Financing to Make Your Business Green: A Business Owner's Perspective

- Funding Components, Sources and Where to Get Additional Information

- Examples – Solar Energy is Used Here
  - Note: The numbers here are simplified, but are representative of reality

Business Owner's Perspective

- Renewable Energy Production is an Investment: Price/Cost Must be Less than Sum of Benefits Over Time, e.g., Prius

- Definition of investment: "…promises safety of principal and an adequate return." (Graham)

Funding Sources & Components

- Funding Sources
  - If Production is Owned by Business
    - Federal Incentives
    - State Incentives
    - Loan/Debt Funding
    - Savings from Avoided Electricity Costs
    - Net Metering Revenues and Credits
    - Competitive Grants
  - Power Purchase Agreement (Business buys electricity from Owner of Facility, e.g., Staples)

Federal Commercial Incentives

- Primary Noncompetitive sources
  - Stimulus Money (American Recovery Reinvestment Act) Production Tax Credits (PTC) = 30% of Eligible costs. Expires 12/31/10. This is cash in hand.
  - Investment Tax Credits – Businesses paying taxes may deduct 30% of eligible cost as a tax credit per IRS rules. No cash, reduced cash outlay later.
  - Loan guarantees: USDA Business & Industry Program
  - Clean Renewable Energy Bonds
  - US Dept. of Energy Loan Guarantee Program

Federal Incentive Data Sources

- Web site:
  - Comprehensive List: www.dsireuse.org
  - Treasury (PTC/ITC): http://www.treas.gov/recovery/1603.shtml
  - Dept. of Energy: www.lgprogram.energy.gov

State Incentives

- Commonwealth Solar II < 10 kW (Closed)
- Commonwealth Solar Stimulus: 10 – 200 kW – (Closed Right Now)
- Solar Renewable Energy Certificates - SRECs. Market based system pays auction price to generators of renewable power (e.g., $250 + per 1,000 watts generated annually). Administered by MA Department of Energy Resources

State Incentives Data Sources

- DSIREUSA http://www.dsireusa.org/incentives/index.cfm?re=1&ee=1&spv=0&st=0&srp=1&state=MA
- CEC http://www.masscec.com/index.cfm/page/Renewable-Energy-Generation
- Department of Energy Resources http://www.mass.gov/?pageID=eoeeasubtopic&L=3&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Renewable+Energy&sid=Eoeea

Loan/Debt Funding

- Assume you are the owner and the Cost of 100 kW PV (for example) Facility is $7.00 per watt, or $700,000
- Production Tax Credit of 30%
- SREC payments (minimum amount of $250 per SREC) = $25,000 annually
- Must fund construction

Power Purchase Agreements

- Private entity purchases, installs, owns and operates and maintains customer-sited renewable equipment
- Customer engages in little ownership risk, carries no upfront costs while reducing electricity costs
- Example: Staples contracts with SunEdison through PPAs for electricity
- Web site information: http://www.nrel.gov/docs/fy10osti/46723.pdf

Funding Example (Owned - Not a PPA)

- **Cost:** Capital Cost for 100 kW system @ $7 Watt = $700,000
  Less Prod. Tax Credit (30%) = - $210,000
  Carrying Cost for portion not funded from incentives. Balance - $490,000 @ 5.25, 10 yrs = $63,088/yr

- **Funding It**

State Incentive: Solar Renewable Energy Certif. (SRECs) $250 - $500 per kW annually (10 years) Price Determined by market.	$25,000 - $50,000
Electricity Savings: - $0.17 - $0.34 per kWh/yr =	$17,000 - $34,000
Total Funds Available to Pay Loan	$42,000 - $84,000
Net Cost/Benefit	- $21,088 - +$20,912

Grants – Treat as bonus because of competitive nature.
Accounting factors – e.g., accelerated depreciation – are not included here.

Examples

- PV installation on mixed use building in Western MA received check from Treasury for 30% of eligible cost (27% of total project) 82 days after filing application
- Small rural business received USDA REAP grant and MTC (predecessor of CEC) grants for 52% of 100 kW PV project
- UMass project received 20% funding from private grant and will file SRECs for next 10 years.

Other Sources – Narrower Scope

- Net metering funds
  - Size must be > 60 kW for payment
  - < 60 kW receives credit
  - Neighborhood net metering is possible

- Competitive Grants
  - USDA – Rural Development – Renewable Energy for America Program (REAP)
  - Dept. of Energy – Comb through Grants.gov

Owner's Perspective Revisited

- Be clear about three things.
  - Facility costs – Could and do change.
  - Funding/Incentives/Savings – Could and do change
  - Energy cost projections. You can't predict, but you must project. "Day to day the markets are voting machines. Over time, they are weighing machines." How do I protect my business from electricity price increases beyond my control?