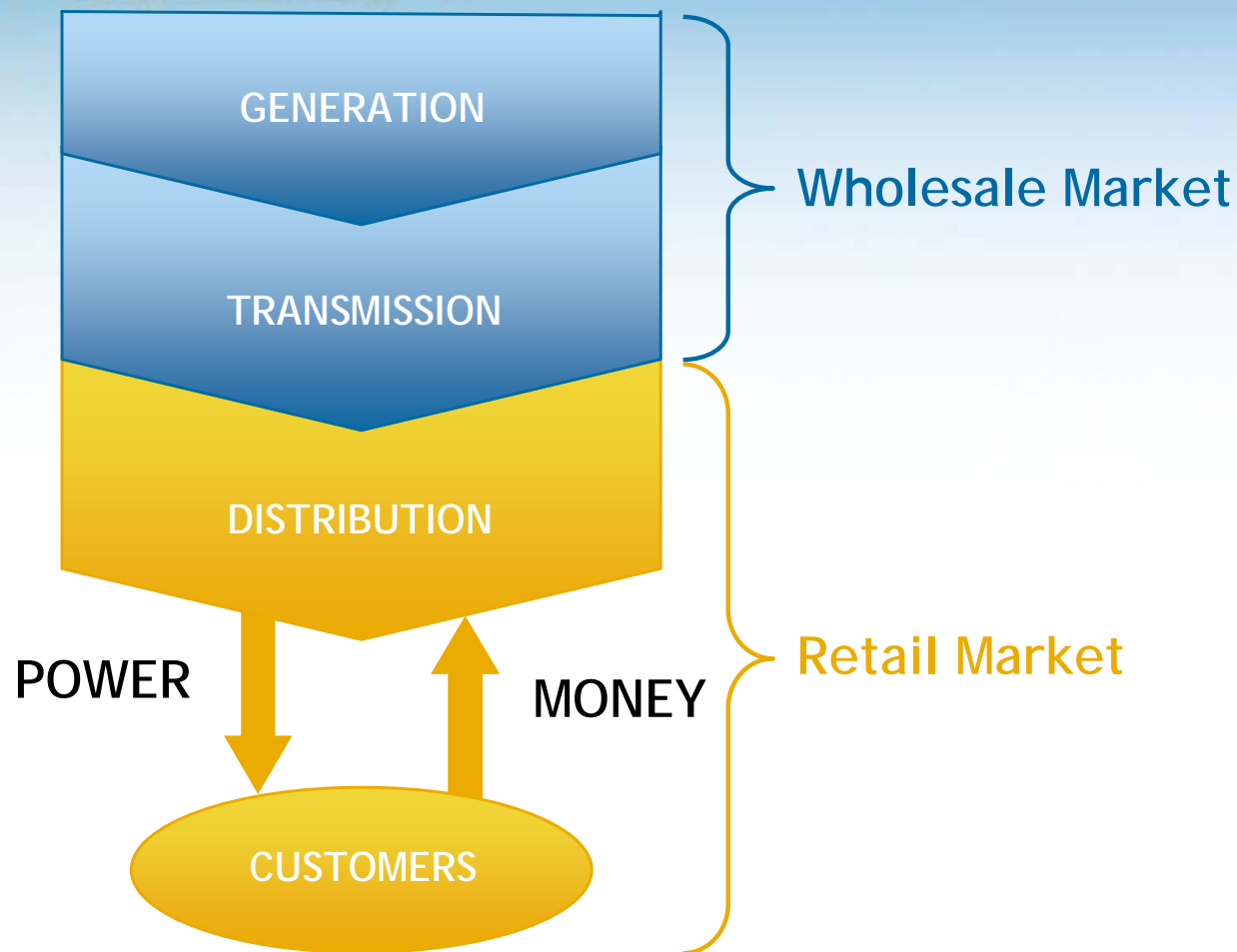
# Regulated Market Model

## Vertically Integrated Electric Utility



# Regulated Market Model

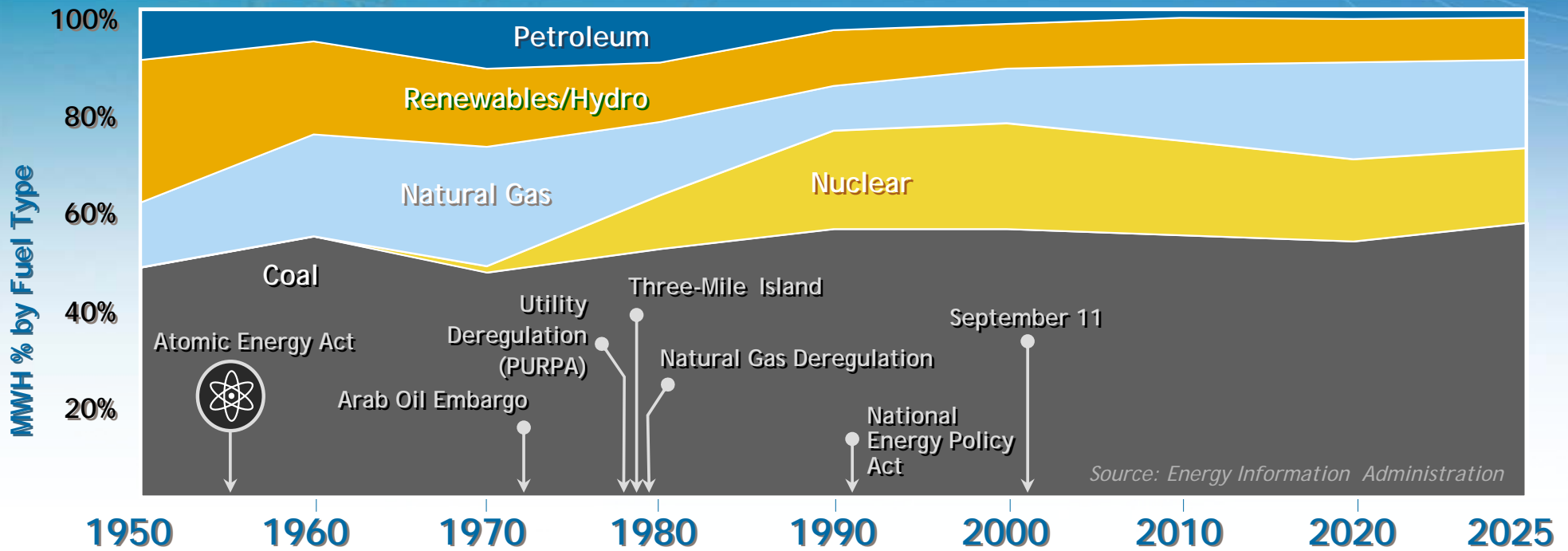
## Vertically Integrated Electric Utility



# Competition at Two Levels

- Wholesale Level - Defined by Federal law and FERC regulation
- Retail Level - Defined by individual state laws and state regulation
  - Adopted in some states
  - Repealed in some states
  - Most states have chosen not to adopt

# Energy and Competition Timeline



Admiral Lewis L. Strauss  
*"It is not too much to expect that our children will enjoy electrical energy in their homes too cheap to meter."*



EPA is formed and Clean Air Act is Passed



Jimmy Carter  
*"Resolving the Energy Crisis is 'The Moral Equivalent of War'"*

Fuel Use Act 1974-78

Climate Change Convention Kyoto Protocol signed by 154 nations in Rio

Enron Bankruptcy



Alan Greenspan  
*"Congress should look at ways to increase energy supplies from nuclear and coal. The two sources together account for about 70 percent of U.S. supply."*

# Public Utility Regulatory Policies Act (PURPA) of 1978

- Signed in 1978 by President Carter
- Ended promotional rate structures
- Encouraged conservation
- Provided incentives for efficient cogeneration
  - Qualifying Facilities (“QF”)
  - Utilities were required to buy QF excess generation at the utility’s avoided cost

Challenged the assumed natural monopoly of the vertically integrated utility - *but the economic model didn’t benefit customers*

# The Energy Policy Act of 1992 (EPACT)

- EPACT established Exempt Wholesale Generators (EWGs)
  - Not considered an electric utility
  - Exempt from PUHCA and Federal Power Act
  - May be owned by both registered and exempt (PUHCA) holding companies
  - May only sell at wholesale
- Established Foreign Utility Companies (FUCOs)
  - Holding companies and EWGs may hold financial interests in foreign utility companies

**This law created the competitive market  
at the wholesale level for the U.S.**

# FERC Orders 888, 889 and Order 2000

- Orders 888 and 889 Issued April 24, 1996
- Established Open Access Transmission
  - Electric utilities must provide transmission access to third parties under equal terms as their own resources.
  - Interconnection Standards and System Impacts
- Established the principles for constructing Independent System Operators (ISOs)
- Order 2000 Issued December 20, 1999
- Suggested, did not mandate, a new market structures...
  - Acknowledged that transmission would have to evolve from small-footprint monopolies into large, regional networks
  - Regional Transmission Organizations (RTOs)

**Would this apply to Guam?**

# Energy Policy Act of 2005

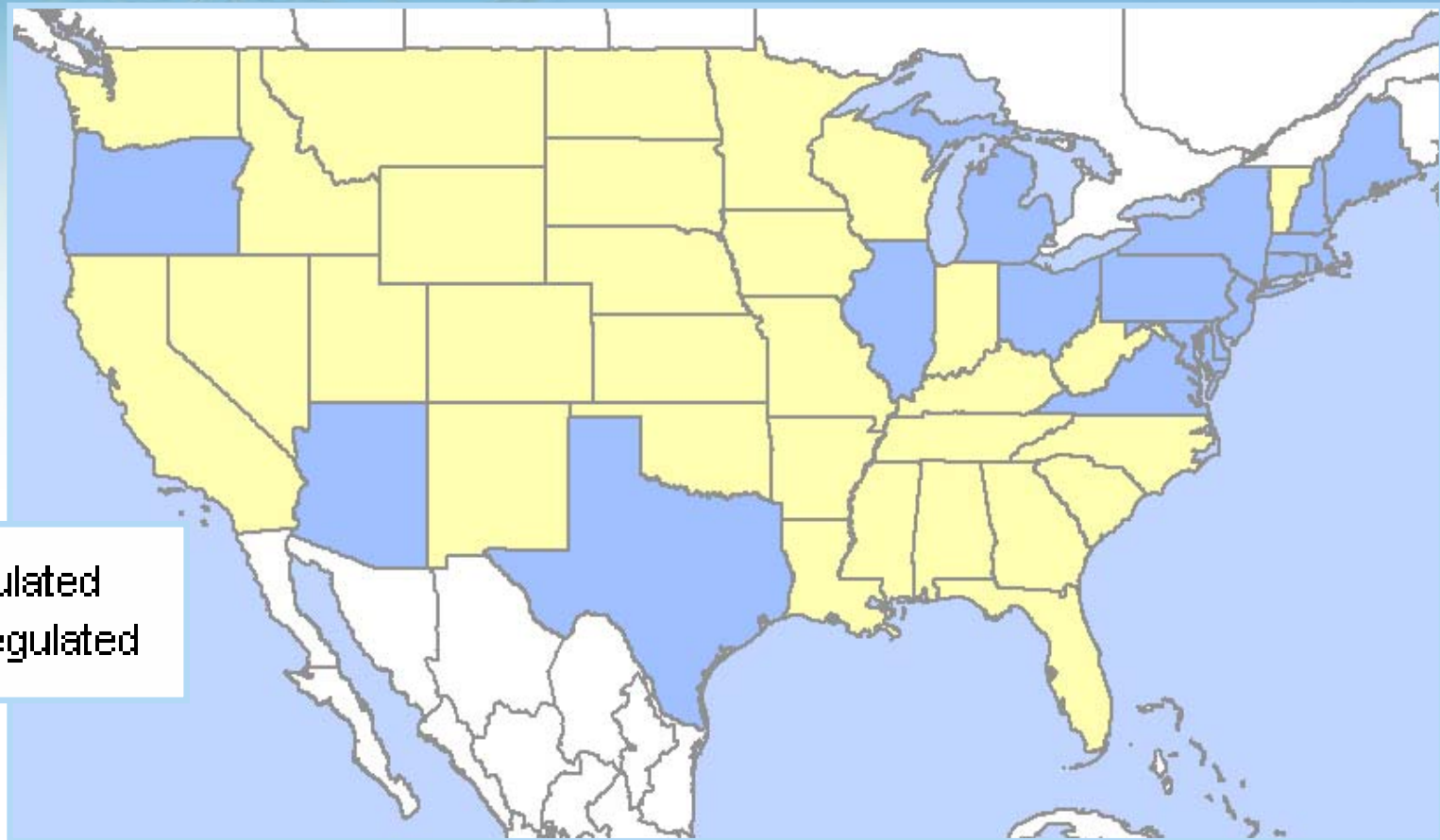
**“A little something for everybody!”**

We'll discuss this later

# What's Next? The New Energy Act

- National Renewable Resource Standard  
15% by 2020  
(wind, solar, tidal/wave, geothermal, DSM)
- Carbon - Greenhouse Gas Legislation
  - Elements already exist at the state level on the West Coast
  - Could be \$20 to \$50 per ton of CO<sub>2</sub>
  - Significant cost to gas and oil fired generation and double for coal

# Retail Competition



# Retail Reregulation - California Experience

- First State to adopt retail competition - AB 1890 in 1996
- Created a framework for competition at both the wholesale and retail levels
- Initially looked successful, but flaws and market manipulation resulted in significantly increased rates for customers
- Retail competition repealed in 2006, but wholesale competition continues

# Some additional observations on retail competition relative to Guam

- Significant overheads to implement
- Need for regulatory safeguards
- In states that have undertaken retail competition, virtually all governmentally owned utilities could “opt out” and the vast majority did ... California example

# So How Do You Create Wholesale Competition in a Single Utility Environment?

A Proven Approach currently used in a number of states.....



... the Private Sector has the right to compete for Resource Development

# What Guarantees an Even Playing Field?

## Regulatory Oversight!

- IRP and defined requirements are a public process and published
- Acquisition of power resources and major DSM program by open Requests for Proposal
- Both processes and results are under the review of the PUC

In some states there is an additional  
“burden of proof” if the utility’s  
self build option is chosen over private offers

# Who Plays

- Private Sector
  - Independent power producers
  - Energy companies
  - Other utilities
  - Local business
- Public Sector
  - GPA/GWA
- Public/Private Partnerships

# The Process Can Drive Creativity

## Competitive Advantages

Local Utility (GPA)	Established IPP
<p>Understanding of Power System</p> <p>Regulatory Background</p> <p>Lower Cost of Money</p>	<p>Execution Advantage</p> <ul style="list-style-type: none"><li>- Contracting / Procurement</li><li>- Design Build</li><li>- O&amp;M</li></ul> <p>Tax Advantage</p> <ul style="list-style-type: none"><li>- Depreciation Issues</li><li>- PTC (Energy Acts of 2005)</li></ul>

# An Example – A Private/Public Partnership: The White Creek Project



# The White Creek Wind Farm Example

- RPS
- Initial Siting
- Local Expertise
- Tax Exempt Financing

Local Public  
Utility

RFP



# The White Creek Wind Farm Example Contd.

- RPS
- Initial Siting
- Local Expertise
- Tax Exempt Financing

Local Public  
Utility

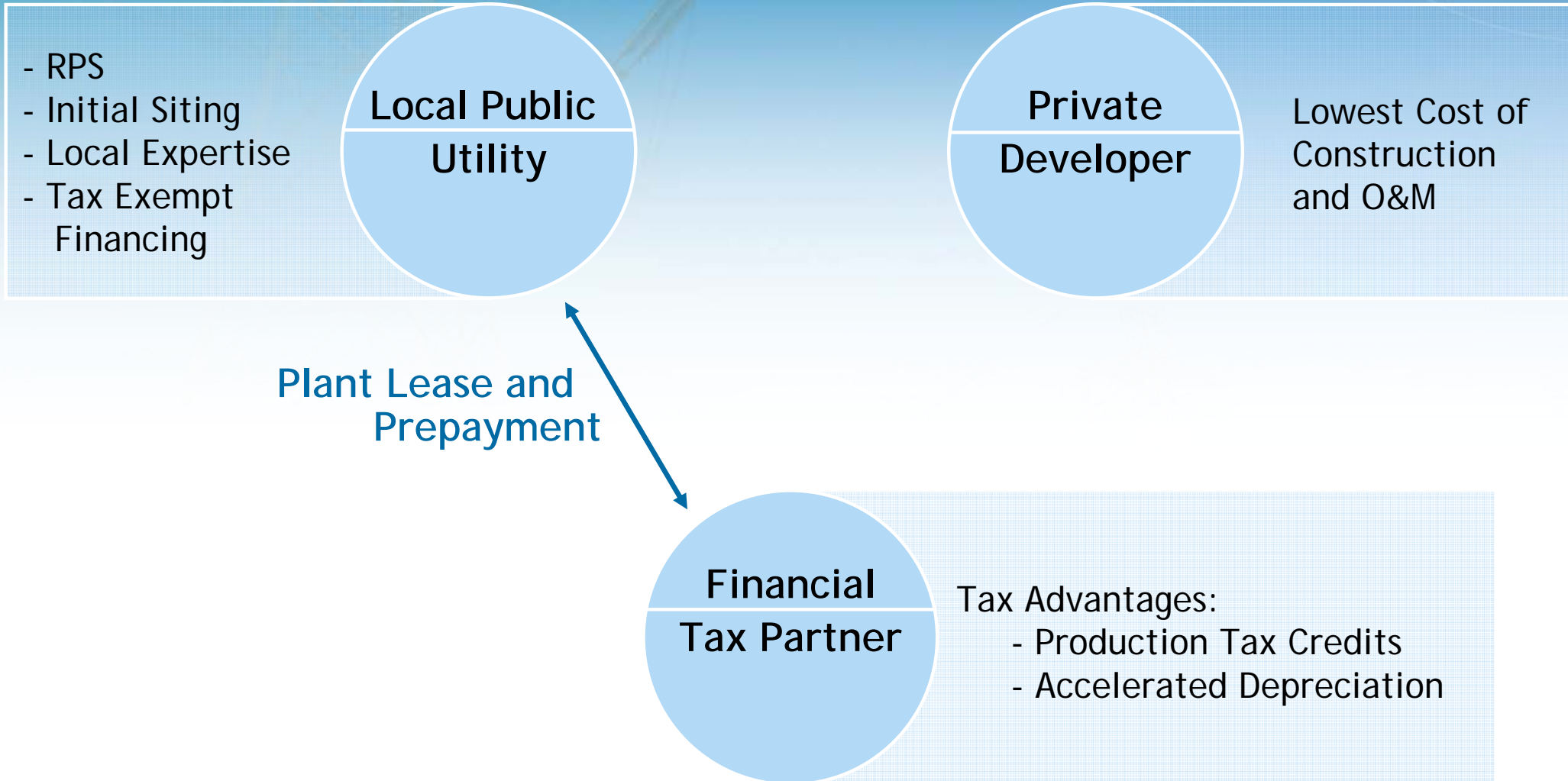
Selected

Private  
Developer

Lowest Cost of  
Construction  
and O&M

How to take  
advantage of E-2005  
Production tax credits?

# The White Creek Wind Farm Example Contd.



# The White Creek Wind Farm Example Contd.

- RPS
- Initial Siting
- Local Expertise
- Tax Exempt Financing

**Local Public  
Utility**

**Private  
Developer**

Lowest Cost of  
Construction  
and O&M

**A 10 to 15%  
Lower  
Cost**

**Financial  
Tax Partner**

Tax Advantages:

- Production Tax Credits
- Accelerated Depreciation

The IRP driven Competitive Acquisition Process will create a more competitive generation environment and most importantly ...

**Provide least cost energy for  
both small and large customers of GPA**

...as compared to alternatives

