



EPA Green Power Partnership
Clean Energy Collaborative Procurement
Initiative
Metropolitan Washington DC
For Military Facilities



February 2011



Program Discussion Agenda

- Program Mission Statement
- Collaboration Approach, Program Model and Timeline
- Regional Benefits
- Working Structure and Site Bundling Approach
- Getting Started
- Participant Solar Background Materials
- About EPA and Optony

Metro DC Clean Energy Collaborative Procurement Initiative Overview

- Launched by EPA's Green Power Partnership
 - Based on successful Silicon Valley collaborative model
 - Government partners including Federal, Local, Military, Higher Education
 - Focused on agencies in the greater Metropolitan Washington DC Area



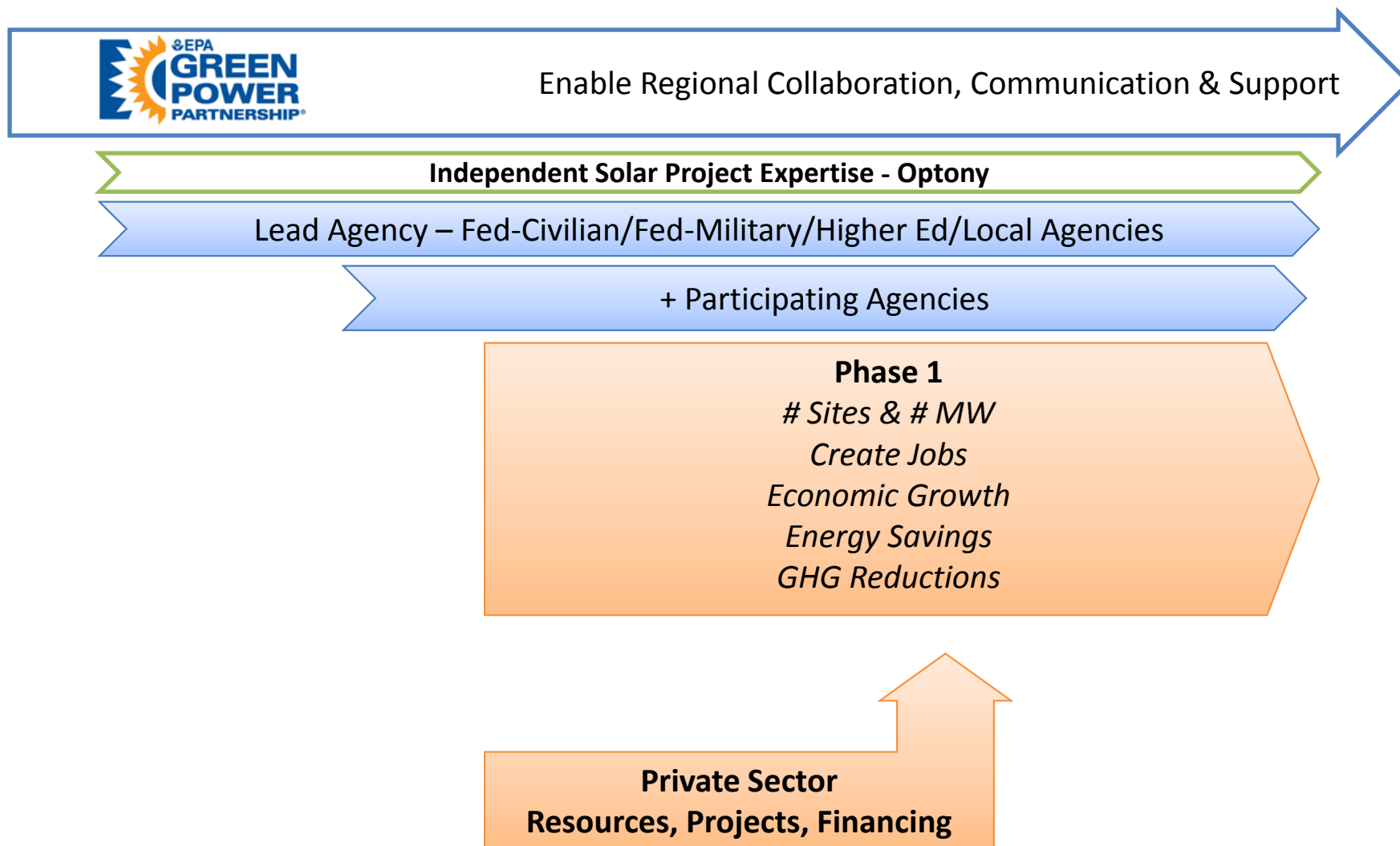
Mission:

To develop an effective and collaborative platform for deploying clean energy (predominately solar PV) across multiple government and educational organizations for maximum impact on installed solar systems, the local economy, and regional environment.

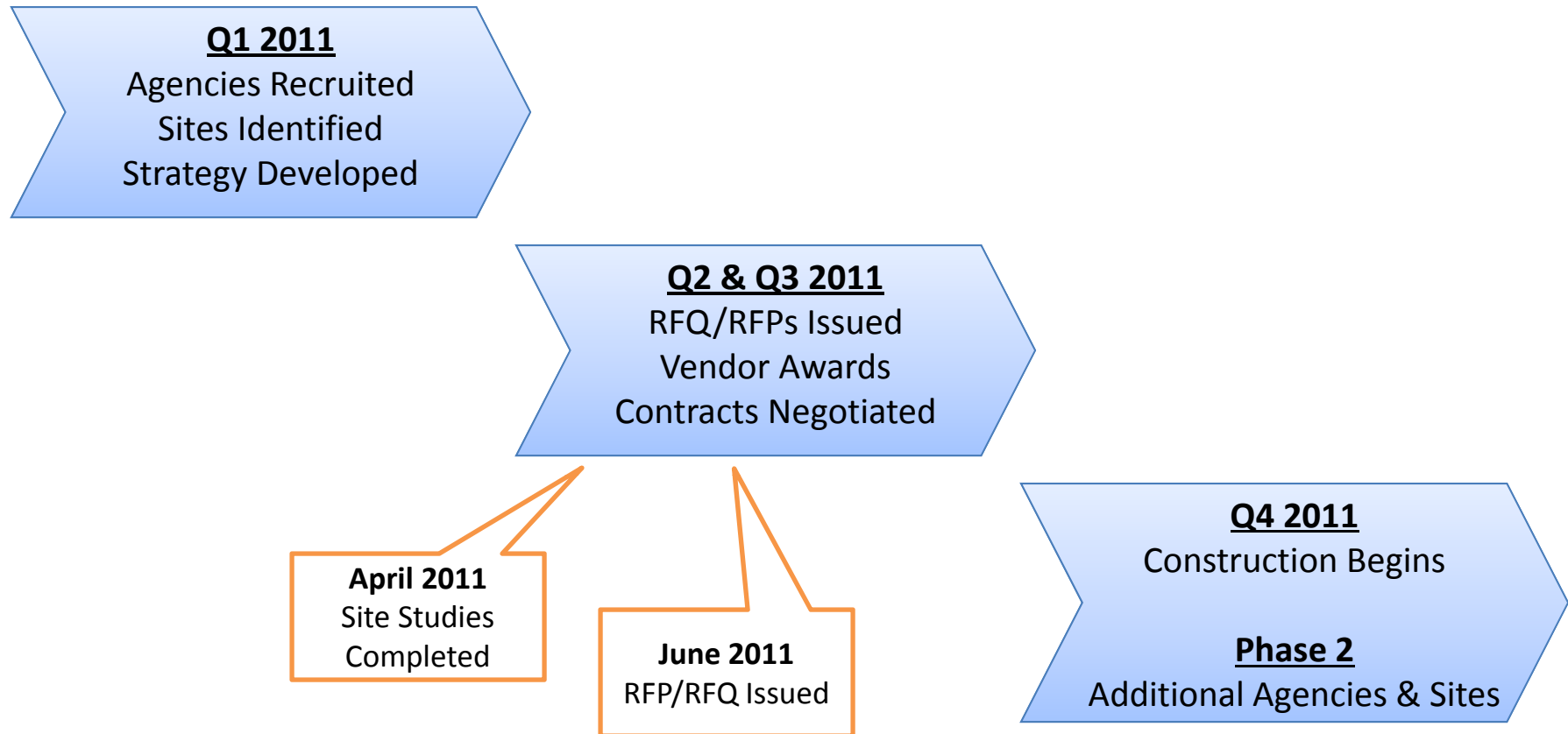
Government Agency Collaboration Benefits

- Achieve Strategic Sustainability Plans faster by working together
- Aggregation yields greater market interest and better pricing (10% - 15%)
- Working together yields lower project risks with higher returns
- Dramatically reduce transactions costs and administrative effort (50%)
- Demonstrate leadership nationally, regionally and locally
- Very few mandatory Federal/Local programs reduce long-term costs, but...
 - Renewable energy can generate savings, when managed properly
- Strategic planning demands a comprehensive approach, but...
 - Need to shorten the long learning curve on new technologies

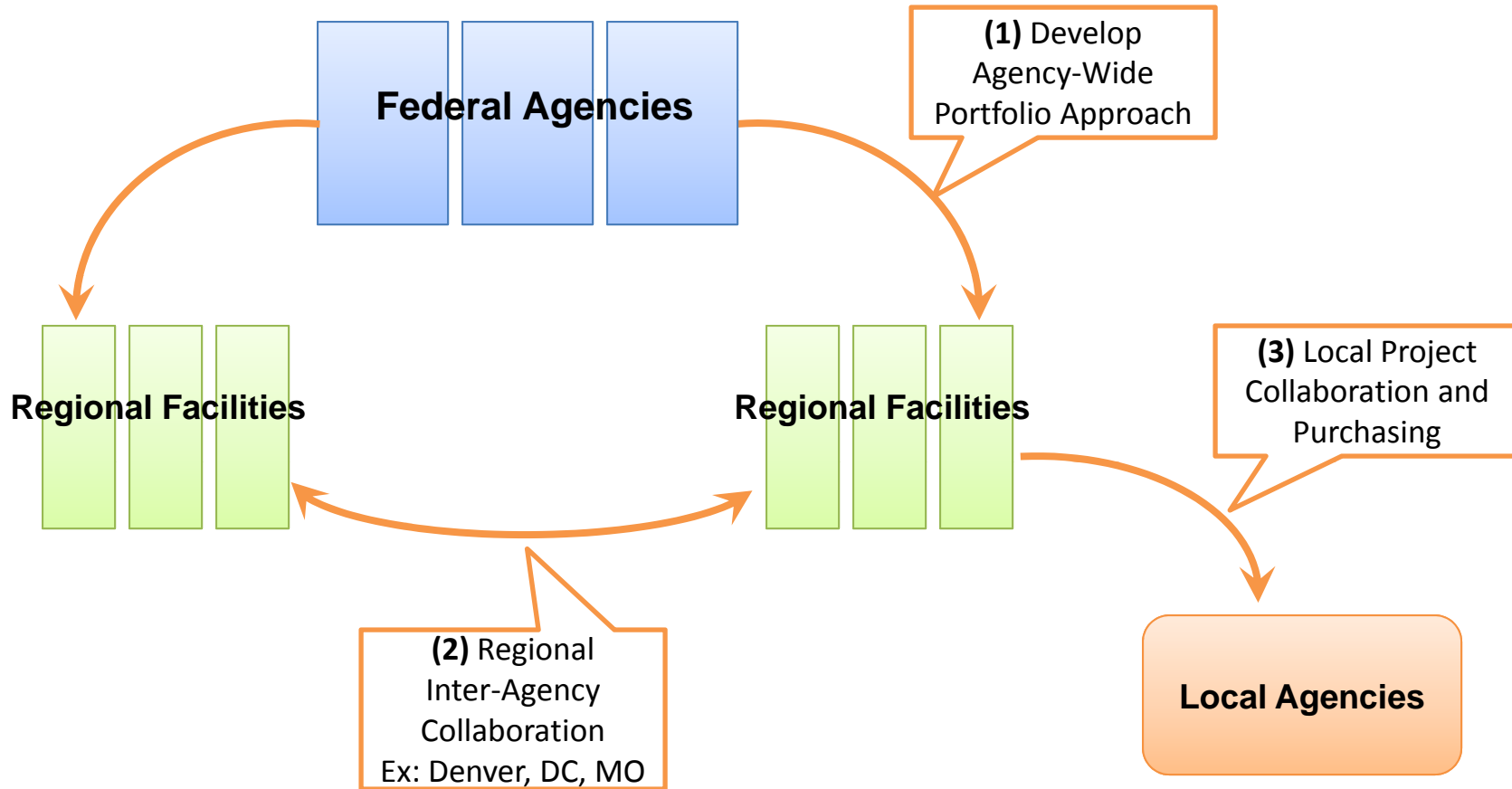
Metro DC Collaboration Model



Project Timeline



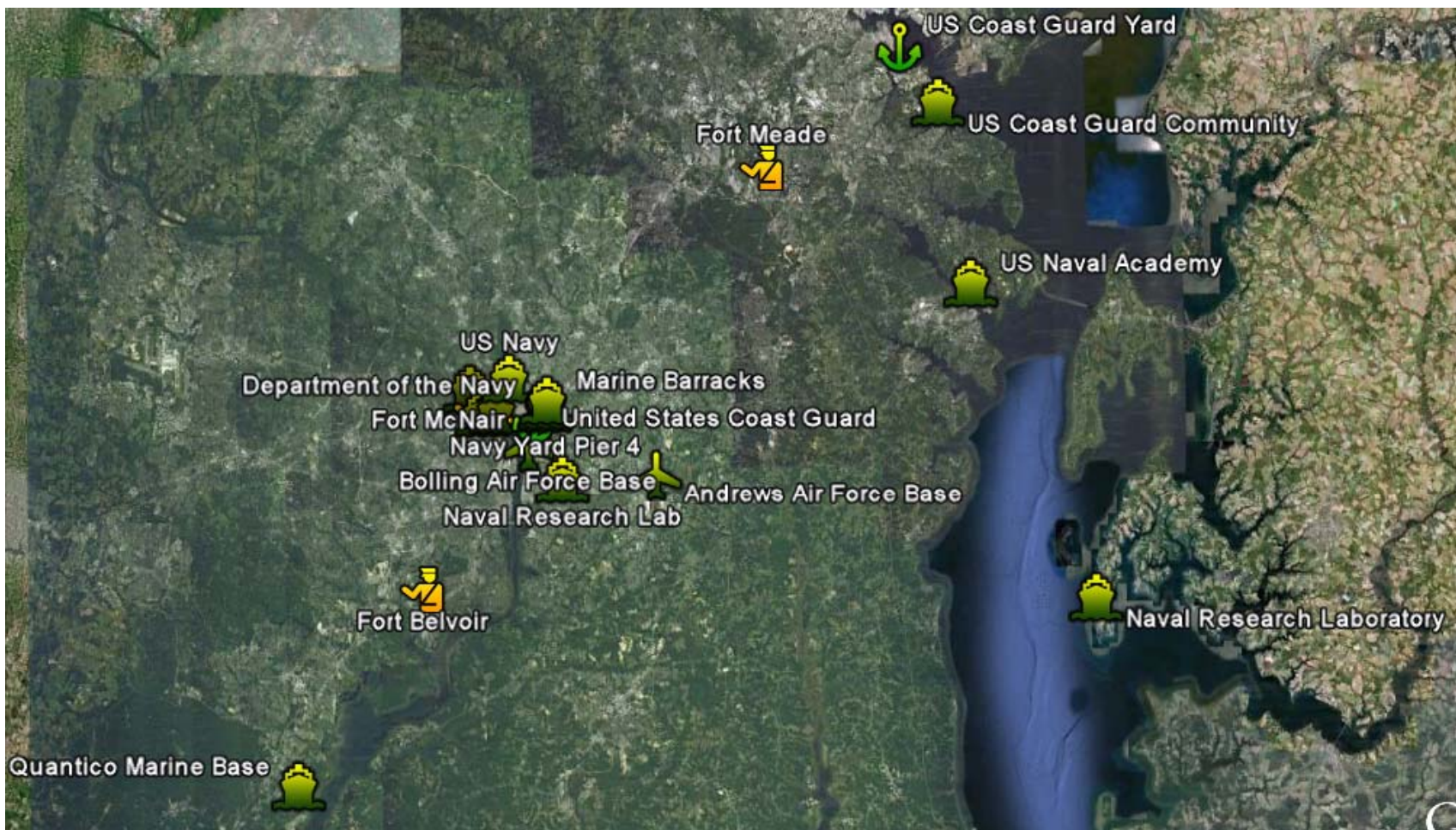
Three Approaches to Federal Solar Project Collaboration



Solar Projects for Military Facilities – Observations

- Need to quickly build organizational capacity to evaluate and pursue new technology opportunities – Solar PV, Solar Hot Water, Wind, Fuel Cell, Geo-Thermal, Biofuels
- Potential issues with effectively procuring and deploying best-fit solar solutions from multitude of options (150 panel manufacturers, 900 installers in CA alone)
- Project structure and financing options are evolving rapidly – with very different economic implications
- Installation commissioning should use industry lessons learned & best practices
- Proactive system maintenance and monitoring is critical to success, but often ignored or misunderstood
- Demonstration of leadership in adoption of renewable energy with accountability is a major opportunity
- Aggressive goals for energy independence require aggressive action

Opportunities for Major Regional Impact

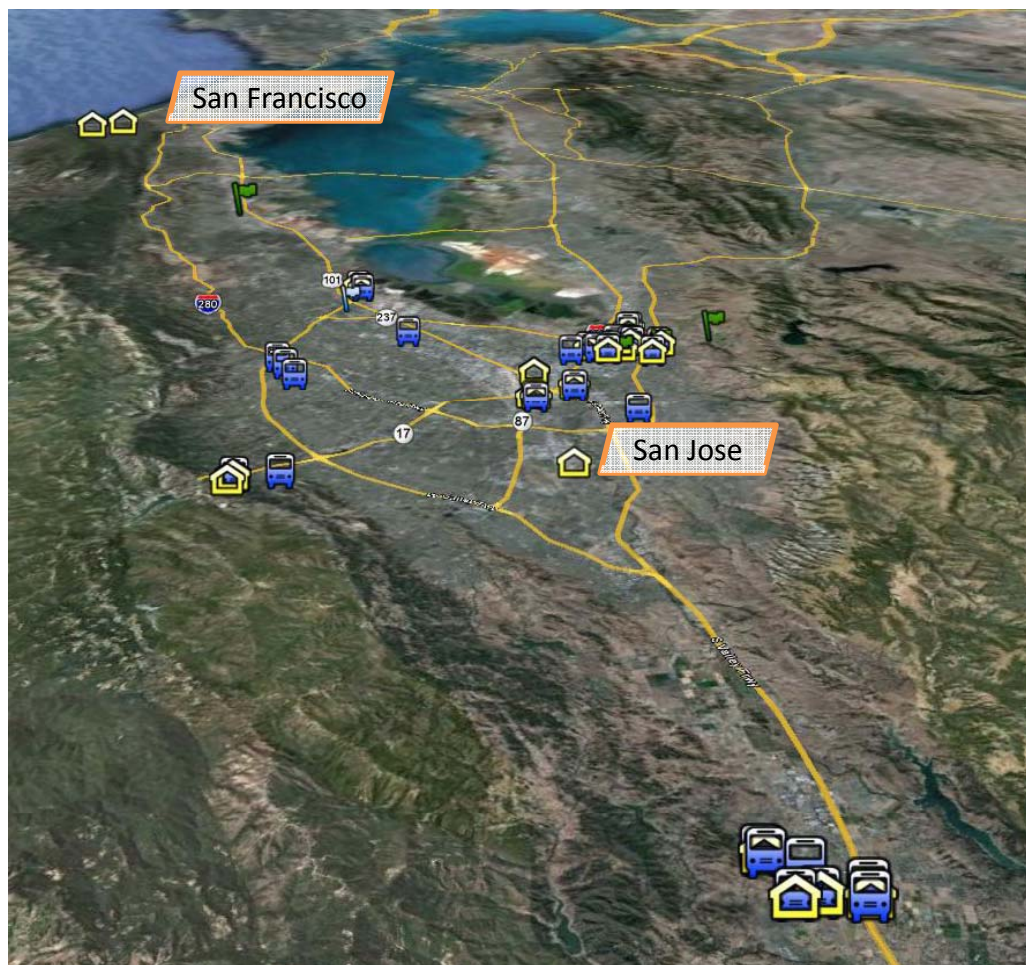


Metro DC Regional Benefits - TBD

EXAMPLE from Silicon Valley, CA...

- *Reliable cost of electricity over 20 year term, escalation rates 2%-4.5%*
- *Volume & competitive pricing yielded 10-14% cost reductions*
- *Electricity consumption completely offset for 25% of sites*
- *Projected to generate \$70M+ in local economic activity and 300+ jobs*
- *Over \$30M in Federal tax benefits captured via PPA (ITC + Depreciation)*
- *Demonstrated leadership with large number of installations*
- *Capture long-term REC benefits with future potential for resale*

Silicon Valley Regional Solar Project Overview



Includes 70 sites

- Collaboration across 9 jurisdictions
- 14.4MW of combined solar PV

Multiple Site Types:

- Carports
- Rooftops
- Ground mounted

Largest multi-agency effort to date

- County of Santa Clara
- 6 Cities
- 2 Special Districts

LESSONS: Aggregated effort yields volume discounts, lower administrative and transactions costs, along with better qualified vendors and projects.

Clean Energy Technology Examples

Solar Photovoltaic (PV) Panels/Modules



Solar Hot Water



Wind Turbines



Fuel Cells



Strategic Bundling Approach

- Thorough review of individual site characteristics
 - Look for potential sizing issues and opportunities
- Consider site-specific and agency-level constraints
 - Incentive structures, financing options, contracting requirements, procurement process
- Bundling sites by installation type, host facility, size and other attributes
 - Make bundles attractive to qualified integrators
- Incorporate solar market input
 - Capabilities, economies of scale
 - Avoid deal-breakers found in many other projects
- Consider total size (MW) and number of sites per bundle
 - Some bundles can be too small or too large
 - Evaluate other non-PV options

Getting Started

- Identify sites across your organization for potential solar development
- Recruit other departments and agencies to aggregate sites and combine efforts
- Define goals, constraints and success factors
- Determine financing and contracting requirements and options
- Utilize internal and external expertise to assess sites and tailor procurement effort
- Convene stakeholders to review plans and build support for the initiative!



Defining Solar Energy For Project Sponsors

6 Ways to Maximize Solar Project Impact:

- Leadership & Economic Development
- GHG Reductions
- Design Integration
- Return on Investment
- Total Energy Offset
- Total Savings

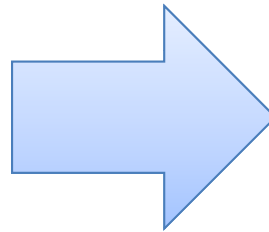


Team must agree on prioritization of these competing goals to be successful

Financing Choices Impact Project Design & Outcome

Financing Structures

- Direct Purchase
- Power Purchase Agreement
- Tax Exempt Lease Product
- Bond Financing
- Enhanced Use Lease
- Utility Financing
- Energy Service Contract



Major Impact On:

- Performance Risk
- Up-Front Costs
- Long-Term Returns
- Procurement Process
- System Design
- Project Benefits
- Operations & Maintenance

Independent Feasibility Studies

Site Feasibility Best Practice Checklist

- Independent, solar expert firm
- On-site survey & meetings
- Enhanced sizing evaluation
- Structural & Electrical evaluation
- LCOE Financial analysis
- Funding and incentive options
- Current pricing & trends
- Technical risk assessment
- World-class tools & methods

Solar Done Right...

Recent Project Example

- 3 Sites (out of 5) Selected
- 2.1 MW Solar Capacity
- 20-year PPA
- \$2.7M Savings over 20 years
- 1.8 Million VMT Reduction



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ABOUT EPA'S GREEN POWER PARTNERSHIP

The Green Power Partnership is a voluntary program that supports the organizational procurement of green power by offering expert advice, technical support, tools and resources. Partnering with EPA can help your organization lower the transaction costs of buying green power, reduce its carbon footprint, and communicate its leadership to key stakeholders. www.epa.gov/greenpower

Credible Benchmarks

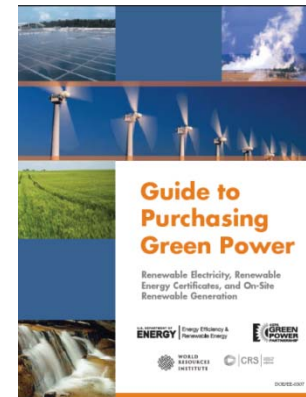
- Metric for "How much green power is enough?"
- Definition of eligible renewables

Planning & Implementation Resources

- Green power locator
- Purchasing guidance
- Marketing and communications support
- Environmental benefits calculator

Recognition

- Top Partner Lists
- Green Power Leadership Awards
- Promotional opportunities
- Use of the Partner logo



ABOUT OPTONY INC.

Optony develops and deploys solar best practices across the entire solar project lifecycle for government agencies, schools and commercial organizations.

Working with clients across all phases of solar projects creates deep insight into true performance drivers which is used to reduce costs and improve performance at any stage in the process.

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“Optony’s consulting service is a must-have for any organization considering an investment in solar. Based on Optony’s comprehensive analysis and recommendations, we now have a low-risk, high-return solar strategy.”

