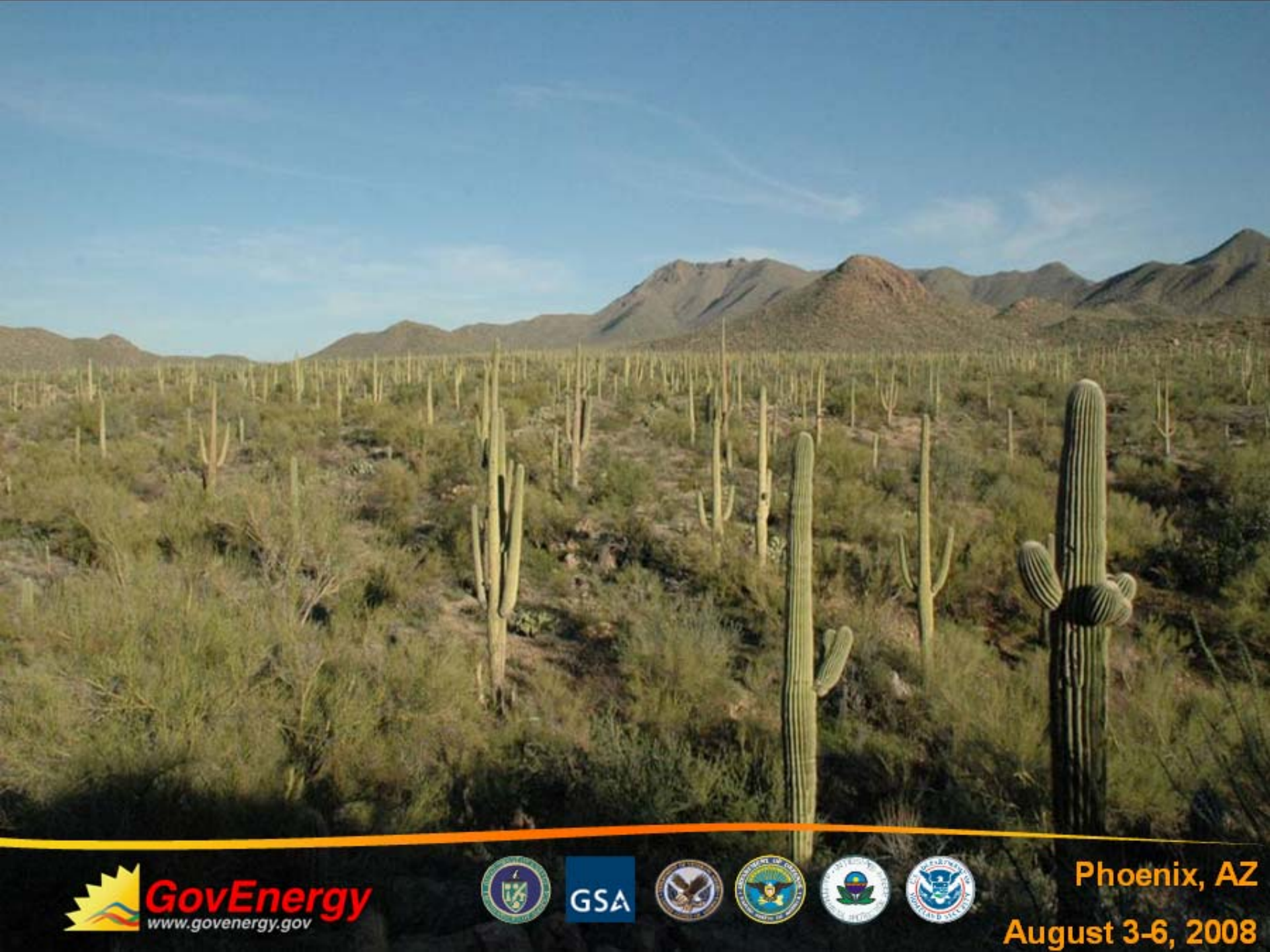
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Energy Services/Power Purchase Agreements

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August 6, 2008

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Energy Services/Power Purchase Agreements

A contract for on-site generation & sale of electricity and related services; typically between a project developer and the electricity buyer or facility owner

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ESA/PPA Attributes

"The P.P.A. model is becoming the dominant model"

N.Y. Times, March 26, 2008

- Monthly Payment for Energy Services
- Long-Term Contract
- Electricity Price is Negotiated between Parties
- Ownership of Generating Asset Remains with Developer
- Government Purchases Energy Services including Electricity at Negotiated Rate $/kWh.

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ESA/PPA Terms and Conditions

- Contract duration 10 – 25 years
- Performance Guarantees from Developer
  - Ensures Supply of Electricity to Government
- Environmental Attributes to Developer
  - Government Customer Should Share Any Benefit
- Revenue Streams to Developer include:
  - Energy Payment
  - Capacity Fee
  - Thermal Charge

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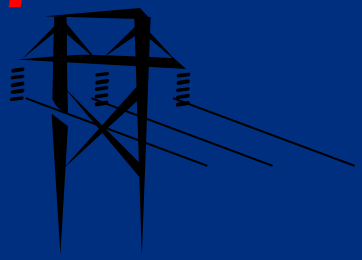
ESA/PPA Terms and Conditions

Environmental Attributes

These can be monetized!



- Carbon Trading Credits
- Renewable Energy Credits
- Emissions Reduction Credits
- Investment or Production Tax Credits
- Emissions Allowances
- Green Tags
- Accelerated Depreciation

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ESA/PPA Terms and Conditions

Uniquely Government Provisions

- Subject to Availability of Funds Clause
- Sovereign Immunity Clause
  - Government must consent to be sued
- Lopsided Indemnity Provision
  - Developer Indemnifies but Government does not
- Limitations of Liability for seller and buyer
- Site Access and Security Considerations

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On-Site Power Production

- Benefits of Fuel Cells:
- Optimize Energy Efficiency
- Reduce Harmful Emissions
- Increase Reliability & Reduce Demand on Grid
- Comply with Legal Mandates
- Upgrade Facility Infrastructure Without Capital Appropriations
- Insulate Against Rising Electricity Rates

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Guidelines for Fuel Cell Projects
Initial Considerations

- Current Electricity Price >11 cents per kWh
- Availability of Fuel Supply
  - Low Cost Natural Gas
  - Anaerobic Digester Gas (ADG) from Wastewater Treatment Facility
- Government Customer Assumes Risk of Natural Gas Costs
- Fuel Cell Siting – less land required than for PV
- Existence of Financial Incentives

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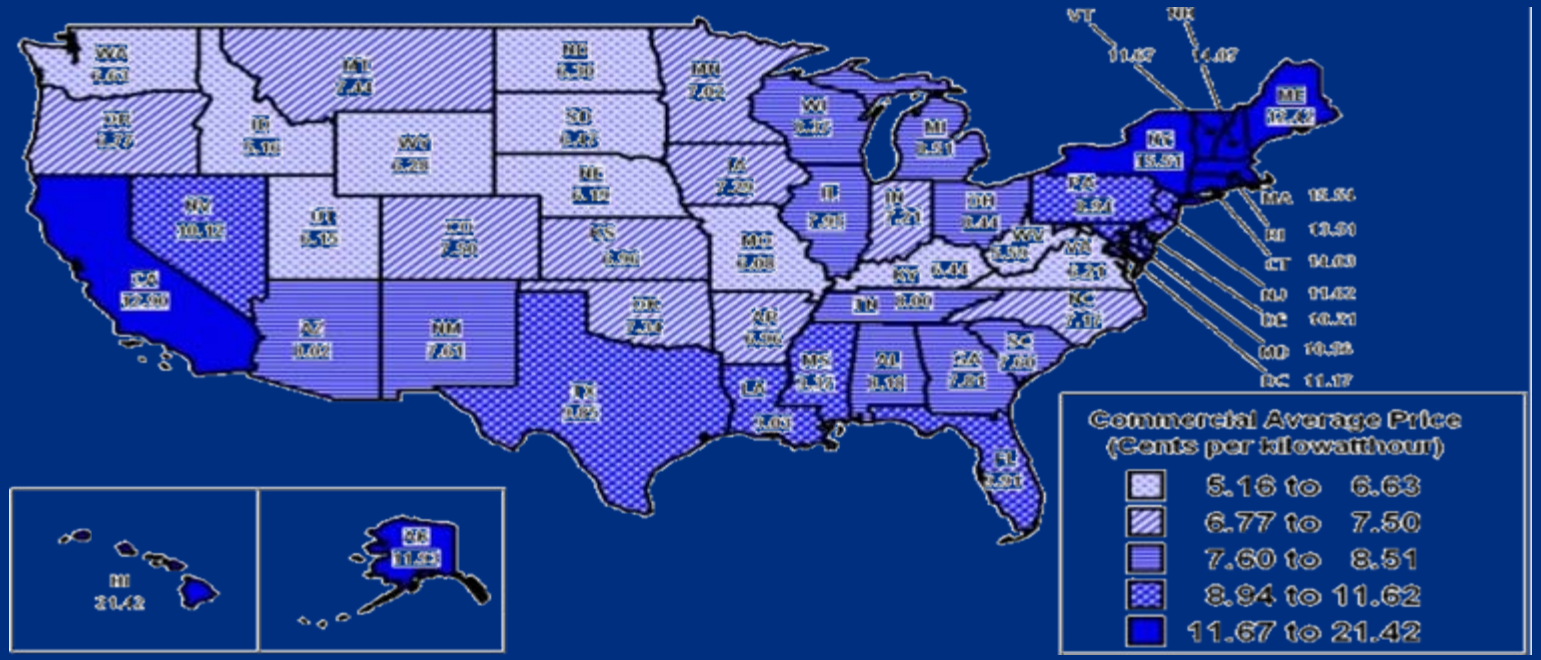
Spark Spread

State Electricity Costs

U.S. Commercial Average Price (2006) was 9.46 cents/kW-Hr



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Sample Spark Spreads

New Jersey

$0.12 per kWh Electricity Price

$10.00 per decatherm Natural Gas Price

Spark spread: 12 – 10 = +2

➔ Ripe for Fuel Cell Power

Georgia

$0.6 per kWh Electricity Price

$10.00 per decatherm Natural Gas Price

Spark spread: 6 – 10 = - 4

➔ Less potential for Fuel Cell Power

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$$ Incentives for Fuel Cell Installations

Tax Incentives

Federal Investment Tax Credit (ITC)

- Energy Policy Act of 2005 1/1/06 to 12/31/07
- ITC extended for one year until 12/31/08
- Renewable Energy and Energy Conservation Tax Act of 2008
  - Proposed Legislation
  - Extends ITC for Qualified Fuel Cell Property for 8 years until 12/31/16

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$$ Incentives for Fuel Cell Installations

Tax Incentives

Federal Production Tax Credit (PTC)

- Incentivizes Diversification of Energy Production Methods
- A single fuel cell installation cannot qualify for both ITC and PTC

Unlike solar, wind or geothermal technologies, fuel cells must meet a minimum efficiency standard to qualify for tax credits

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$$ Incentives for Fuel Cell Installations

Utility Incentives

State Renewable Portfolio Standards (RPS)

- Require utilities to include renewables in their generation mix
- Under pressure to comply with state law
- Looking to buy renewable energy credits and/or pay rebates

Landfill gas or methane gas from wastewater treatment as a fuel source could qualify as renewable generation

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$$ Incentives for Fuel Cell Installations

Utility Incentives

System Benefit Funds

- Demand Side Management Programs run by utilities
- Funding derives from surcharge on electric ratepayers' utility bills
- Based on efficiency measures to reduce load on grid

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New York Power Authority Creating Value from Anaerobic Digester Gas (ADG)

- Partnered with NYC Dept. of Environ. Protection
- Solved Air Emissions Problem (Flared ADG)
- Redirected Flared ADG to Power Fuel Cells
- Fuel Cell Projects can be cost effective by
  - Using ADG in lieu of Natural Gas
  - Capturing & Using Waste Heat
- Qualified as Renewable Production under N.Y. RPS

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