



Think Energy, Inc.

[www.thinkenergy.net](http://www.thinkenergy.net)

# Clean, Renewable Energy: Understanding Your Purchasing Options



---

[www.ResponsiblePurchasing.org](http://www.ResponsiblePurchasing.org)



# Agenda

- ▶ Think Energy, Inc.
  - ▶ Team
  - ▶ Services
- ▶ Renewable Power Generation
  - ▶ Technologies
  - ▶ Financing
- ▶ Renewable Power Purchasing Options
  - ▶ Renewable Energy Certificates
  - ▶ Long-term Power Contracts
    - ▶ Contracts for Differences
  - ▶ Onsite Generation

# Think Energy Team

- ▶ Created in 2000
- ▶ Focus is renewable energy
- ▶ Team expertise
  - ▶ Architecture
  - ▶ Engineering
  - ▶ Civil Engineering
  - ▶ Electrical Engineering
  - ▶ Mechanical Engineering
  - ▶ Economics/Finance
  - ▶ Environmental Science and Management
  - ▶ Physics
  - ▶ Political Science

# Think Energy Services

- ▶ Strategic Planning and Implementation
- ▶ Analysis and Purchasing Support
  - ▶ On-site Generation
  - ▶ Green Power
  - ▶ Renewable Energy Certificates
  - ▶ Carbon Markets
- ▶ Business Development
- ▶ Investment Services
- ▶ Incentive and Legislation Navigation

# Renewable Energy Technologies

- ▶ Solar
  - ▶ Solar photovoltaics
  - ▶ Solar hot water
  - ▶ Solar hot air
- ▶ Wind
  - ▶ Wind farms
  - ▶ Small wind
- ▶ Biomass
  - ▶ Landfill gas
  - ▶ Agricultural waste
  - ▶ Wood waste
  - ▶ Energy crops
- ▶ Hydro
  - ▶ Low-impact Hydro Institute
  - ▶ Large hydro (dams)
- ▶ Wave/Tidal
  - ▶ Several demonstration projects
  - ▶ Controlled by Federal Energy Regulatory Committee (FERC)



# Renewable Energy Financing

- ▶ Steps in Renewable Energy Plant Project Financing
  - ▶ Project Developer Plans a Project
    - ▶ Land lease
    - ▶ Local permits
  - ▶ Project Developer Obtains Capital
    - ▶ Must demonstrate to investors or lenders that expected revenue will accrue
      - ▶ Signed contracts
      - ▶ Expectations for wholesale power markets

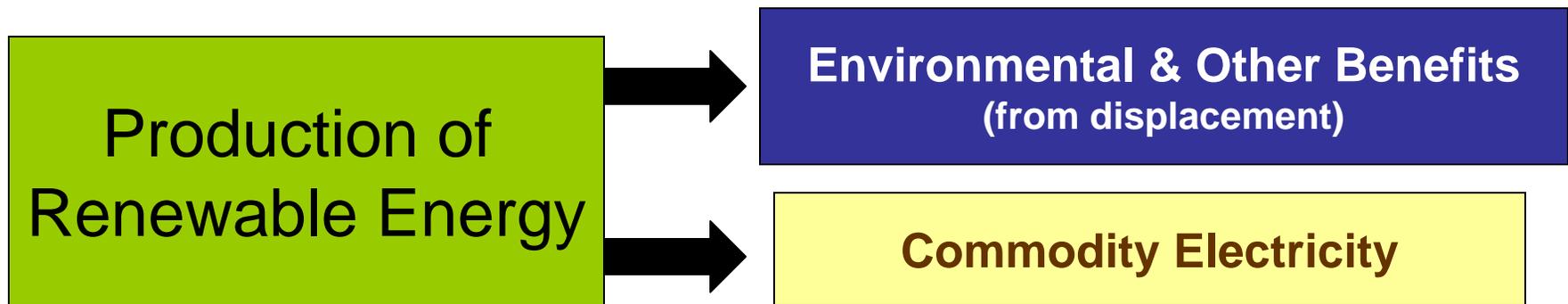


# Renewable Energy Purchasing Options

- ▶ Renewable Energy Certificates
- ▶ Long-term Power Contracts
  - ▶ Power Purchase Agreements
  - ▶ Contracts for Differences
- ▶ Onsite Generation



# Renewable Energy Certificates



- ▶ Renewable Energy Certificates (RECs) represent the contractual right to claim the environmental and other attributes associated with electricity generated from a renewable energy facility
- ▶ May be traded independently of energy markets

# Long-Term Contracts

- Power Purchase Agreements
  - Buyer agrees to purchase power at a set price for a contract term
  - Seller agrees to sell power at a set price for a contract term
  - Seller agrees to manage grid interaction
- Contracts for Differences
  - Buyer and seller agree on a “strike price”
    - If wholesale market is above strike price, buyer reimburses seller for difference
    - If wholesale market is below strike price, seller reimburses buyer for difference

# On-site Generation

- ▶ Not Included in Scope of Project
  - ▶ Viable Alternative
  - ▶ Requires detailed analysis of individual site
- ▶ Considerations
  - ▶ Resource
  - ▶ Incentives
  - ▶ Utility requirements
    - ▶ Net metering
    - ▶ Stand-by charges



Think Energy, Inc.

[www.thinkenergy.net](http://www.thinkenergy.net)

## Contact Information

**Mark Crowdis**

**Chief Executive Officer**

**Think Energy, Inc.**

**6930 Carroll Avenue, Suite 400**

**Takoma Park, MD 20912**

**(301) 270-0483**

**[mcrowdis@thinkenergy.net](mailto:mcrowdis@thinkenergy.net)**

**[www.thinkenergy.net](http://www.thinkenergy.net)**



---

[www.ResponsiblePurchasing.org](http://www.ResponsiblePurchasing.org)

