

DOE OFFICE OF INDIAN ENERGY

The Five-Step Process Framework for Project Development



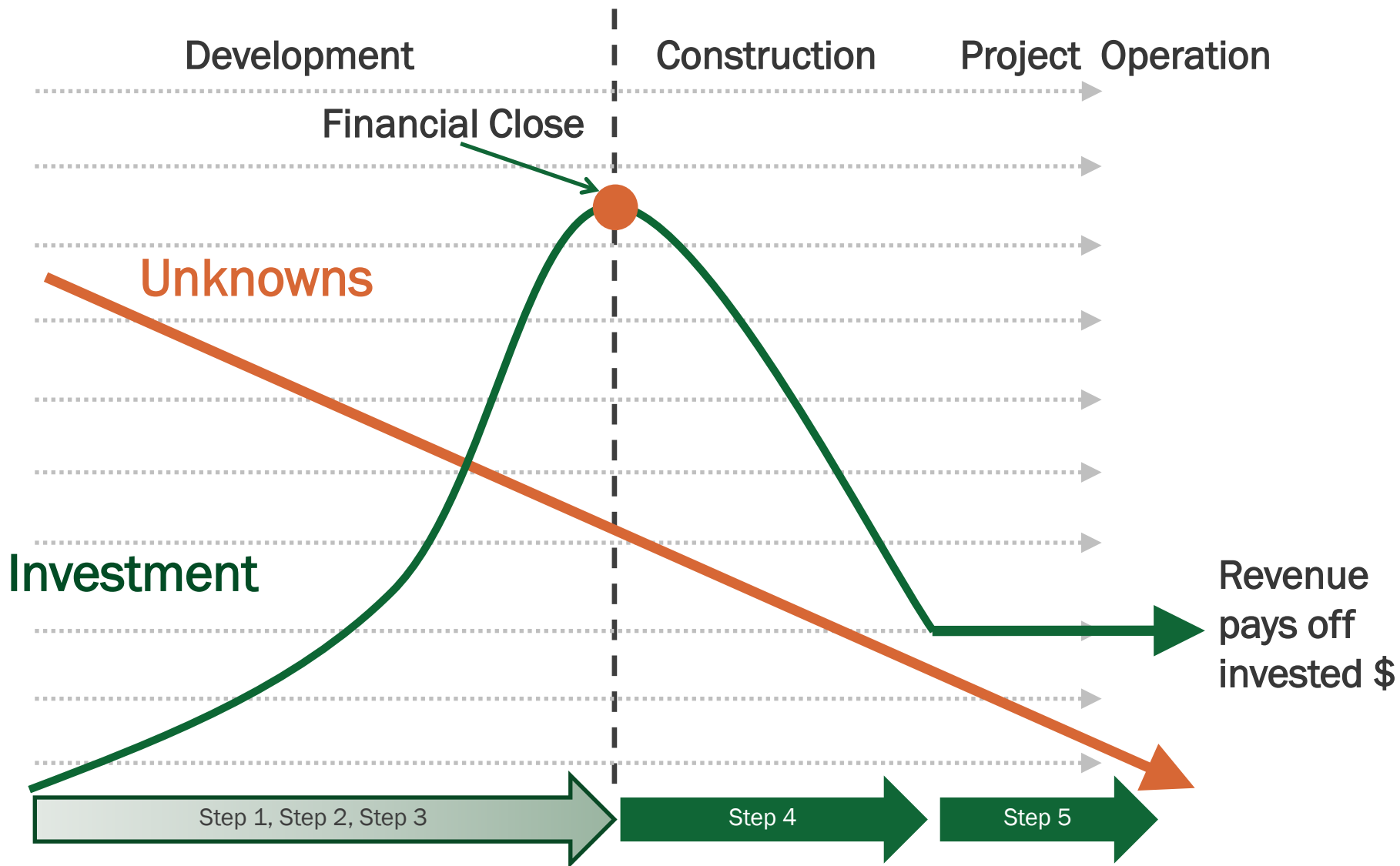
U.S. DEPARTMENT OF
ENERGY

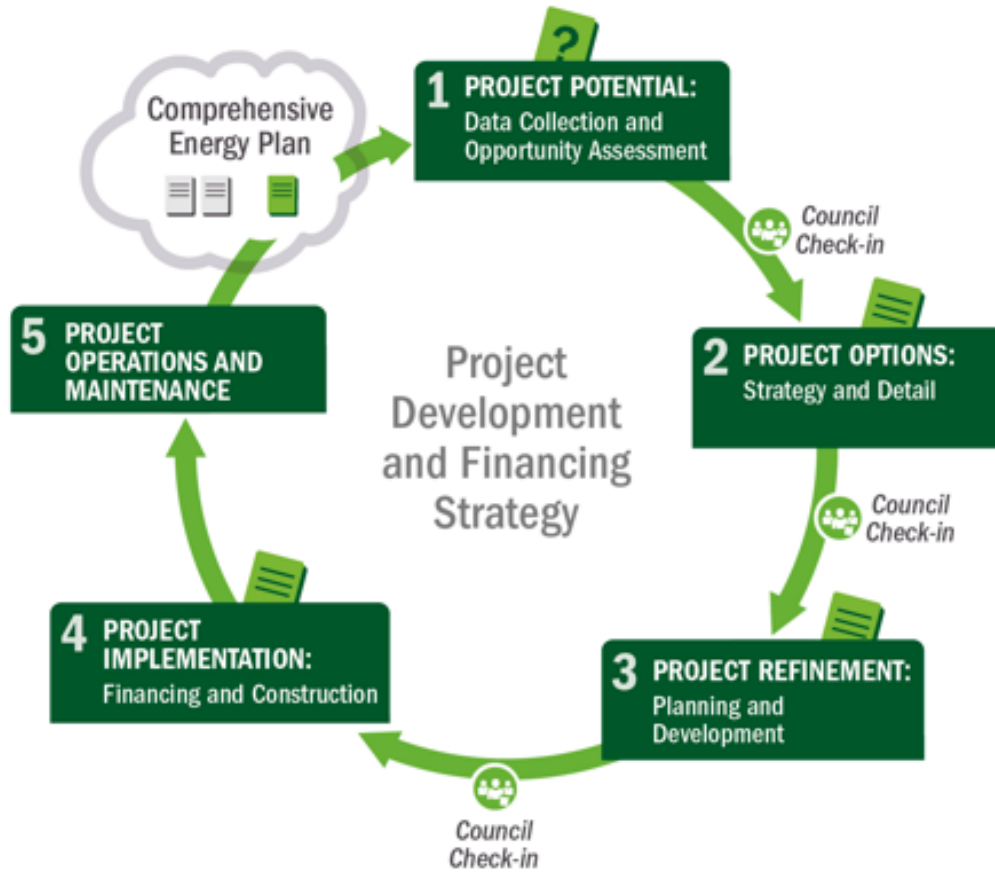
Office of
Indian Energy

Project Development Process: What Is It?

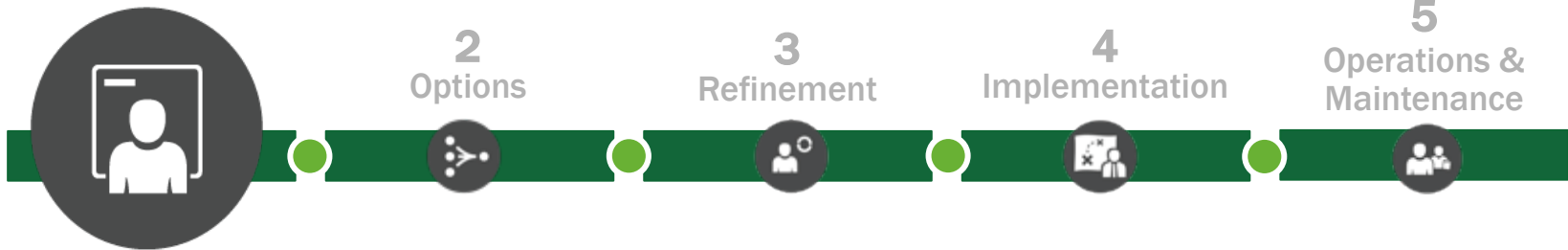
- Framework based on **experience**
- Focuses on key **decision points**
- Shows that project development is **iterative**
- Emphasizes that delaying or deciding against a project that does not meet current **goals** is a viable outcome and option

Project Uncertainty/Capitol at Risk

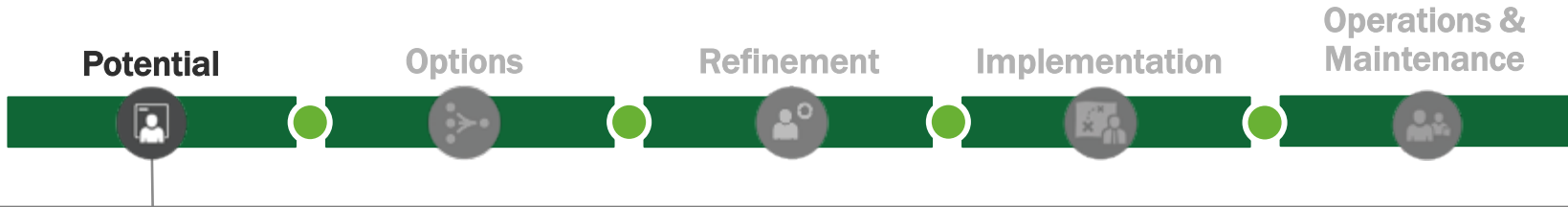




1 Potential



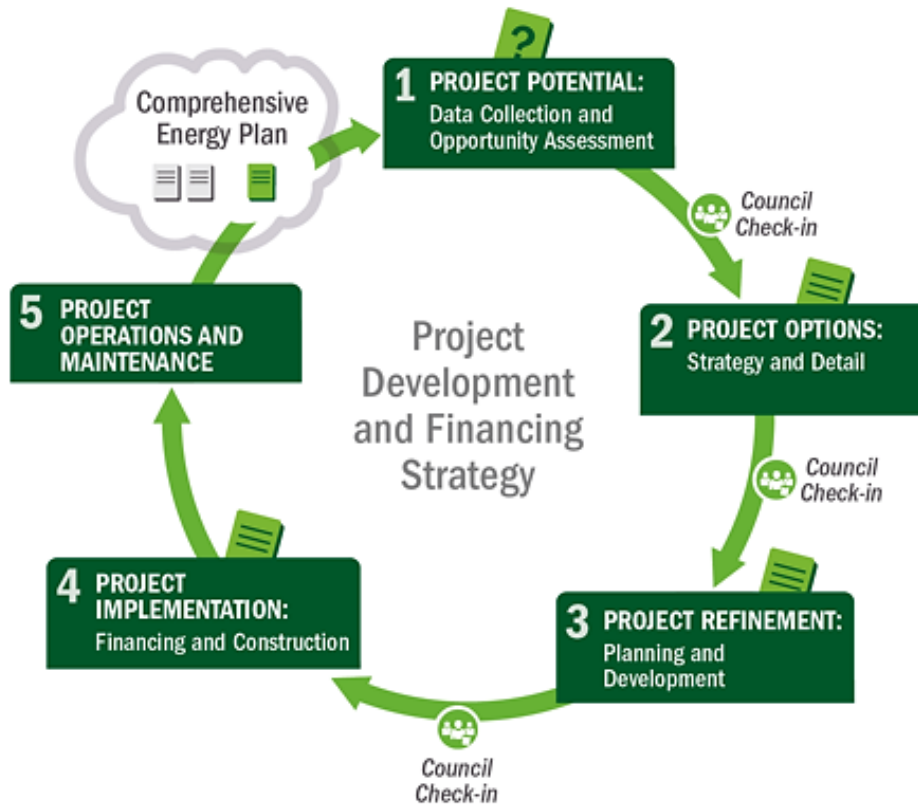
Step 1: Site, Scale, Resource, and Community Market Potential



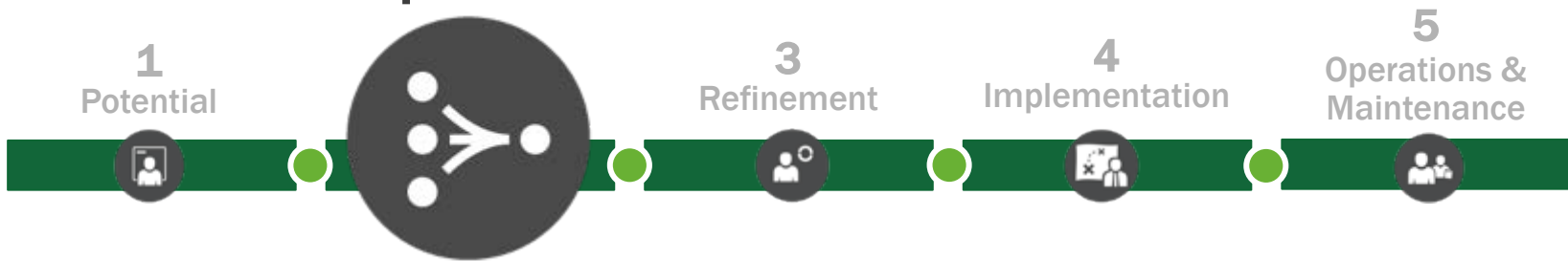
Purpose: Determine whether basic elements for a successful project are in place

Tasks:

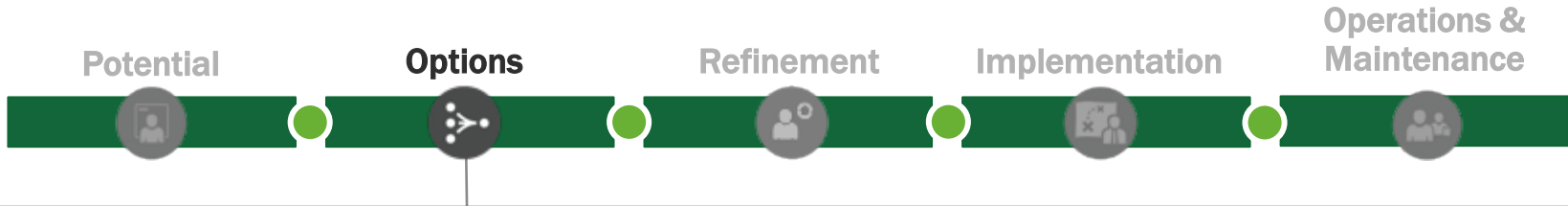
1. Identify possible **sites** for project locations
2. Determine the **energy load/demand** for these sites using past electric bills for these facilities
3. Confirm renewable energy **resource**
4. Review tribal facility electric cost data, regulations, and transmission and interconnection requirements
5. Evaluate community market potential for renewable sales. **Your community is the marketplace/energy –user.**
6. Assemble or communicate with the right team—those in positions or with knowledge to facilitate, approve, and champion the project



2 Options



Step 2: Roles, Business Structures, & Regulatory Considerations



Purpose: Determine ownership structure and permitting considerations if any.

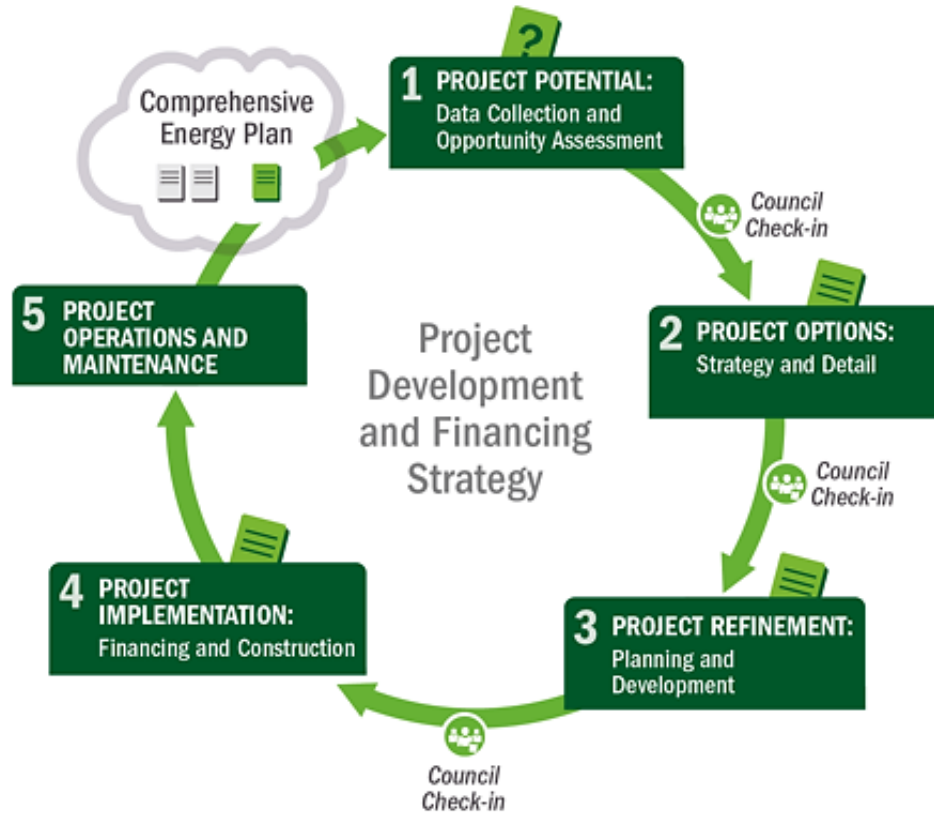
(Note: It is likely that internal tribal permitting is required if developed on tribal lands, however, state and federal permitting may be required if the Tribe is dealing with fee or trust land outside the tribal land holdings.)

Tasks:

1. Understand tribal role(s) and risk allocations/business structure
2. Identify permitting needs and site use considerations
3. Identify interconnection rules and net metering options with the local utility

Outputs:

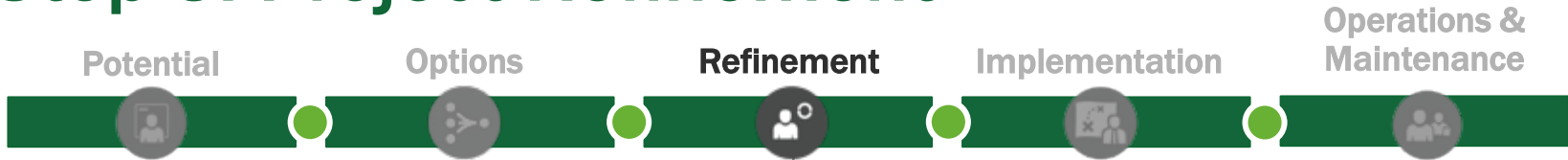
1. Clarify tribal roles
2. Decide on business structure
3. Understand the permit needs and process
4. Understand interconnection and net-metering options



3 Refinement



Step 3: Project Refinement



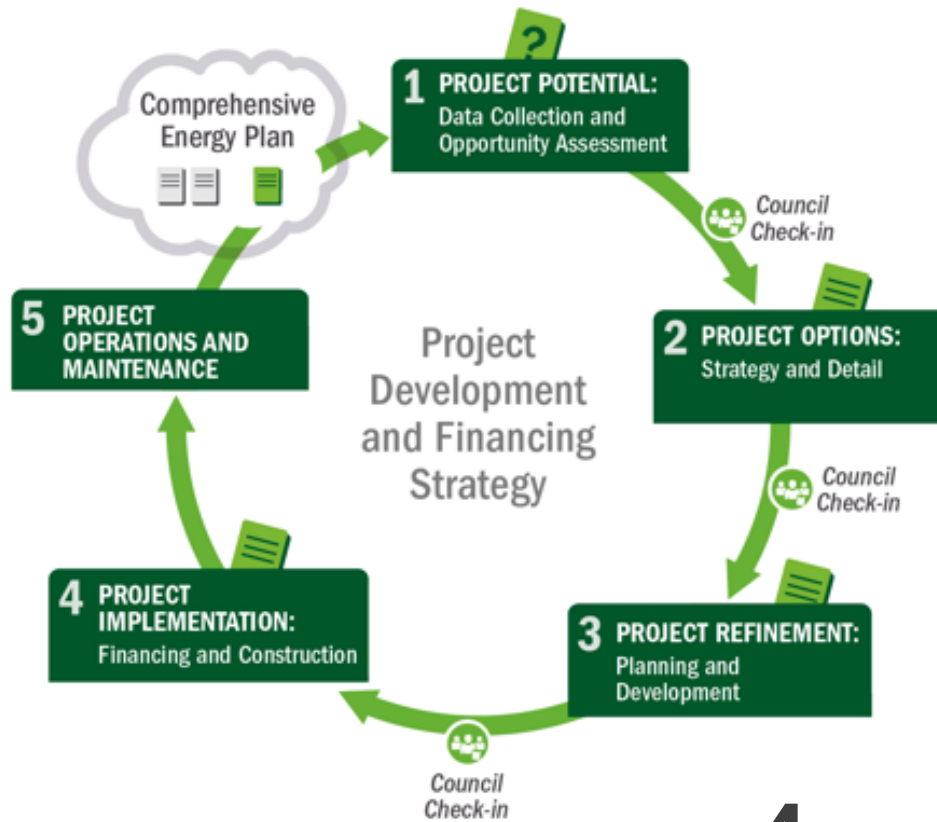
Purpose: Validate decisions and finalize project structure

Tasks:

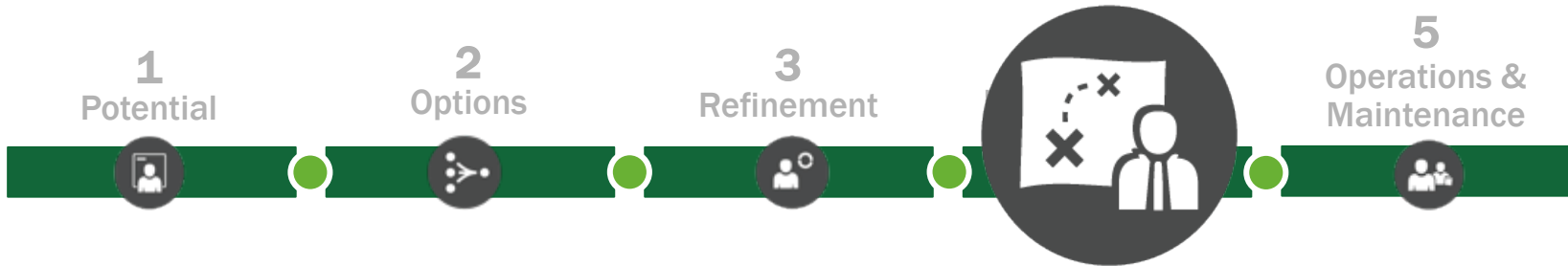
1. Finalize ownership structure and project team identification
2. Finalize permitting, including environmental reviews, net metering, and interconnection
3. Finalize technology, financing, and development costs

Outputs:

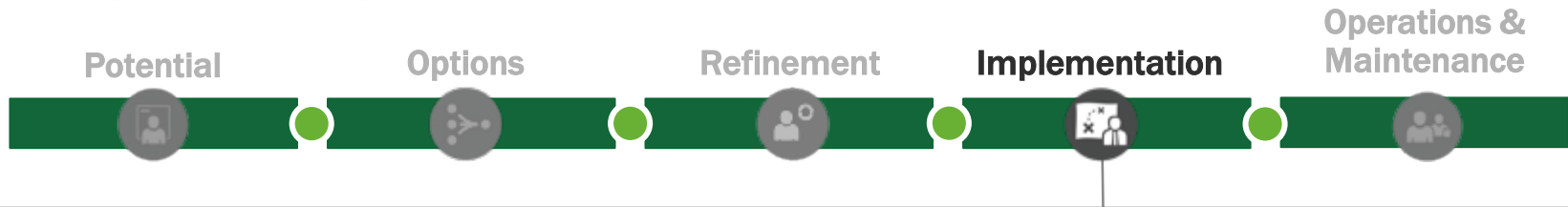
1. Proposed financing/commitments and organization structure
2. Detailed economic models
3. Vendors selected
4. Completed environmental reviews and finalized permits
5. Net-metering and interconnection agreement
6. Transmission finalized, if necessary



Implementation



Step 4: Implementation



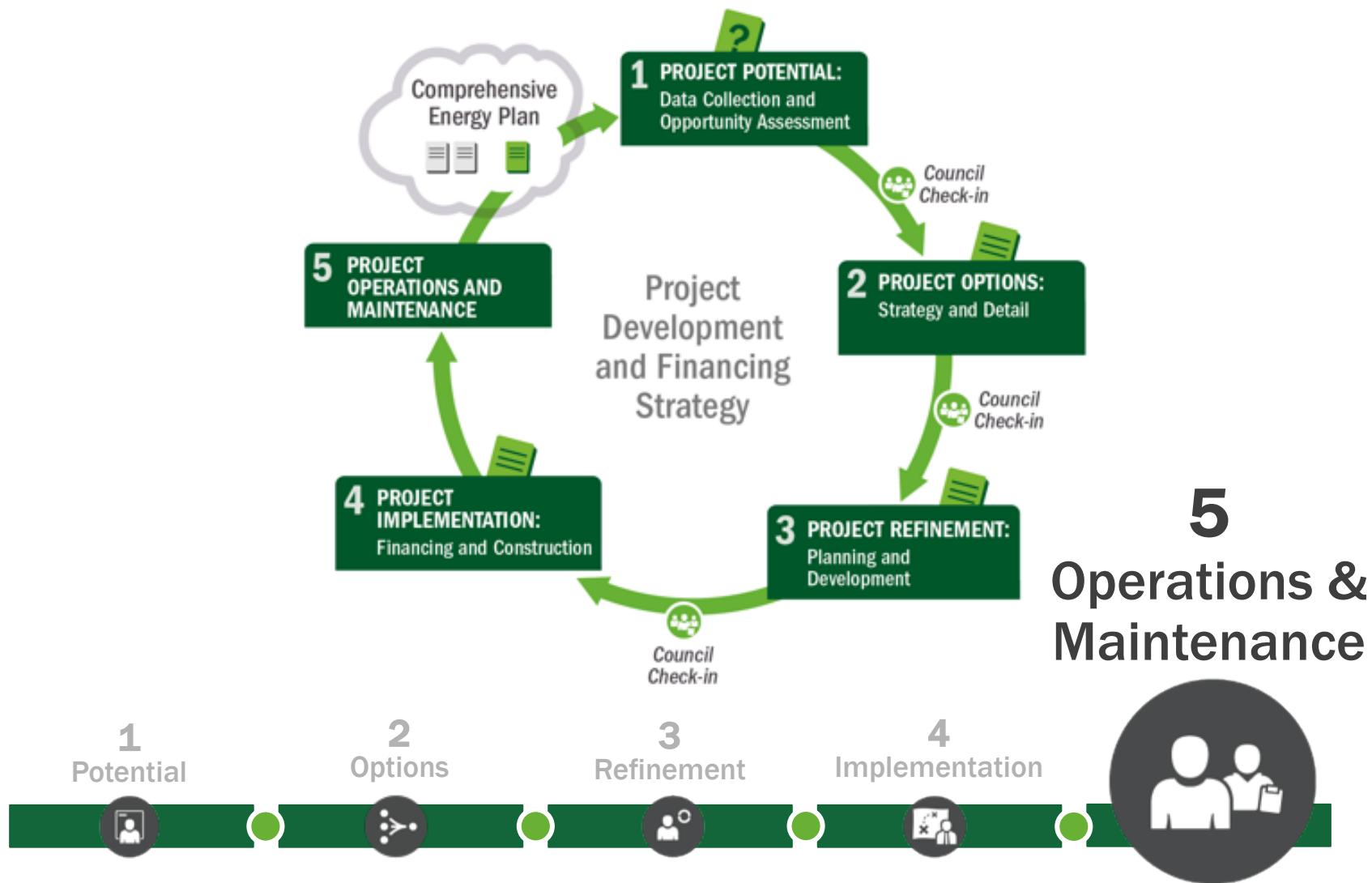
Purpose: Contract for and *build* the project

Tasks:

- Finalize pre-construction activities including project agreements—financial, contractual, and interconnection
- Start construction and equipment installation
- Interconnect project to the grid
- Start project commissioning leading to facility/community project operation

Output: Completed project (operation)

Project Development Process



Step 5: Operations & Maintenance



Purpose: Conduct or ensure ongoing operations and maintenance (O&M), including repair and replacement (R&R)*

Task:

- O&M agreements
- Warranties
- Monitoring system
- System performance
- Production guarantees
- Buyout Options

Outputs:

- Ensure responsible party carries out O&M/R&R*
- Measuring and tracking success
- Correlate with business plan and strategic energy plan
- Contract compliance
- Reporting of generation
- Met or exceeded energy and financial performance

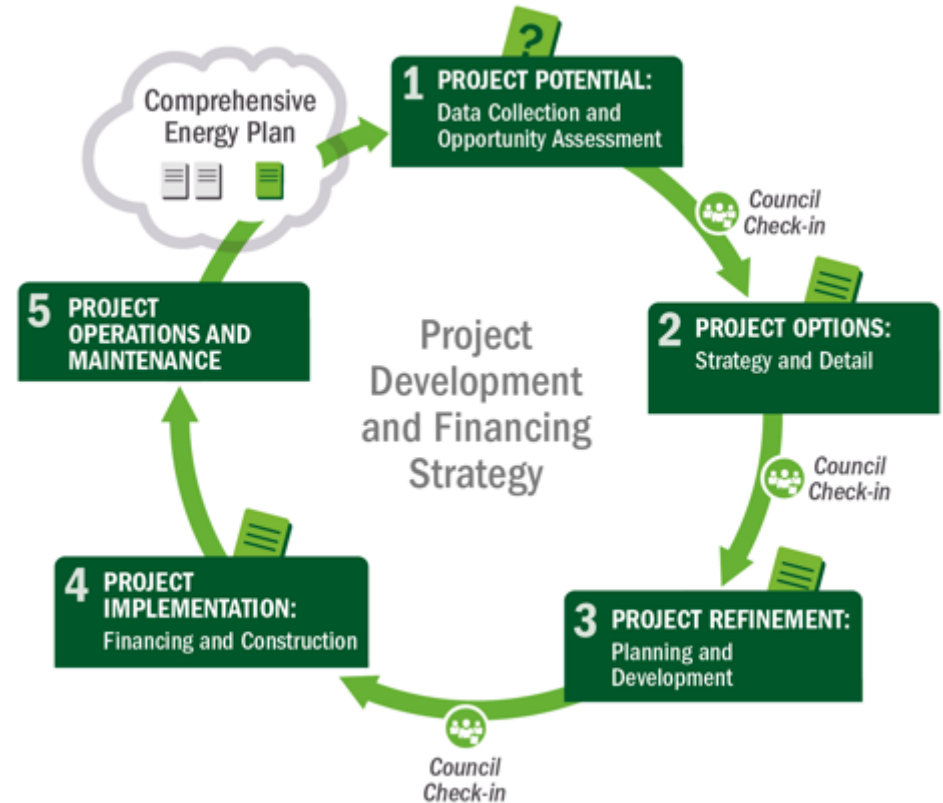
**Especially if owner – role of highest O&M risk*



Photo by Warren Getz, NREL 00180

Revisit Energy Plan

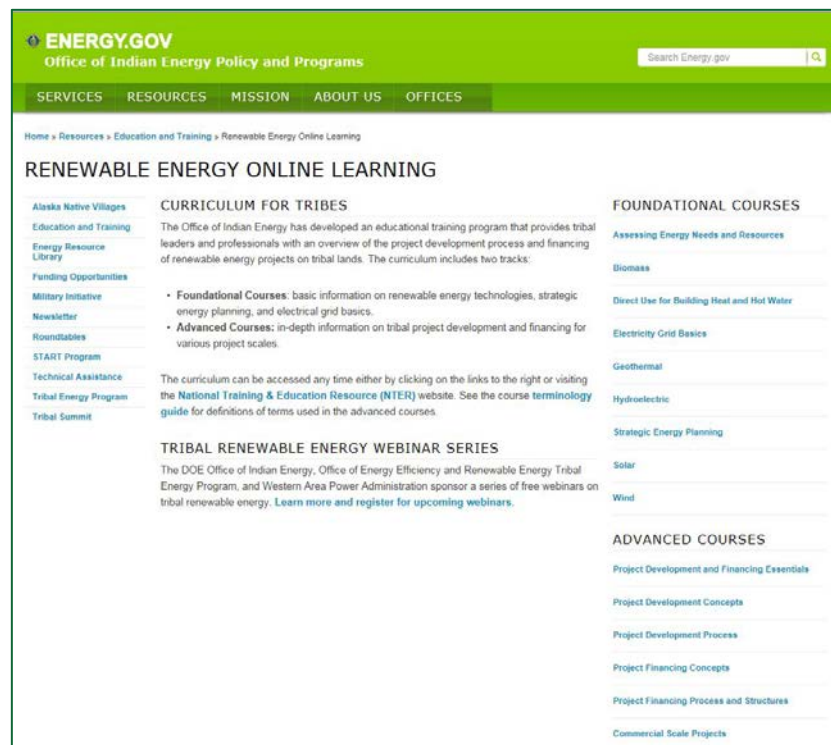
- Check back in with planning document—update as necessary
- Identify next potential project from plan



Resources: On-Demand Curriculum

Access free courses anytime

- **Foundational Courses**
Overview of specific renewable energy technologies, strategic energy planning, and grid basics
- **Leadership & Professional Courses**
In-depth information on the components of the project development process and existing financing structures



The screenshot displays the 'RENEWABLE ENERGY ONLINE LEARNING' page on the ENERGY.GOV website. The page is organized into several sections:

- Left Sidebar:** A vertical menu with links for Alaska Native Villages, Education and Training, Energy Resource Library, Funding Opportunities, Military Initiative, Newsletter, Roundtables, START Program, Technical Assistance, Tribal Energy Program, and Tribal Summit.
- Curriculum for Tribes:** A central section titled 'CURRICULUM FOR TRIBES' with a description and two tracks:
 - Foundational Courses:** basic information on renewable energy technologies, strategic energy planning, and electrical grid basics.
 - Advanced Courses:** in-depth information on tribal project development and financing for various project scales.
- TRIBAL RENEWABLE ENERGY WEBINAR SERIES:** A section mentioning a series of free webinars sponsored by the DOE Office of Indian Energy, Office of Energy Efficiency and Renewable Energy Tribal Energy Program, and Western Area Power Administration.
- Right Sidebar:** Two columns of course titles:
 - FOUNDATIONAL COURSES:** Assessing Energy Needs and Resources, Biomass, Direct Use for Building Heat and Hot Water, Electricity Grid Basics, Geothermal, Hydroelectric, Strategic Energy Planning, Solar, and Wind.
 - ADVANCED COURSES:** Project Development and Financing Essentials, Project Development Concepts, Project Development Process, Project Financing Concepts, Project Financing Process and Structures, and Commercial Scale Projects.

energy.gov/indianenergy/curriculum