Generating Revenue from Rooftops: Non-traditional Methods to Create Revenue for your Real Property

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Program Overview

- Segment 1 – Why Are We Here?
- Segment 2 – Solar Electric
- Segment 3– Other Alternative Methods
- Segment 4 – Legal Issues
- Segment 5 – Contracting Do's and Don'ts
- Segment 6 – Driving/Implementing Decision Making
- Segment 7 – Audience Q&A

Segment 1

Why Are We Here?

- Economic Benefits
- Green Benefits

Segment 2

Solar Electric

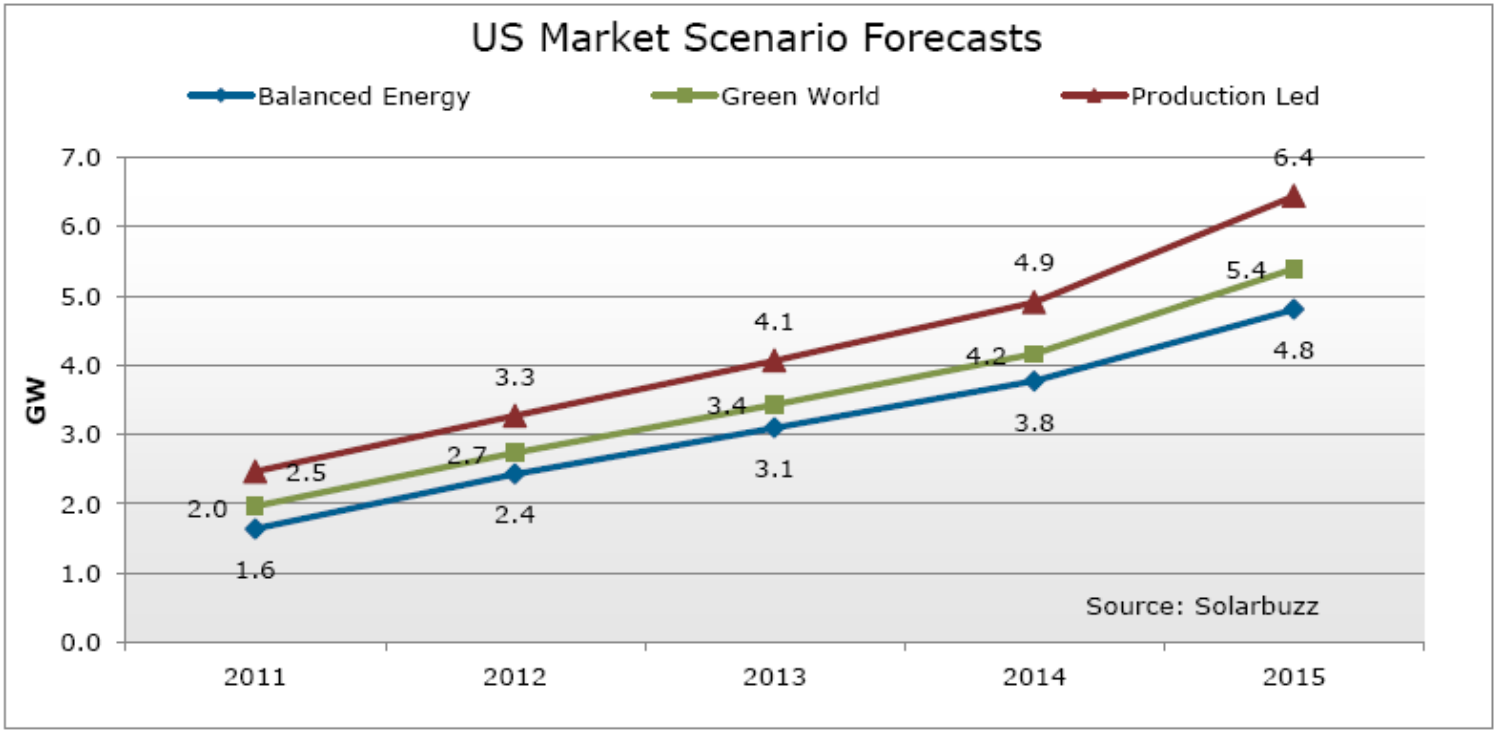
What and Why?

- PV = photovoltaics
- Rooftop or ground-mount
- Building integrated PV
- 67% increase in PV projects in 2010
- As of 2010, 878 MW solar PV installed in US (Solar Energy Industries Association)
- Growth driven by
  - -Declining technology costs
  - -Tax credits and other incentives
  - -Green appeal

US Market Forecast

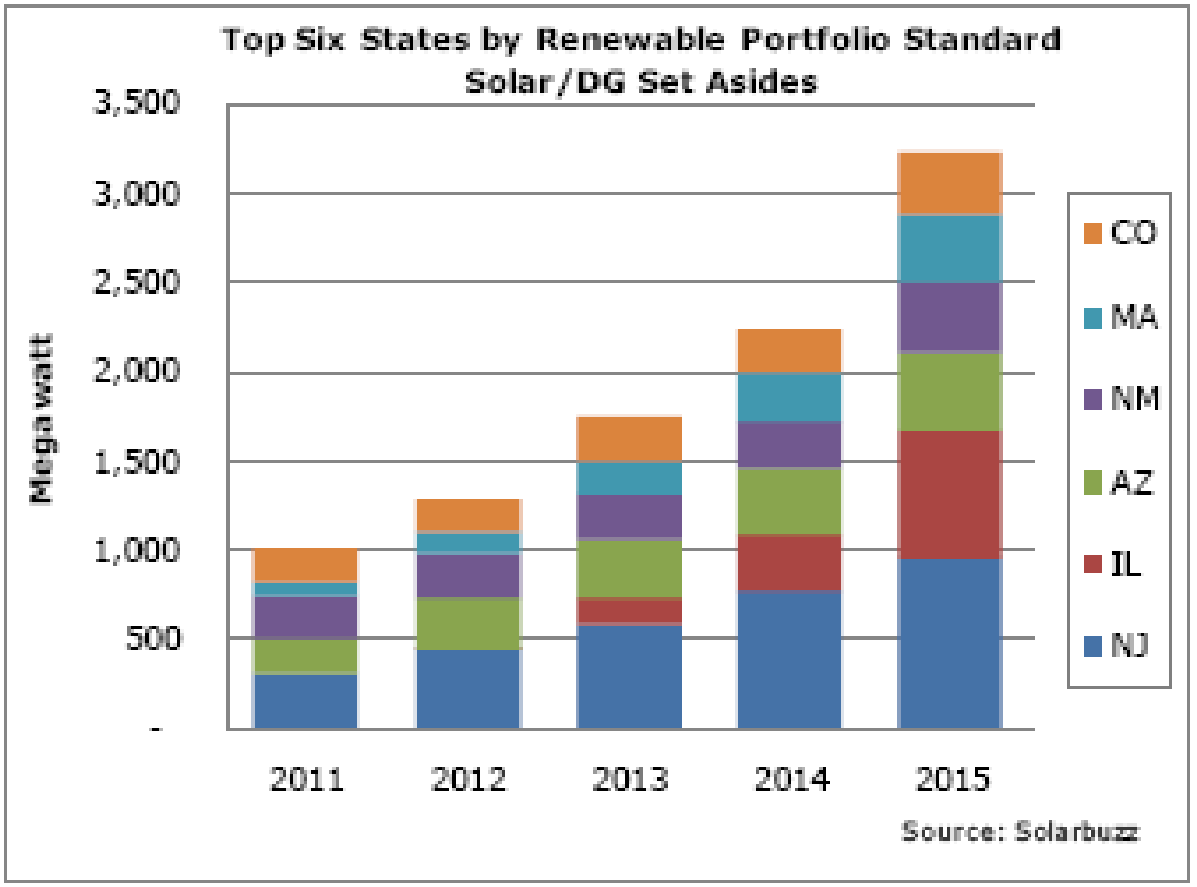
The US PV market is projected to rise from 0.95 GW to between 4.8 – 6.4 GW by 2015, which represents a CAGR of between 39 - 47%.

US Market Scenario Forecasts (2011-2015)



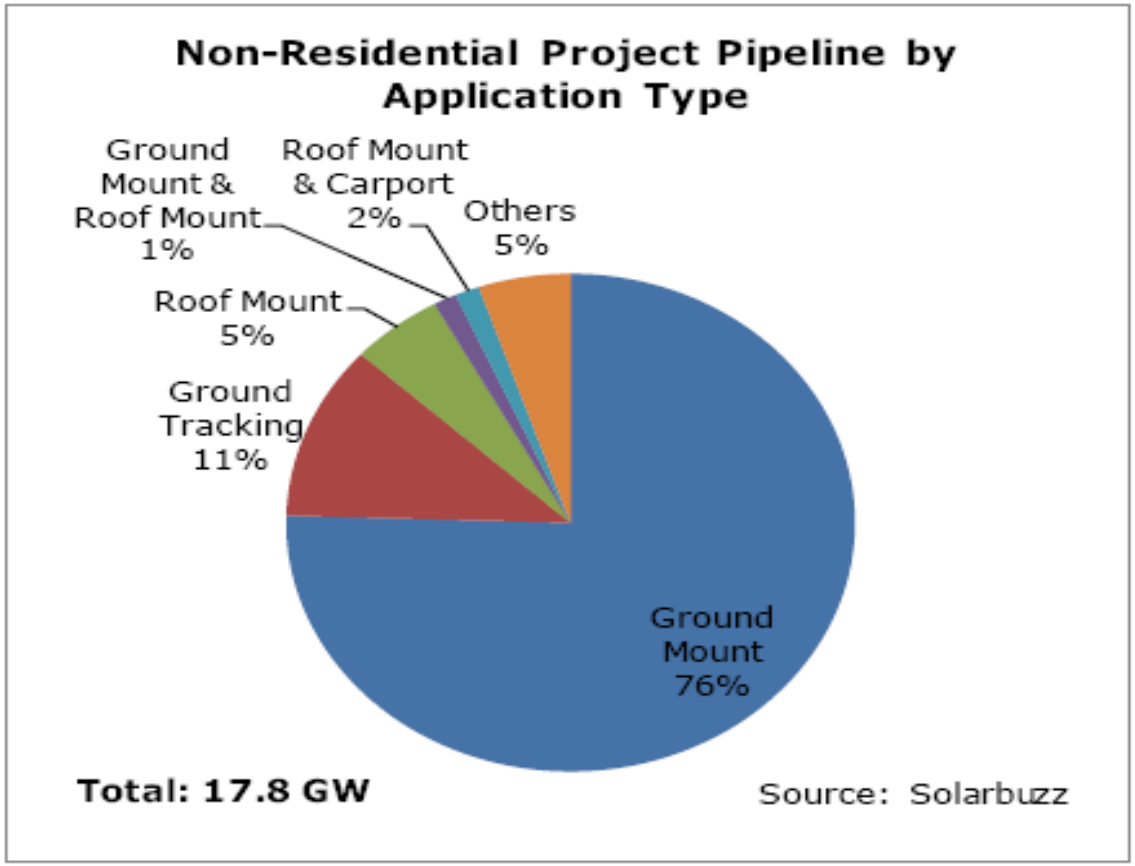
US Market Forecast

ure 9.8 Top Six States by Renewable Portfolio Standard Solar/DG Set Asides—Cumulative Requirement (2011-2015)

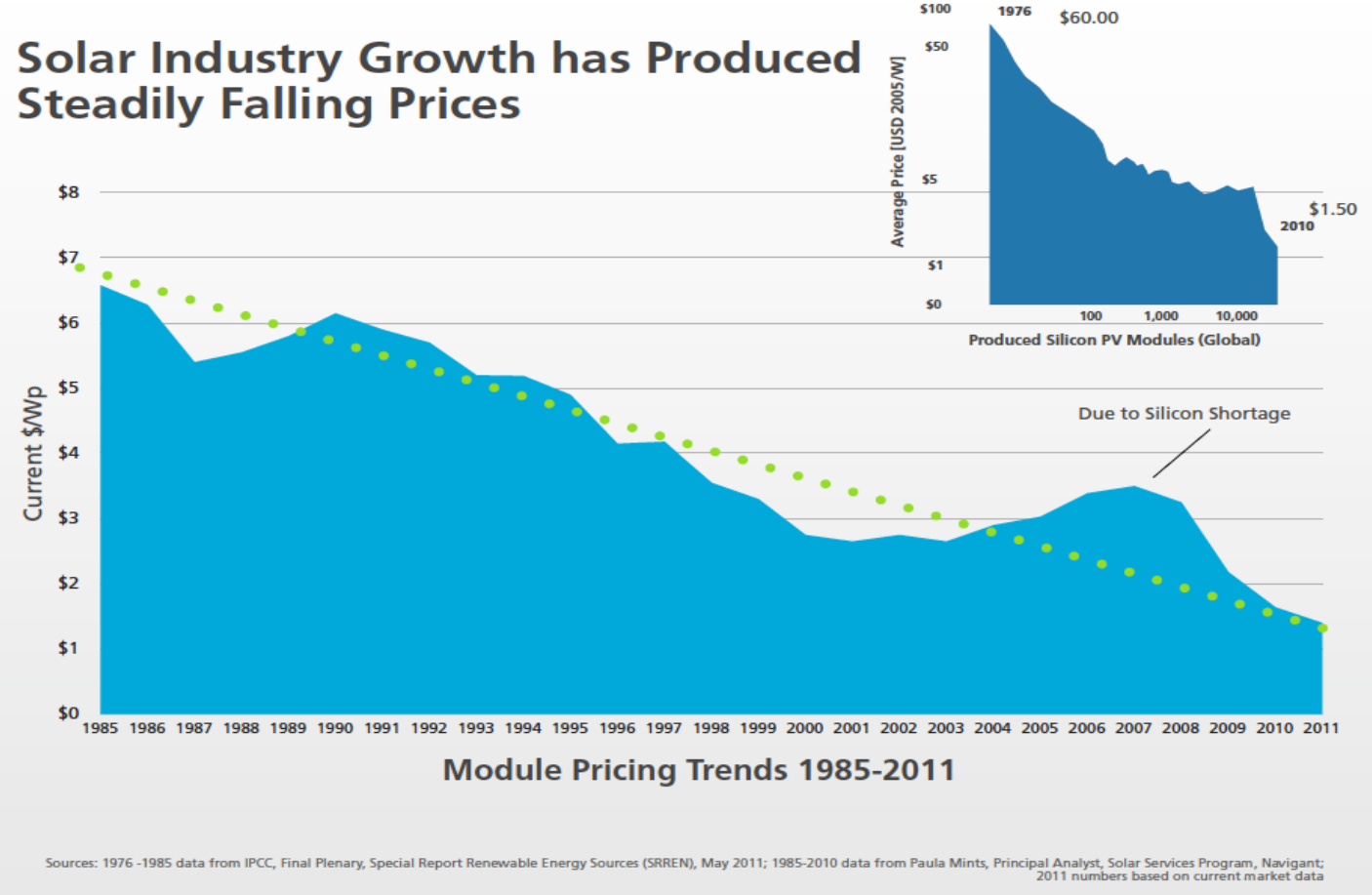


US Market Forecast

US Non Residential Project Pipeline at June 2011

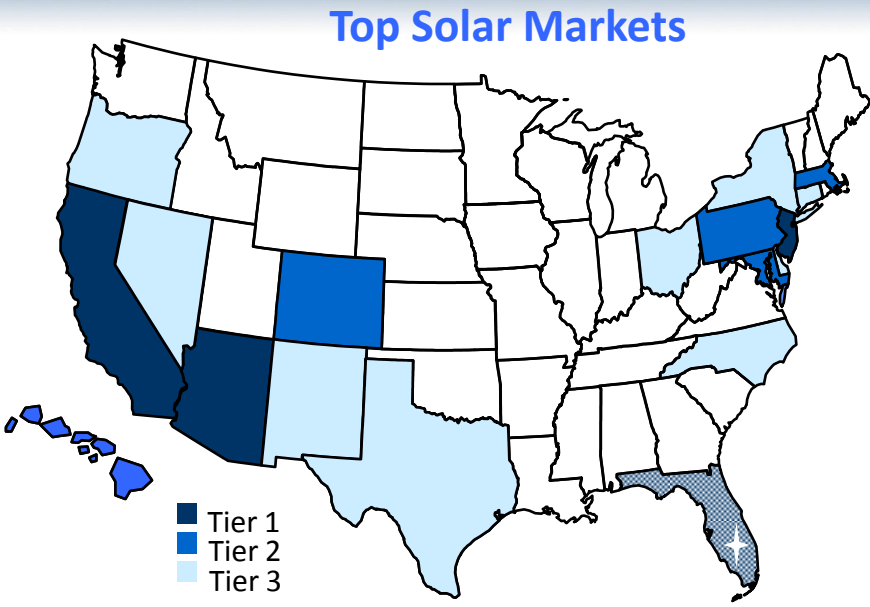


Declining PV Technology Costs



Key Incentives/Rebates in North America

- New York, New Jersey, Pennsylvania, Ohio, California, Arizona, New Mexico, Colorado, Hawaii, Massachusetts, Florida, Texas, Louisiana
- Ontario, Canada – Feed in Tariff



Sources: Solarbuzz, state solar programs, Conergy market research, EIA, Solar Alliance, interviews, IREC, NREL

US Incentive System

Project Development

- Host site / energy off-taker
- Bank or financing entity
- SREC off-taker
- Tax equity off-taker
- Solar project firm: development, EPC, O&M
- State rebate and incentive program guidelines & requirements
- Utility interconnection
- Project "bankability"
- Multi-jurisdictional requirements (state, local, federal, utility, etc.)

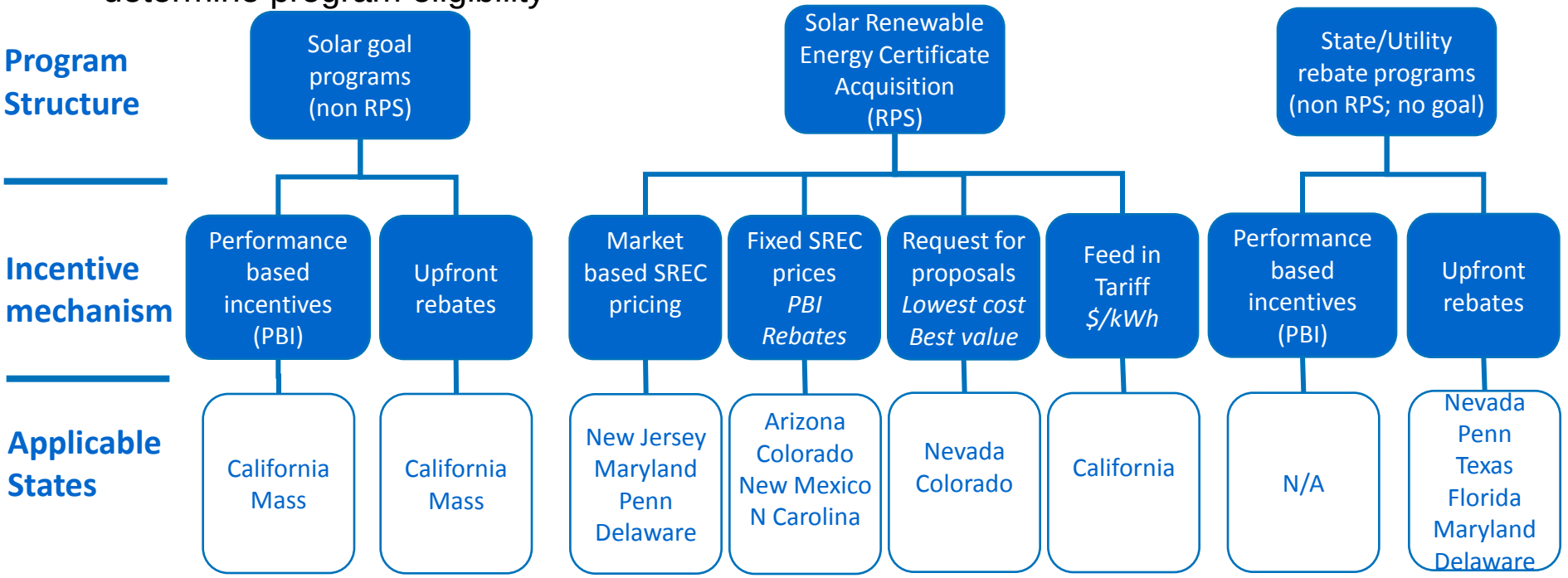
- Federal Tax Credit = 30%
- Accelerated Depreciation
- "State" Incentive
  - Solar Renewable Energy Credits ($200-$600 Per MWH) secured by long term contract
  - Rebate of performance-based incentive (e.g., CA = $0.22/kwh)
- Avoided Cost of Electricity
  - Energy savings- $.08-$.18 per kwh
  - Time of use/time of day rates as high as $.32/kwh

- = Deal Economics
  - Host customer economic driver usually avoided electricity costs + payback period or IRR
  - Utility economic driver RPS mandates and elevate green profile
  - Tax equity economic driver is risk/return equation with minimum before tax yields of 8%-10%++

US Incentive System

Different market structures are used for RPS compliance and solar deployment

- RPS states must acquire renewable energy certificates but use different incentive mechanisms
- These are the main structures although there are others currently in operation
- Project size, municipal or utility jurisdiction, ownership structure and other factors determine program eligibility



Financing Options

- Lease
- Solar Host Agreement
- Power Purchase Agreement

Typical Agreements and Issues

<u>If own the system</u>

- Installation contract
- Long term maintenance/extended warranty/output guarantee
- Power sales (aka “PPA”)
- REC sales

<u>If third party owns the system</u>

- Site lease; access
- PPA
- Insurance
- Services

Case Study – Education Installation

Goal:

- Public school facing $1.2 million in budget cuts for 2011/2012 school year

Action:

- 296 kW roof-top installation
- Leveraged $178,000 annual rebate

Bishop Elementary
California Public School

Result:

- Electricity savings of $80,000 per year → the benefit is equivalent to retaining 3-4 entry level teachers

Case Study – Agricultural Installation

Goal:

- Stabilize income
- Decrease energy costs

Action:

- 250 kW roof-top installation
- Leverage Ontario's Feed in Tariff program

Result:

- Producing 315,000 kWH annually
- Reducing CO2 emissions by 2,800 tons annually
- 11% return on investment
- Financial breakeven point less than 8 years

Chimed Farms, Ontario
A cattle operation

"The agricultural industry can have unpredictable income. This system is providing us additional income generation that can help offset swings in agricultural based revenues."

- Chris Freiburger, Owner

Case Study – Commercial Rooftop Installation

Goal:

- Reduce energy costs

Action:

- 1,155 kWp roof-top installation

Result:

- Offset 60% of the electrical power needs of their
- packinghouse and cold storage facilities
- Producing 1.2 MWh per year
- Reducing CO_2 emissions = 124 million miles not driven

Warmerdam Packing in CA

Case Study – Industrial Rooftop Installation

Goal:

- Globally, Fujifilm has a Greenhouse gas target set at 30% reduction in CO2 emissions by 2020 as compared to 2005
- Reduce energy costs

Fujifilm Plant in Hawaii

Action:

- 320 kW Roof-top Installation

Result:

- Fujifilm enhances corporate sustainability commitment
- Installation produces 483,391 kWh annually - powering 66 households per year

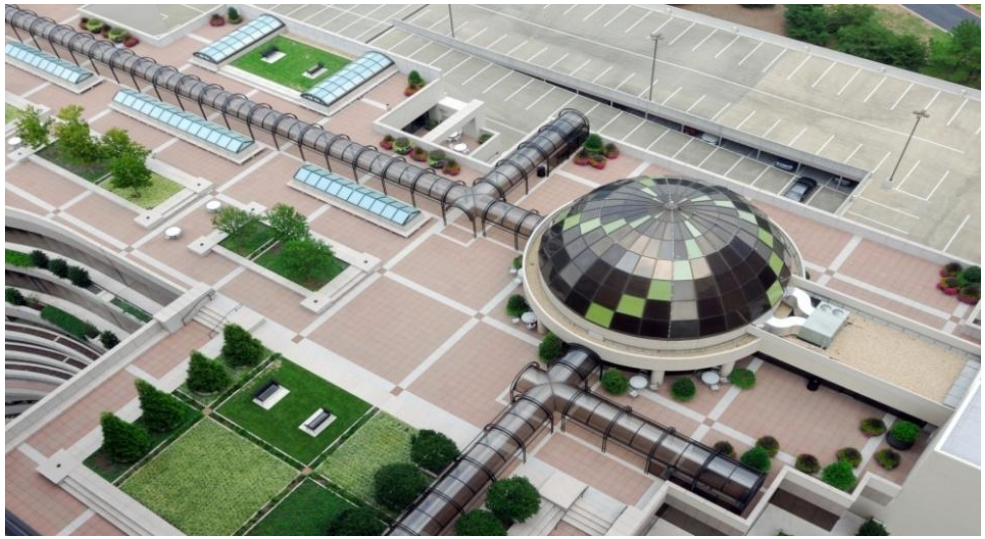
Segment 3

Other Alternative Methods

Alternative Ideas

- Communications Tower
  - Information Technology
  - Cellular Phone/Satellite
  - Web Cam
  - Air Quality Monitoring
  - Other
- Expand Usable Space
- Luxury Party Deck
- Parking Garage w/Solar
- Be Creative (e.g., rent space on electric billboard to generate additional revenue)

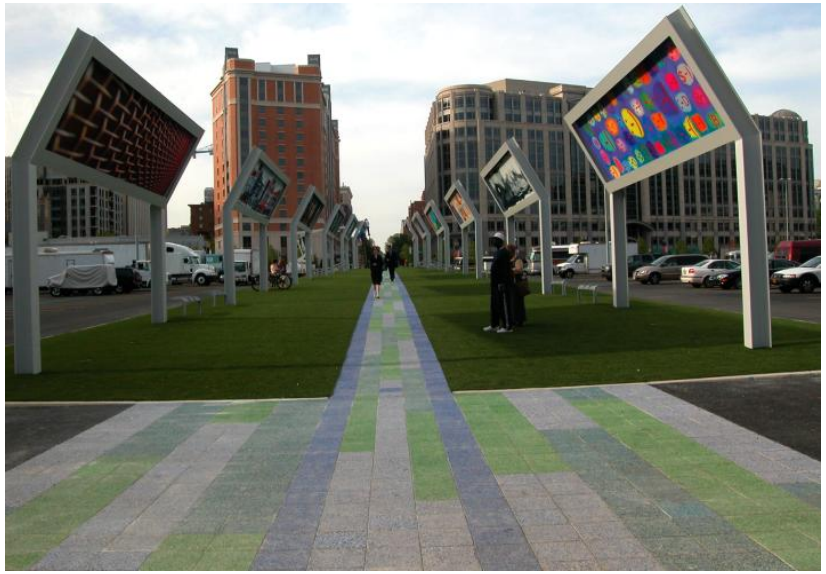
North Park Roof – Atlanta, GA



North Park Roof – Atlanta, GA

Pan Am Hotel - Wildwood, NJ

Art Walk – Washington, DC



Wolfson College - Florida

Segment 4

Legal Issues

Owner/Landlord/Tenant

- Allowed? – Zoning/Building Code
- Expense and title
- Taxes and credits
- ROI
- Reliability and warranties
- Protection of facilities
- Remedies

Installation

- Installation contract with “Integrator”

-”Turnkey” but is it true “EPC”

- Performance: Wrap or Pass thru of manufacturer’s warranties

- Some PV manufacturers will supply/erect

- Delay: schedule LDs [Tax implications]

Should you “consume” the power?

- physics
- self generation (ownership and lease models)
- net metering at wholesale
- net metering at retail
- Renewable Energy Credits

Should you sell the power?

- simultaneous buy-all-sell-all

- PPA to utility subject to RPS

- RECS

Renewable Energy Credits

- Value varies by state

- Sometimes can sell across State lines

- Can be sold apart from the Power

Sales Forms

- NJ Standard SREC Contract per LSE
- ISDA
- ABA/EMA/ACORE Master
- EEI Annex
- WSPP REC Schedule
- Utility's form

Host Concerns I

- **Receive the electricity and other benefits it contracted to receive**
  - Timely commercial ops date – after NTP, guaranteed COD date
  - Output
    - Capacity must be tested and confirmed at COD
    - Operate per PIP so as to maintain capacity at expected annual output
    - Appropriate metering and testing
  - Reliability and warranties
    - System output guarantee – 90% of expected output for 10 years
    - Typically pass-through of long vendor warranties
  - RECs
    - Developer usually keeps RECs, but benefits may be shared
    - If ERCs available, Host should keep unless reduces RECs
    - But beware 7701(e)(4)safe harbor “financial benefit” test

Host Concerns (II)

- Protection of Host's facility
  - Construction damage
  - Roof damage (roof warranties)
  - Access and security (during O&M and otherwise)
  - Premises liability issues
- Off-balance sheet obligation
  - If PPA, treat as service contract under 7701(e) safe harbor
  - If lease, treat as operating lease
- Avoid interference with Host operations
  - Relationship of Developer's solar financing and Host current and future financing arrangements
  - Future Host building renovations, expansions or shut downs
- State utility laws

Host Concerns (III)

- Remedies on Developer default
  - What if things go wrong?
  - Are standard remedies practical?
    - Terminate and require removal (what if doesn't remove?)
    - Exercise purchase option at FMV less direct damages
      - Lousy remedy if system isn't performing
- End of term
  - Getting rid of or owning solar array
  - Beware non-FMV purchase options or puts

Developer/Owner Concerns (I)

- "Market" PPA
  - May require development and PIS flexibility to mesh with tax requirements
    - For flip, partners must be admitted before PIS
    - For sale-leaseback, have 90 days after PIS
    - Build in conditions to deal to enable this flexibility
  - Project lender rights
  - Suitable remedies – LDs that are financeable
- Suitable access rights to Host facility
  - For construction and O&M
  - Property easements and solar access easements
- State utility laws
  - Retail sale and distribution rules – avoid utility status

Developer/Owner Concerns (II)

- Ability to assign PPA to fund or affiliate or sell LLC
  - Developer may want to aggregate projects into fund or sell to larger player
- Tax ownership rules
  - Developer needs to be tax owner vis a vis Host
  - Must retain sufficient risks and benefits of ownership
  - 7701(e) rules re PPAs and service contracts
    - LDs, purchase options and puts

Tax Equity Concerns (I)

- Receive the tax and other benefits it bargained for:
  - Valid tax structure
    - Tax ownership rules (see above)
    - Sale-leaseback rules (see below)
    - Flip structure rules (see below)
  - Timeliness of receipt of benefits
- Minimize construction/development risks
  - Not compensated for taking these risks
  - For flip, invest as close to PIS as possible
  - For sale-leaseback, invest after PIS

Tax Equity Concerns (II)

- Protections vis-a-vis project lenders
  - In case of Developer default
- Avoid utility regulation

Indemnity: Why and How

- Keep the indemnitee in the same position as if the incident had not occurred
- A contract to hold the indemnitee harmless
- Indemnitor will likely buy insurance to cover this risk
- This will likely be included in the price you pay

Indemnity for what?

- Negligent acts and omissions
- Intentional acts
- Non-compliance with law
- Mechanics liens
- Intellectual property claims
- Third party claims (PI and property)
- Property damage to “Owner”
- Some include “Breach of Contract” – should you?

Indemnity: Drafting

- Joint negligence
- Mutuality
- Limits and carve-outs
- Insurance deductible
- Indemnification notice and procedures
- Attorneys' fees

Insurance: Coverages

Typical

- Worker's comp and employer's liability
- Commercial general liability
- Auto
- Excess/umbrella (typically over auto and commercial)

Also

- Builder's all-risk
- Professional liability (errors and omissions)
- Delayed start-up
- Efficacy

Insurance: Other Issues

- Duplicate coverage: you pay for it
- Coordinate with your property coverage
- primary
- Additional insured v additional “named” insured
- Cross liability
- Insurable interest
- Waiver of subrogation
- Rating criteria
- Certificates

Segment 5

Contracting Do's and Don'ts

Do's

Do…

- Perform due diligence on contractors before contracting
- Use experienced legal counsel and tax consultant
- Start with an appropriate and comprehensive form contract
- Hire your own expert (e.g., engineer)
- Include contractor liquidated damages
- Address project cancellation: notice and $; may be limited to very early on in development
- Review all parts of the contract, even technical/commercial terms/exhibits

Don’ts

Don’t…

- Focus solely on price
- Forget operation and maintenance
- Let engineers tell you that you only need to review the “legal” part of the contract
- Let engineers tell you that “there’s no chance we will cancel this thing”
- Pay too fast nor too slowly
- Make the contract too one-sided: it rarely works
- Mix fixed price and cost plus on same scope

Segment 6

Driving/Implementing Decision Making

Key Elements of Purchase Decisions

- Price
- Return on investment
- Project risk
- Green marketing
- Contractor and supplier selection

Segment 7

Audience Q&A