

Overcoming Challenges to Green Power Markets

Renewable Energy Certificates

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Alcoa Inc.

Alcoa is:

- **World's leading producer of: primary aluminum, fabricated aluminum, alumina**
 - Products and components used worldwide in aircraft, automobiles, beverage cans, buildings, and consumer applications (e.g., Alcoa Wheels®, Reynolds Wrap®)
- **Active in all major aluminum industry segments from mining to recycling**
- **A global company**
 - 120,000 employees in 41 countries
- **A profitable company**
 - Net income \$938 M, revenue \$21.5 B (2003)
- **Committed to Sustainability**
 - Sustainability is integral to Alcoa's Values which are demonstrated through performance



Largest Purchase of Renewable Energy Certificates in the U.S.

- **Nine Green Power Market Development Group member companies and WRI executed largest purchase in U.S. (9/03)**
- **Sources: Wind, Landfill Gas, Biomass**
- **Volume: 265,000,000+ kWh/year**
- **Annual purchase is roughly equivalent to electricity consumption of 24,000 homes**



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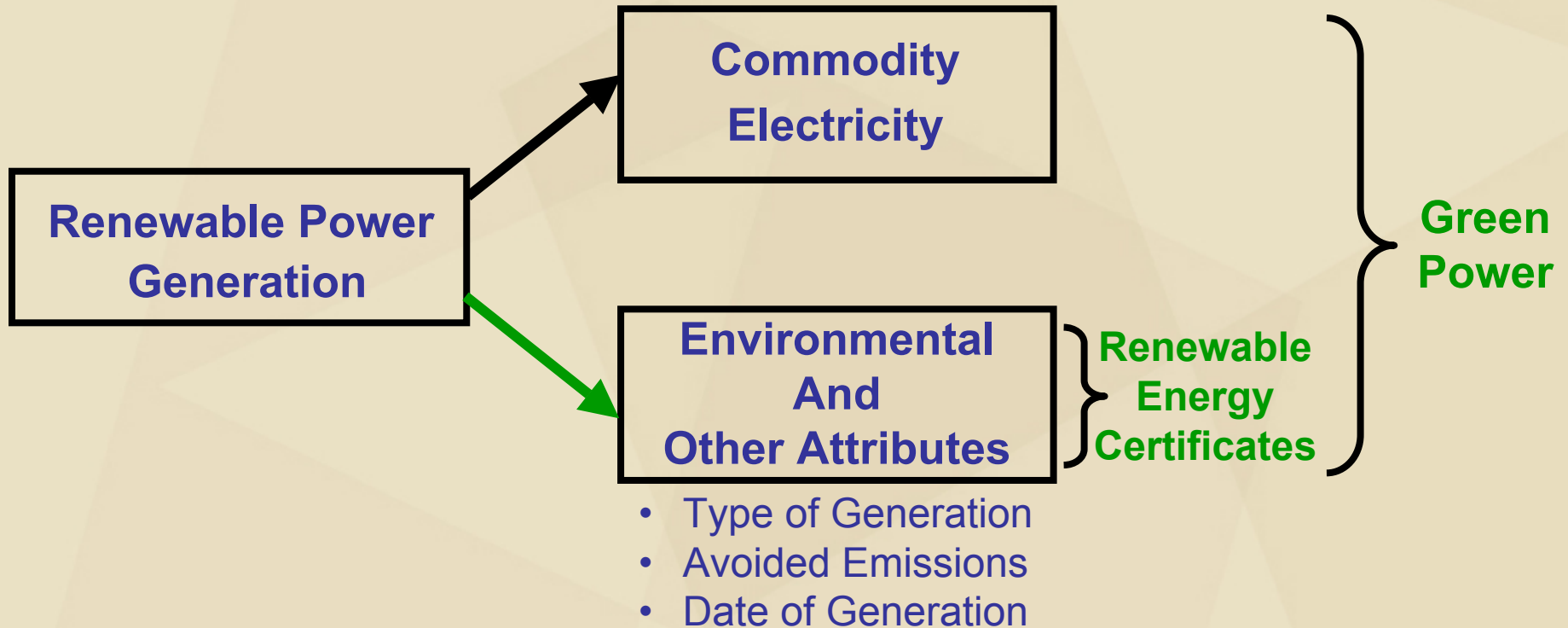
Johnson & Johnson

kinko's

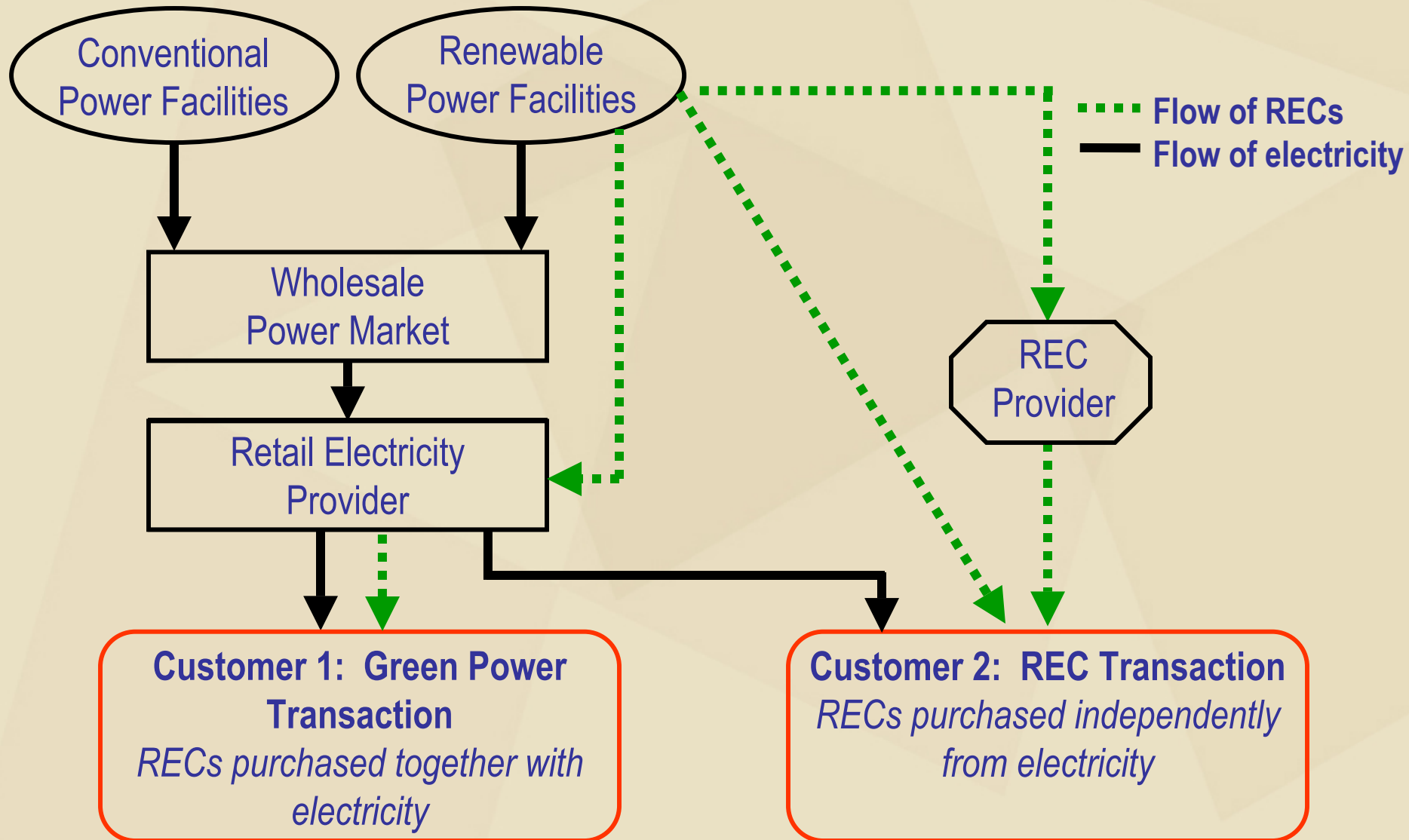


that was easy.

What Is A Renewable Energy Certificate (REC)?



RECs and Green Power Are More Similar Than Different



Basis of the Business Case for Purchasing RECs

- **Reduce Corporate Greenhouse Gas Emissions**
- **Support Renewable Energy**
- **Strengthen Customer and Other Stakeholder Relations**
- **Differentiate Products and Brands**
- **Provide Long-Term Price Hedge** (fixed v. varying market price)

Advantages of RECs Relative to Green Power

1. Lower Cost

- Unbundled nature of RECs breaks down geographic boundaries and provides access to lower cost renewable resources

2. Increased Flexibility

- Wider selection of suppliers
- Greater variety of renewable resource options
- Ability to interact directly with renewable energy projects

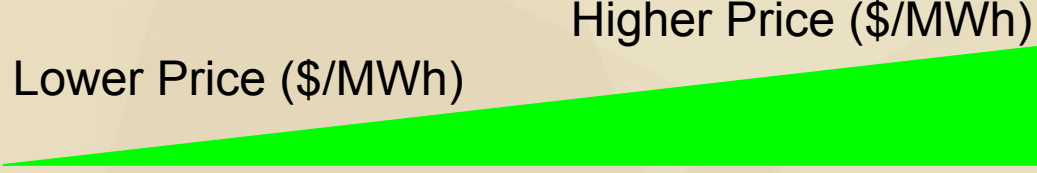
3. Simplified Transactions

- Contract independent of electricity supply
- Flexible REC allocation to multiple facilities

Factors to Consider When Buying RECs

1. Internal Business Case

2. Price Drivers



	Lower Price (\$/MWh)		Higher Price (\$/MWh)
Technology	Landfill Gas	Wind	Solar
Location	National	Regional	Local
Generation Vintage	Previous Year		Current Year
Purchase Volume	Large		Small
Contract Term	Long (10 yr)		Short (1 Yr)
Price Risk	Varies w/Elec. Mkt.		Fixed

RECs:

- **Are becoming an increasingly attractive renewable energy product for companies interested in reducing the environmental impact of their business activities**
- **Can provide identical environmental and business benefits as many green power transactions**
- **Can provide key advantages v. green power and result in greater environmental benefit for given investment.**

Taking Next Steps

- 1. Increase Organization's Awareness**
- 2. Define Objectives and Requirements of Organization**
- 3. Identify Funding / Budget Sources**
- 4. Identify Potential REC Suppliers**
- 5. Create Request for Proposal and Obtain Bids**
- 6. Negotiate Contract**
- 7. Take Delivery & Pay**
- 8. Verify**

Resources for Learning More About RECs and Green Power

- **Green Power Market Development Group Web Site** (www.thegreenpowergroup.org)
- **Corporate Guide to Green Power Markets** installment 5: *“Renewable Energy Certificates: An Attractive Means for Corporate Customers to Purchase Renewable Energy”*
- **Template for REC “Request for Proposal”**
- **List of REC Suppliers**
- **Sample REC Contract**
- **REC Purchase Case Studies**

