



Project Implementation:
From RFP to Project Closeout
February 2011

- Course is part of the FEMP renewable energy series
 - Second course focused on project planning
 - All courses listed at:
 - www.femp.energy.gov/technologies/renewable_training.html
 - All live and on-demand FEMP training opportunities are posted online at:
 - www.femp.energy.gov/training/
- This course will:





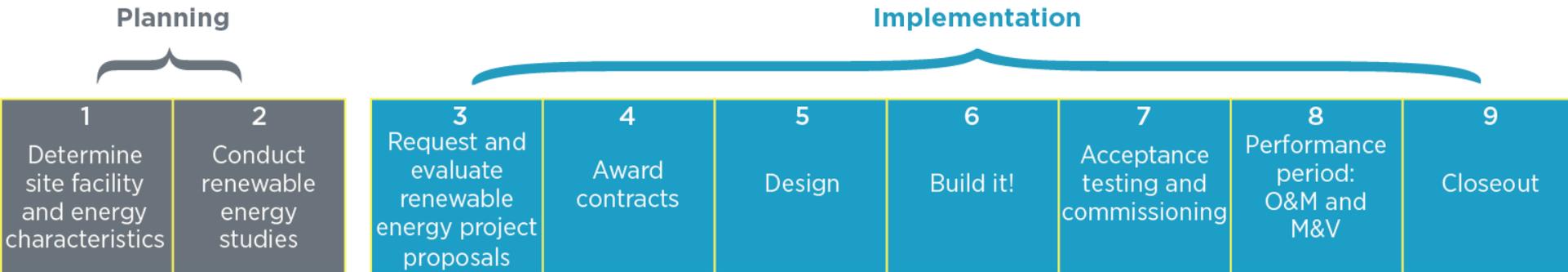
Facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship

- **General**
 - DOE U.S. Department of Energy
 - FEMP Federal Energy Management Program
 - GHG Greenhouse Gases
 - RE Renewable Energy
 - REC Renewable Energy Credit
- **Financial**
 - ESPC Energy Savings Performance Contract
 - EUL Enhanced Use Lease
 - PPA Power Purchase Agreement
 - UESC Utility Energy Service Contract

The Nine Steps: Federal Renewable Energy Project Planning and Implementation

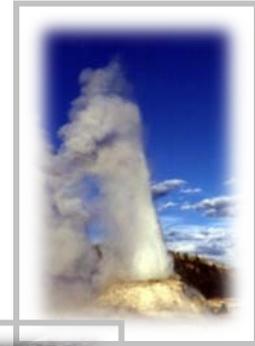
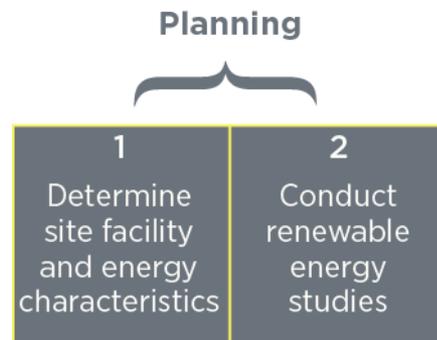


- The 9 steps to Federal renewable energy project planning and implementation

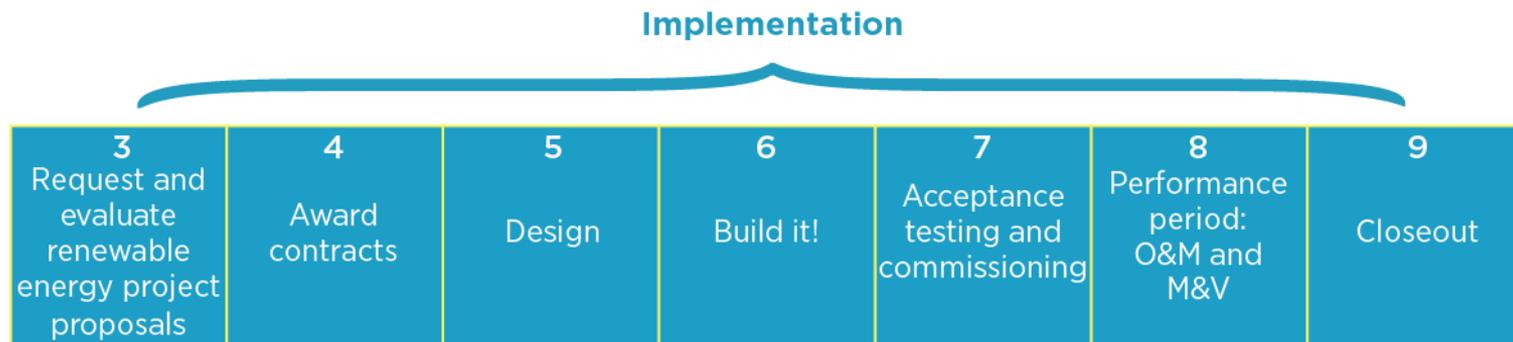


- www.femp.energy.gov/technologies/renewable_projectplanning.html

- After the planning phase, agencies should:
 - Know site facility and energy characteristics.
 - Know the site's renewable energy potential.
 - Be ready to move forward with implementing a renewable energy project on site.



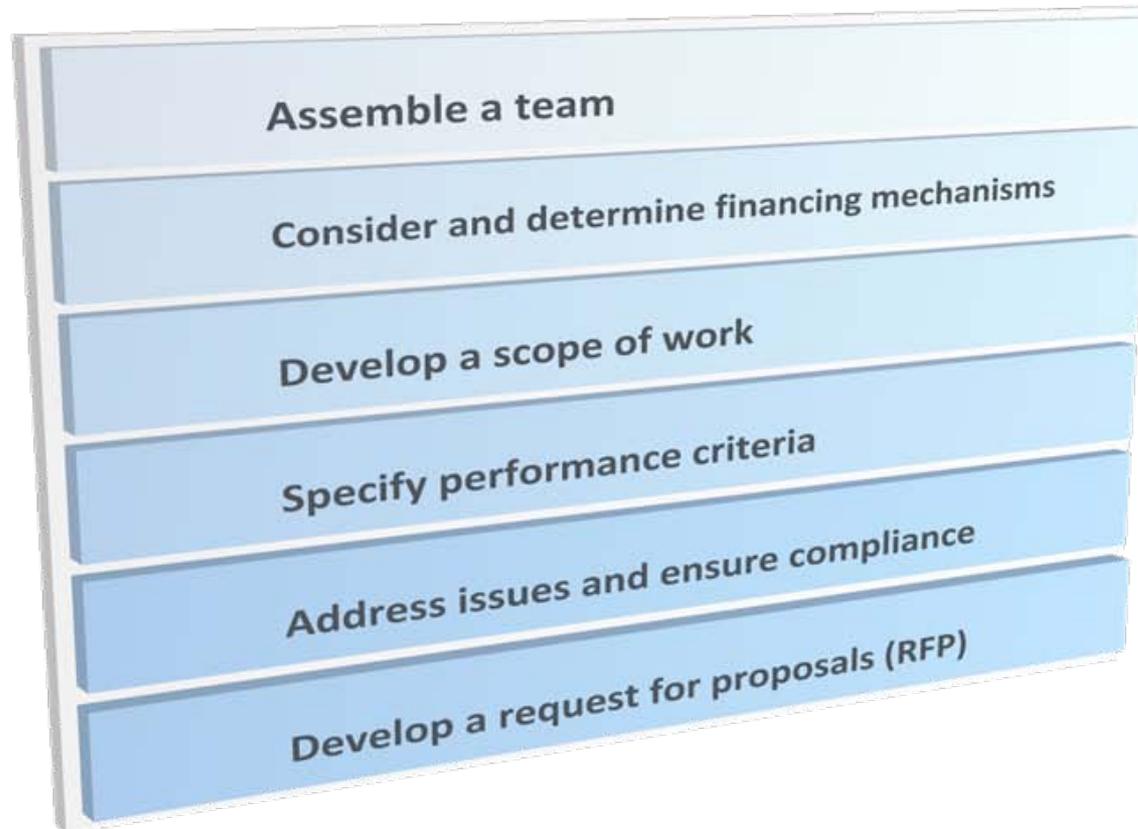
- The implementation phase includes:



Step 3: Requesting and evaluating project proposals



- Step 3: Request and evaluate renewable energy project proposals



- Step 3 teams should include the following key personnel:



- Several characteristics should exist to ensure success:
 1. Project champion
 2. Team dedication, creativity, and alignment with project goals
 3. Contracting officer and attorney with strong leadership capabilities



- **Agency Funding:**

An agency purchases the system directly and then owns, operates, and maintains the system. The U.S. General Services Administration offers several services on its procurement schedules.

- **Power Purchase Agreement:**

A third party installs, owns, operates, and maintains the renewable energy project on the agency's site. The agency then purchases energy through a long-term contract with the developer at pre-specified energy prices.

- **Energy Savings Performance Contract:**

An agency partners with an energy service company (ESCO) to design and construct a project that meets the agency's needs. The ESCO arranges financing and guarantees cost savings sufficient to pay for the project over the term of the contract.

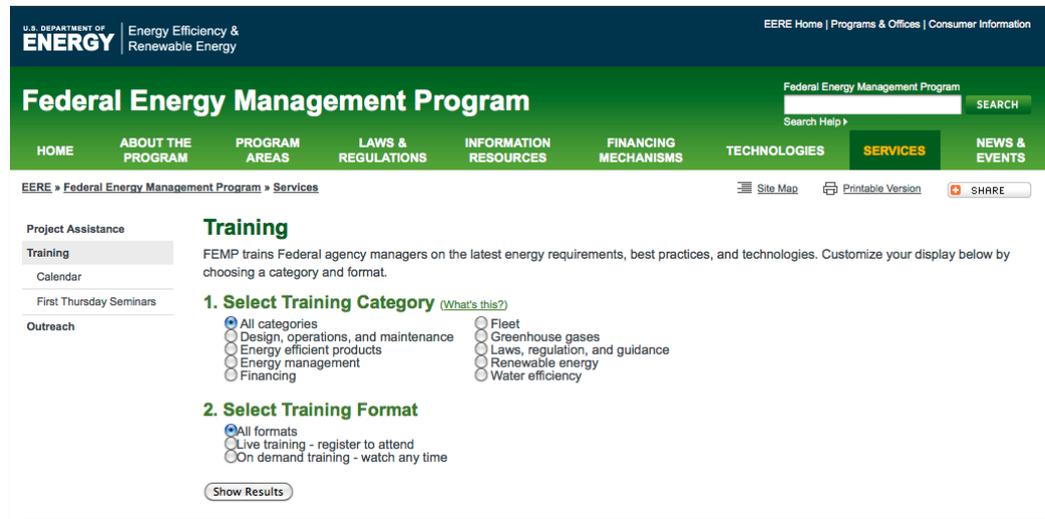
- **Utility Energy Service Contract:**

An agency partners with its serving utility to implement projects. The agency may fund the project with appropriations or the utility may finance the project, which is repaid from cost savings generated by the project.

- **Enhanced Use Lease:**

An agency enters an agreement using underutilized land. The lease is completed with payment in the form of cash and/or in-kind services.

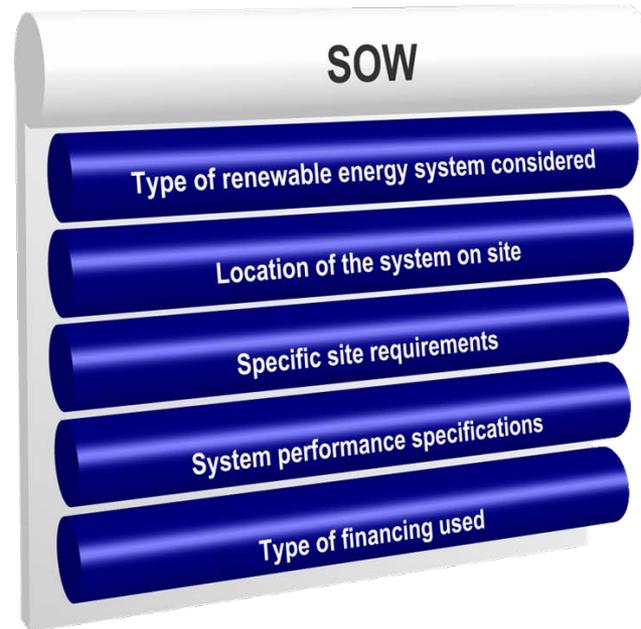
- FEMP offers alternative financing training and support
 - Live and on-demand training is listed by topic at:
 - www.femp.energy.gov/training/
 - Select the “Financing” category to see all relevant training opps
 - Select “Live” or “On demand” to further refine



The screenshot shows the FEMP website interface. At the top, there is a navigation bar with the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. Below this is a green header with the title 'Federal Energy Management Program' and a search bar. A secondary navigation menu includes links for HOME, ABOUT THE PROGRAM, PROGRAM AREAS, LAWS & REGULATIONS, INFORMATION RESOURCES, FINANCING MECHANISMS, TECHNOLOGIES, SERVICES (highlighted), and NEWS & EVENTS. The main content area is titled 'Training' and includes a description: 'FEMP trains Federal agency managers on the latest energy requirements, best practices, and technologies. Customize your display below by choosing a category and format.' There are two sections for selection: '1. Select Training Category' and '2. Select Training Format'. The first section has radio buttons for 'All categories', 'Design, operations, and maintenance', 'Energy efficient products', 'Energy management', 'Financing', 'Flexit', 'Greenhouse gases', 'Laws, regulation, and guidance', 'Renewable energy', and 'Water efficiency'. The second section has radio buttons for 'All formats', 'Live training - register to attend', and 'On demand training - watch any time'. A 'Show Results' button is at the bottom.

- Additional support is available by contacting the EERE Information Center at 877-337-3463

- The project scope of work (SOW) is determined by:



- Design-Bid-Build
 - Engineering firm designs system
 - Construction companies bid to install system
- Design-Build
 - Same firm designs and installs the system

- **Direct appropriations (agency funded) requires:**
 - Minimum annual energy production (corrected to actual site conditions), system efficiencies, or other production metrics
 - Minimum equipment warranties and/or agency certifications
 - Specifications on how it will interconnect/interact with existing site
 - Site preparation requirements
- **Third-party ownership requires:**
 - Minimum annual energy production
 - Maximum acceptable energy price rates
 - Specifications on how it will interconnect/interact with existing site
 - Site preparation requirements

- Federal renewable energy projects must address these issues:
 - Utility interconnection
 - Project incentives
 - Network connectivity authority
 - Site master plan review
 - Secured funding
 - Whether or not a competitive contract is necessary
 - If the contract is sole sourced, use the SOW to start negotiations with the selected contractor
 - If the contract is competitive, develop a request for proposal (RFP)
- Federal renewable energy projects must comply with:
 - National Environmental Policy Act (NEPA)
 - Historic Preservation Act
 - Others

- The RFP should outline:
 - The scope of work
 - Site information (e.g., energy use, drawings, maps, addresses)
 - Infrastructure requirements (e.g., roads, fences, electrical system upgrades, tree removal, etc.)
 - Due diligence
 - Compliance requirements (e.g., NEPA, historic preservation, fire and safety standards)
 - Proposal, project implementation, and administration processes
 - Proposal and project implementation timelines
 - Required vendor qualifications
 - Restrictions on parties allowed to submit proposals (e.g., small business, woman-owned, veteran-owned, etc.)
 - Criteria and process for evaluating proposals
 - Contracting officer contact information

- Agency-owned systems:
 - Who is responsible for permits?
 - Who develops the commissioning plan?
 - What is required for pricing options (e.g., warranties, maintenance agreements, etc.)?
- Third-party-owned systems:
 - Who owns the renewable energy credits (RECs)?
 - What are the options after the contract ends?
 - What land use agreements are needed?
 - Is a power purchase agreement included?
 - Who handles liquidated damages?
 - Is there a termination for convenience agreement?

Requesting and Evaluating Proposals

- Issue the RFP:
 - Federal Business Opportunities (www.fbo.gov)
 - Green Power Network (apps3.eere.energy.gov/greenpower/financial)
 - Vendors on the GSA Schedule (select at least three)
- Administer the bidding process:
 - Schedule site visits
 - Hold pre-bid meetings
 - Manage questions and answers
- Evaluate proposals:
 - Establish evaluation team (at least three members)
 - Follow process outlined in RFP
 - Best value; low price / technically acceptable; low price
 - Pay careful attention to assumptions and exclusions



Step 4: Awarding Contracts



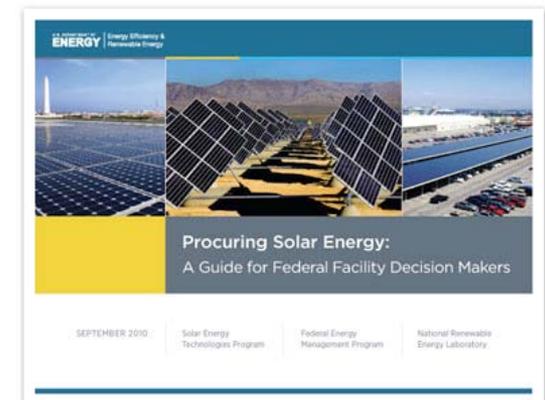
- Agencies can award through RFP or to a pre-approved vendor through existing or sole source contracts
 - Both should be based on proposals and pre-decided construction contract types (e.g., Design-Bid-Build or Design-Build).
- Contracts can be awarded in four forms:
 - **Award Based on Proposal:** Merits of the proposal are good and no clarification is needed.
 - **Award with Discussion:** Merits of the proposal and unanticipated ambiguities within the RFP need clarification.
 - **Award with Discussion and Negotiation:** Merits of the proposal need clarification and unanticipated ambiguities within the RFP need resolution.
 - **Award with Best Proposal:** Short list of proposals created, and each is asked for best and final offer.



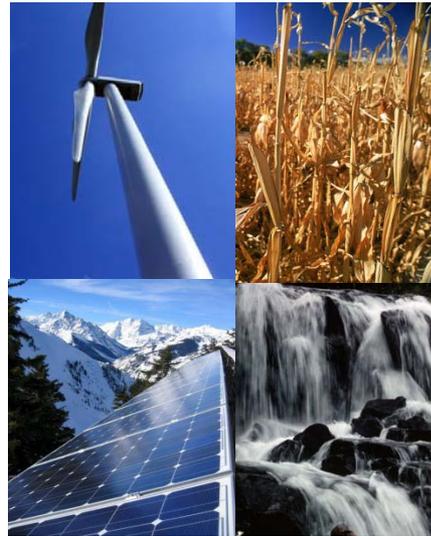
Step 5: Design



- Confirm all parameters to be used in system design
 - Parameters listed in RFP
 - Parameters clarified in Q&A process
 - Parameters created during developer due diligence
 - Parameters identified during discussions and negotiations
- Have renewable energy expert review the system design
 - Schematics and later designs (including major component size and types)
 - Reviewed at several phases of the design process (50% completion, 75% completion, 100% completion, etc.)
- Tool: Federal Solar Guide – Photovoltaic Project Design Evaluation Checklist (www.solar.energy.gov/federal_guide/)



Step 6: Build It!



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**Project
Developer**



**Contract
Administrator**



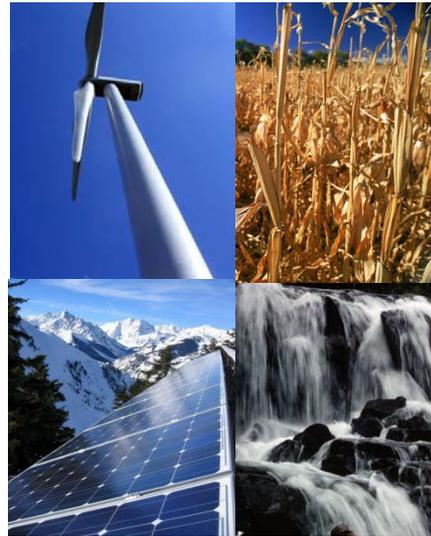
**Construction
Manager**



**Site
Occupants
and
Management**

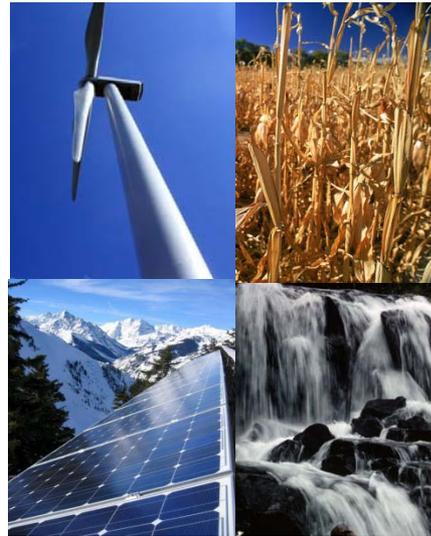


Step 7: Acceptance Testing and Commissioning



- Acceptance testing and commissioning is critical for agency-owned systems.
 - Third-party expert should inspect and commission the system
 - Follow the commissioning plan outlined in the RFP
 - Confirm the system performs as expected
 - Confirm that no safety issues exist (e.g., exposed/damaged wires or high-voltage connections)
 - www.femp.energy.gov/program/om_commissioning.html
- Third-party-owned and operated systems are still on Federal property.
 - Confirm the interface with site is within requirements
 - Confirm that no safety issues exist

Step 8: Performance Period



- In an agency-owned project, the agency is responsible for operations and maintenance (O&M), including:
 - Understanding the technology
 - Understanding how the system should be operating
 - Knowing how to detect problems
 - Knowing who is responsible for maintenance
- Many agencies establish measurement and verification (M&V) protocols to confirm system performs to specification
 - Vendors often provide Web site to track performance levels and data
- Agencies must manage their RECs
 - Retire or sell high-value RECs and purchase lower-cost replacements for EPCa requirements – keep RECs for GHG accounting
- www.femp.energy.gov/program/om_commissioning.html

- In a third-party-owned system, the owner/operator is responsible for O&M
- Agencies should still track energy production for payments
 - Vendors often provide Web site to track performance data
- Agencies must manage their RECs
 - If not owned by the agency, purchase replacements
 - Retire or sell high-value RECs and purchase lower-cost replacements for EPCAct requirements – keep RECs for GHG accounting

Step 9: Project Closeout



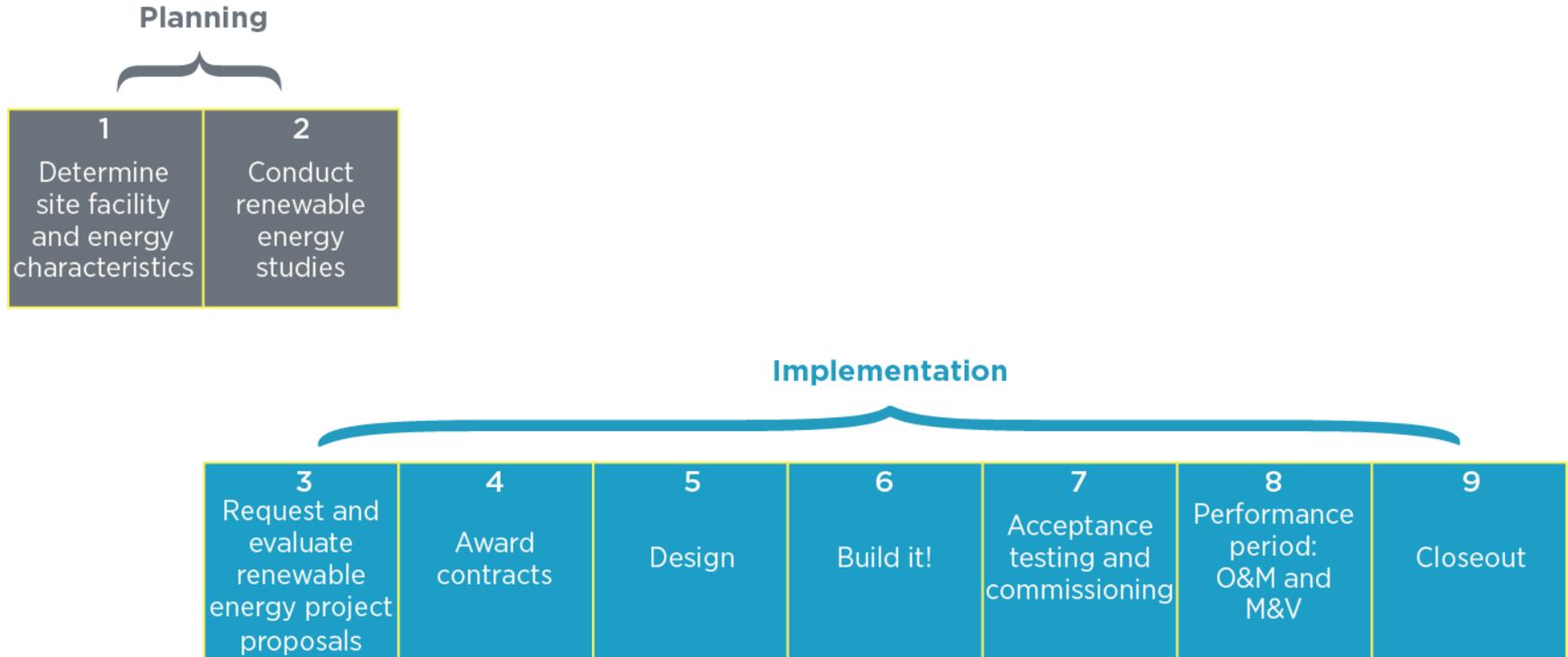
- If the agency owns the system:
 - Determine when the system is at the end of its life
 - Determine when the system is no longer the best use of the site
 - Evaluate and determine best method of disposal/salvage
 - Determine level of site remediation/restoration necessary for future site use
 - Plan and implement
- If a third-party owns the system:
 - Determine contractually allowable options



Federal Renewable Energy Project Implementation Steps 3 - 9



- The 9 steps to Federal renewable energy project planning and implementation



- www.femp.energy.gov/technologies/renewable_projectplanning.html

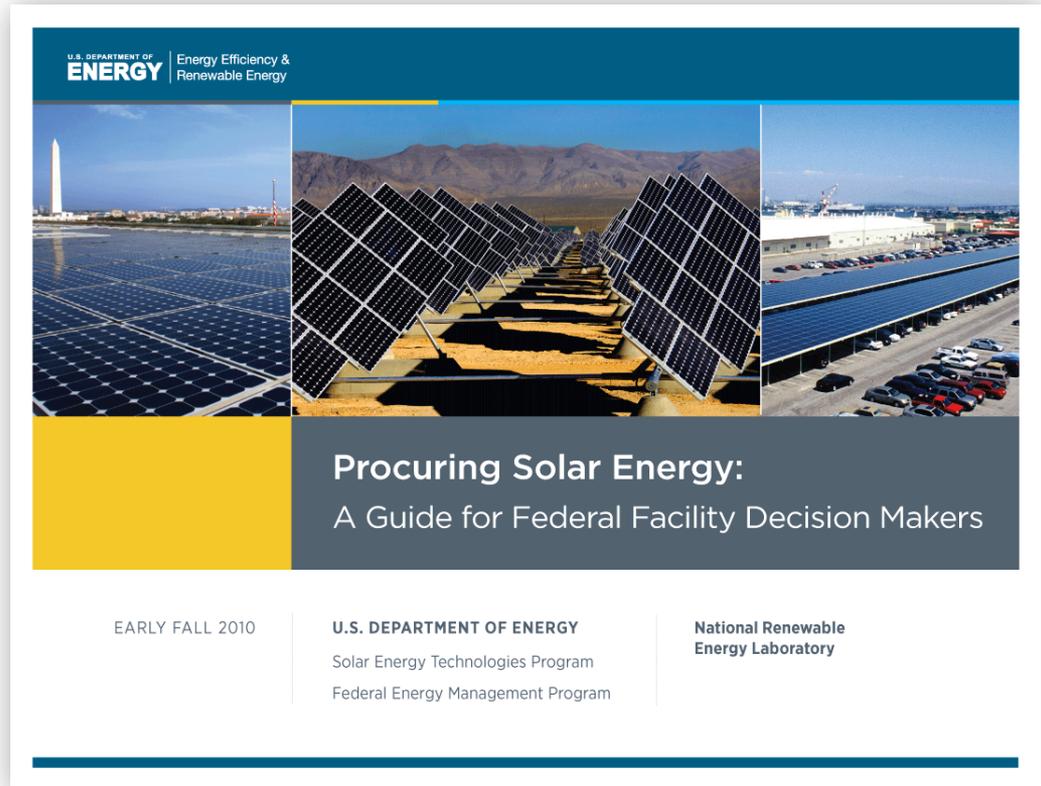
- Multiple funding mechanisms exist to enable Federal renewable energy projects
- As an on-site expert and project champion, you can make project happens and succeed
- Capitalize on FEMP resources available to agencies
- Working groups and interagency coordination
- Visit www.femp.energy.gov for more information



Additional Resources



- Designed for building, energy, and project decision makers
- Describes importance of solar projects and preliminary site screenings
- Guides agencies through planning and implementation phases of Federal solar projects



www.solar.energy.gov/solar/fed_facility_guide.html

- FEMP Web Site:
www.femp.energy.gov
- FEMP Renewable Energy Site:
www.femp.energy.gov/technologies/renewable_energy.html
- FEMP Renewable Energy Contacts:
www.femp.energy.gov/technologies/renewable_contacts.html
- FEMP Agency Customer Service Representatives and Contacts:
www.femp.energy.gov/about/contacts.html
- FEMP Renewable Energy Training:
www.femp.energy.gov/technologies/renewable_training.html
- FEMP Training Database:
www.femp.energy.gov/training
- FEMP Operations and Maintenance Site:
www.femp.energy.gov/program/operations_maintenance.html
- DOE Renewable Energy System Tracking:
Contact Michael Quintana at Sandia National Laboratory (maquint@sandia.gov)

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