Making the Business Case for Solar Power on Commercial Properties

A Sample Internal Presentation to Corporate Decision-Makers

Created by Alta Energy for companies that own or lease commercial property so they can identify, authorize and complete cost-effective solar projects with confidence.
Our Company’s Solar Potential

- xx properties in xx states, including ________ high-potential markets
- Average footprint of ## sq. ft. per property
- Annual energy costs $xxK per property - and rising
- Ability to offset ~xx% of our energy usage at locations with viable solar generation
- Possible savings of up to ~xx% on energy costs

Across ALL our properties, solar could generate xxMWhr/yr, offsetting xx% usage and saving $xx.xMM.
Our Energy Usage Pattern

Our Properties

- DC5-10
- DC5-09
- DC5-08
- DC4-10
- DC4-09
- DC4-08
Solar economics continue to improve.

- Untapped solar assets (roof-tops, parking lots, land)
- Falling panel prices (80% in the last 3 years)
- Falling installation costs in maturing vendor market
- Available state and local incentives, limited in time and scope
- Rising electricity costs and expected volatility
- Solidifying financial structures

Solar economics continue to improve.
SEIA/GTM projects a 6-fold increase in U.S. solar generation, from <1GW in 2010 to >8GW in 2016. (May ’12)

Commercial scale distributed solar generation accounted for >50% of all solar deployments during Q1 2012 at ~290MW.

U.S. Dept. of Energy predicts that solar will provide up to 14% of U.S. electricity supply by 2030. (Feb ’12)

The rapid decline of solar products will contribute to increased deployment growth; additional 40% to $1.70/Wp by 2015 according to McKinsey. (May ’12)
Our Company Goals

- Establish lower, more-predictable energy costs for the long term.
- Improve environmental sustainability of business practices, per our stated commitments.
- Support brand and reputation as civic leader.
- Improve community support for business expansion and new facilities.
Our Energy Strategy: 2012-13

- Quarterly energy audits
- Energy efficiency improvements: HVAC upgrades, energy-efficient lighting
- Demand reduction: new window shades, new company procedures, employee engagement program
- Solar power where and when it is cost-effective
Solar Projects are Complex
Many Parties and Issues

- Federal, state, municipal, utility incentives
- Lenders and financial institutions
- Solar technology types & manufacturers
- 3,000+ utilities
- State and local regulations
- Integrators / installers or third-party developers
- 3,000+ utilities
Choose BEST vendors and terms

1. Assess and monitor our properties across the U.S.
2. Identify the "go solar" properties based on our criteria
3. Request bids for "go solar" properties
4. Choose BEST vendors and terms
5. Install

- Installers, integrators, developers
- Ownership, Incentives
- PV Technology
Our Criteria for Solar Projects

- Maximize ROI; xx% hurdle
- Payback < xx years
- Priority to properties that are core to our portfolio
- Utilize all available incentives
- Seize best-possible market timing
- Meet our publicly stated goal for renewable energy generation
- Minimize use of staff time and senior management attention
Our Decision-Making Process

- Consistent analytical framework based on our criteria
- Reliable, unbiased data -- including utility rates, system prices, vendor costs, financing options, government/utility incentives
- Comprehensive, objective analytical model
- Efficient access to best vendors and best terms
- Economical process that minimizes staff time and senior management attention
Key Decisions for Each Project

- ROI profile for the project
- Appropriate ownership structure
- Government & utility incentives
- Technology
- Vendor type
- Choose the right vendor at right price

-> Complete project, track results
Ownership Structures

- Owner-owned: Purchase outright
- Owner-financed: Purchase/leverage with debt
- Third-party owned: Sale leaseback
- Third-party owned: Power Purchase Agreement (PPA)
Incentives for Commercial Solar Projects

- Business Energy Investment Tax Credit (ITC) - 30% through 2016
- SRECs (Solar Renewable Energy Credit - 1MWhr per credit) - Can be sold in some instances
- State and utility incentives vary
  - Capacity-Based Incentive, Expected Performance-Based Buydown, Performance-Based Incentive, Feed-In Tariff (FIT)
- Depreciation Credits
  - Modified Accelerated Cost-Recovery System (MACRS)
  - Bonus Depreciation - through 2012
- Renewable and Advanced Energy Project Property Tax Exemption (varies by state)
Solar Vendors & Roles

- Solar Engineering company
- Procurement company
- Installer/Construction company
- EPC (engineering, procurement and construction contractor)
- Integrator
- Product Manufacturers
- PPA Vendors
- Facilities-related businesses: Roofing, HVAC, etc.
- Consultants and brokers
Identify Opportunities: Data Gathering & Analysis

- Geo-specific meteorological data
- Property-specific electricity usage data
- Property-specific electrical load and meter data
- Utility-specific rate data
- Roof orientation, age, condition and idiosyncrasies
- Property-specific structural issues
- Incentives at the federal, state, local and utility levels
- Upcoming incentives and legislation
- Technology type best for this project
- Geo-specific prices for materials
- Availability and pricing of all available financing structures

Perform reliable, objective portfolio-level analysis.
Our Portfolio Summary:
(A Sample Report from Alta Energy)

<table>
<thead>
<tr>
<th>Total Properties</th>
<th># Properties</th>
<th>Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN</td>
<td>10</td>
<td>&gt; 13%</td>
</tr>
<tr>
<td>YELLOW</td>
<td>20</td>
<td>8-13%</td>
</tr>
<tr>
<td>RED</td>
<td>25</td>
<td>&lt; 8%</td>
</tr>
</tbody>
</table>

**Primary Criterion: IRR**

**Green Properties: ROI**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Location</th>
<th>ROI</th>
<th>Last Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winhaminton*</td>
<td>Cool Town, CT</td>
<td>11%</td>
<td>21%</td>
</tr>
<tr>
<td>Fakestore</td>
<td>Springfield, OH</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Otherville</td>
<td>Louisville, CT</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>Hobbyskins</td>
<td>Gloshing, CT</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Pantsharbor*</td>
<td>Joe, MA</td>
<td>10%</td>
<td>18%</td>
</tr>
<tr>
<td>SockYarn</td>
<td>Crabtown, MD</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Hill Valley*</td>
<td>Brownville, CA</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Young Truck</td>
<td>Car Harbor, MA</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>Pollyspring</td>
<td>Flushing, OH</td>
<td>13%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Yellow Properties: ROI**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Location</th>
<th>ROI</th>
<th>Last Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winhaminton*</td>
<td>Cool Town, CT</td>
<td>21%</td>
<td>12%</td>
</tr>
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</table>

**Red Properties: ROI**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Location</th>
<th>ROI</th>
<th>Last Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>SockYarn</td>
<td>Crabtown, MD</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Hill Valley*</td>
<td>Brownville, CA</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>Young Truck</td>
<td>Car Harbor, MA</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Pollyspring</td>
<td>Flushing, OH</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Notes: Results from Alta Energy's proprietary model. Green = ready for deployment, Yellow = possible deployment opportunity, Red = continue monitoring.
Building Details
- Roof Area: ~240,000ft²
- Usable area: 50% (Skylights, HVAC equip.)
- Roof Type: Flat, Composite
- Roof Tilt: 0

Electric Bill Details:
- Utility: Jersey Central Power and Light
- Rate Type: General Service, Seasonal
- Average Rates:

<table>
<thead>
<tr>
<th>[¢/kWh]</th>
<th>Rates</th>
</tr>
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<tbody>
<tr>
<td>Winter</td>
<td>$0.17</td>
</tr>
<tr>
<td>Summer</td>
<td>$0.20</td>
</tr>
</tbody>
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Solar System Details:
- Module Type: XYZ Module AE235
- Number of Modules: 2,830
- Base Cost: $x.xx/Watt
- Net System Cost: $x,x00,000
- System Size: xxx kW
- Annual Production: x,068 MWh
# Property #1: Analysis
(A Sample Report from Alta Energy)

## Current Status

<table>
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<tr>
<th>Goal: Maximize IRR</th>
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<tbody>
<tr>
<td>13.7% IRR</td>
</tr>
<tr>
<td>5.3 yrs Payback Period</td>
</tr>
<tr>
<td>$99k First Year Savings</td>
</tr>
<tr>
<td>$2.3M Gross System Cost</td>
</tr>
<tr>
<td>$767k Net Present Value</td>
</tr>
</tbody>
</table>

## Market Place Snapshot

- **Federal Incentives**
- **State Incentives**
- **Local/Utility Incentives**
- **Panel Prices**
- **Installation Costs**

## State/Utility/Local Summary

- **New Jersey Commercial Electricity Price**
  - 1990: $0.08
  - 1995: $0.11
  - 2000: $0.14
  - 2005: $0.12
  - 2010: $0.14

- **Critical Incentive Summary**:
  - 5 year Solar REC contract
  - Current Spot SREC Price = $160/MWh
  - $0.18/W rebate if panels are made in NJ (if not included, IRR=15.1%)

## Next Steps

- Present to Senior Management & gain approval
- Begin procurement process

## Rooftop System Overview

- **System Size**: 665 kW
- **CO2 Offset**: 767 MT/yr

## 2010 Electrical Use

- **Consumption**: 6,800,000 kWh/yr
- **Electricity Cost**: $1,200,000/yr

## Solar Asset Tracking System Report

- **Gross System Cost**: $2.3M
- **Net Present Value**: $767k
- **First Year Savings**: $99k
- **Utility**: Public Service Electric and Gas Company
- **Rate Structure**: GS, TOU
- **Average Elec. Price**: $0.176/kWh

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*Note: The report includes a data chart showing the market trend, including federal, state, local, and utility incentives, as well as panel prices and installation costs. The critical incentive summary highlights key rebates and contracts.*
For Each “Go-Solar” Property: Create a Detailed RFP

- Property-specific info
  - Usable surface area
  - Roof type, age, condition, angle
  - Historical energy use and costs

- System targets
  - Design criteria priorities
  - Min/max production
  - Target energy usage offset (via historical data)

- Incentive targets and restrictions

- Master schedule reflecting all permitting, incentive application and tax considerations
Next Steps

- Authorize Alta Energy to handle the procurement process, at no cost to us.
- Evaluate qualified bids; select vendor and terms.

OR

- Create RFP.
- Research and identify qualified vendors.
- Distribute RFP.
- Evaluate bids; select vendor and terms.
Alta Energy enables commercial property owners to identify and complete cost-effective solar projects with confidence and deliver on-target energy and financial results.

- Solar analytics: Comprehensive, objective model tracks all properties in a client’s portfolio over time for “go solar” projects that meet the client’s criteria.

- Procurement: RFP/auction process delivers the best vendors and terms for every project.
The right solar system for each “go solar” property at the right time with the right vendors

Result:
Higher ROI on solar projects
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