

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**

*DOE's Tribal Energy Program*



*Pathways to Energy Development &  
Energy Security*

**March 24, 2013**

**Lizana Pierce, Project Manager**



# Pathway to Project Development

Strategic Energy  
Planning

- Creating a roadmap

Feasibility Study

- Possible roads to the future

Organizational  
Development

- Vehicles of change

Project  
Development

- Where the rubber meets the road

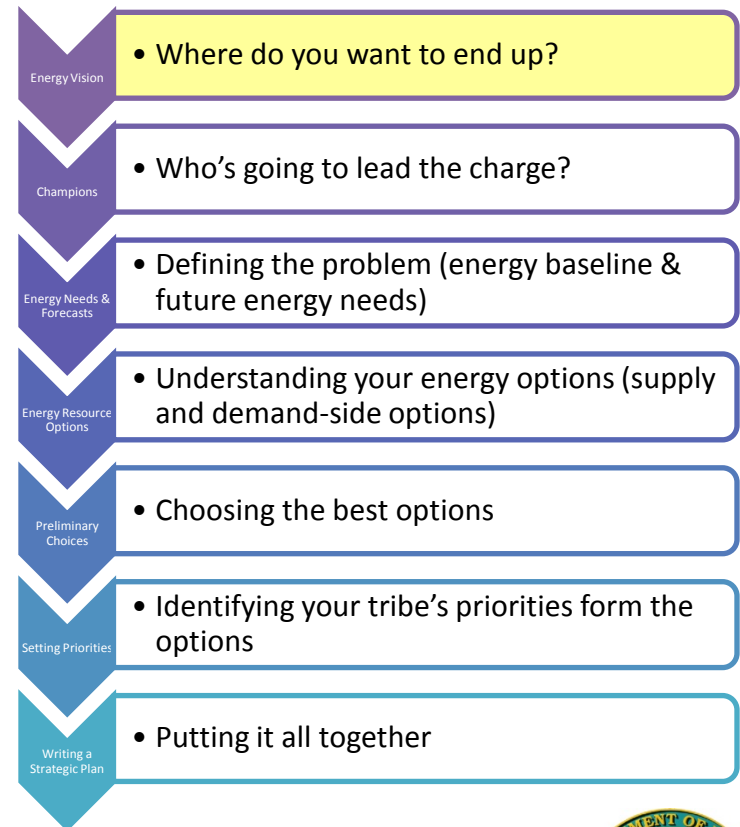


# Strategic Energy Planning

## Begins with an Energy Vision

*“The Energy Vision of the Penobscot Nation is to maximize the efficiency of energy usage and develop energy resources in ways that will sustain current and future generations by addressing the economic, environmental, and social issues of energy within the context of Penobscot Indian Nation culture, traditions and established tribal policies for the wise use of our forest, water, and wind resources.” (Courtesy of Penobscot Nation Grant DE-FG36-05GO15175)*

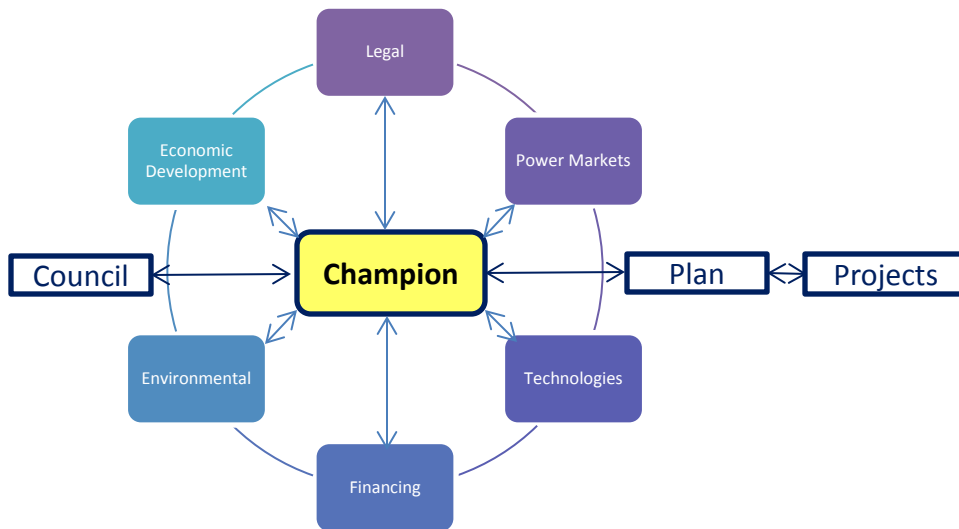
*“The Organized Village of Kasaan’s energy vision is of a healthy, efficient, sustainable community, having our own renewable energy system which supplies Kasaan as well as other communities with reasonably priced power, improving the overall well-being of our area.” (Courtesy of Organized Village of Kasaan DE-EE0005050)*



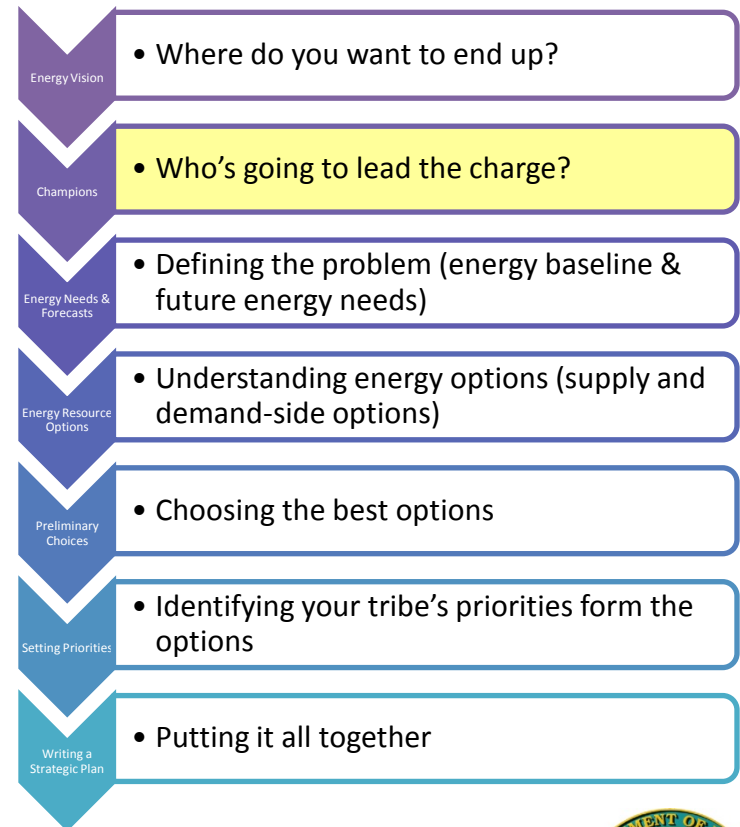
# Strategic Energy Planning

## Strategic Energy Planning

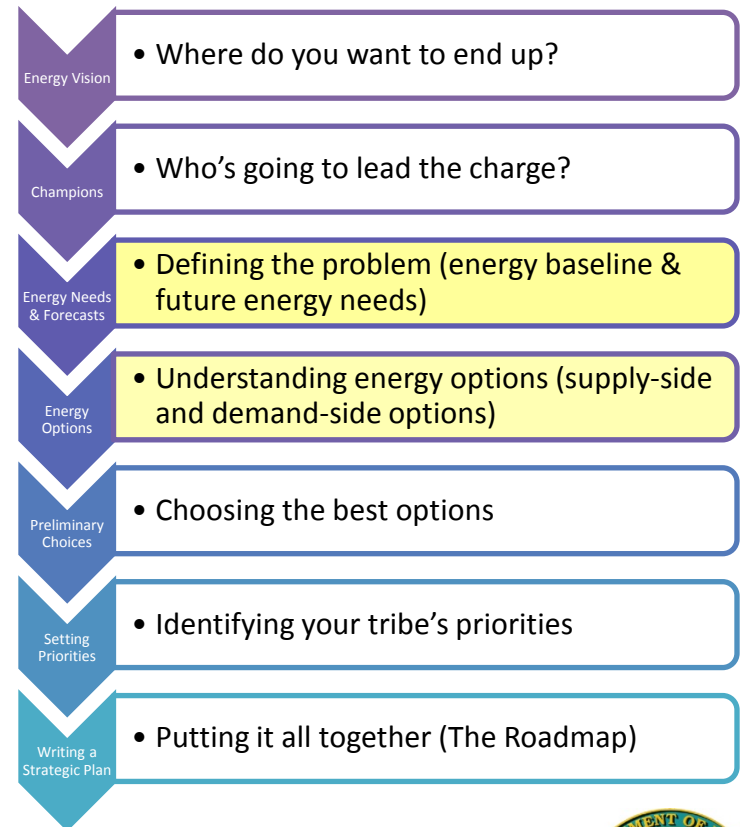
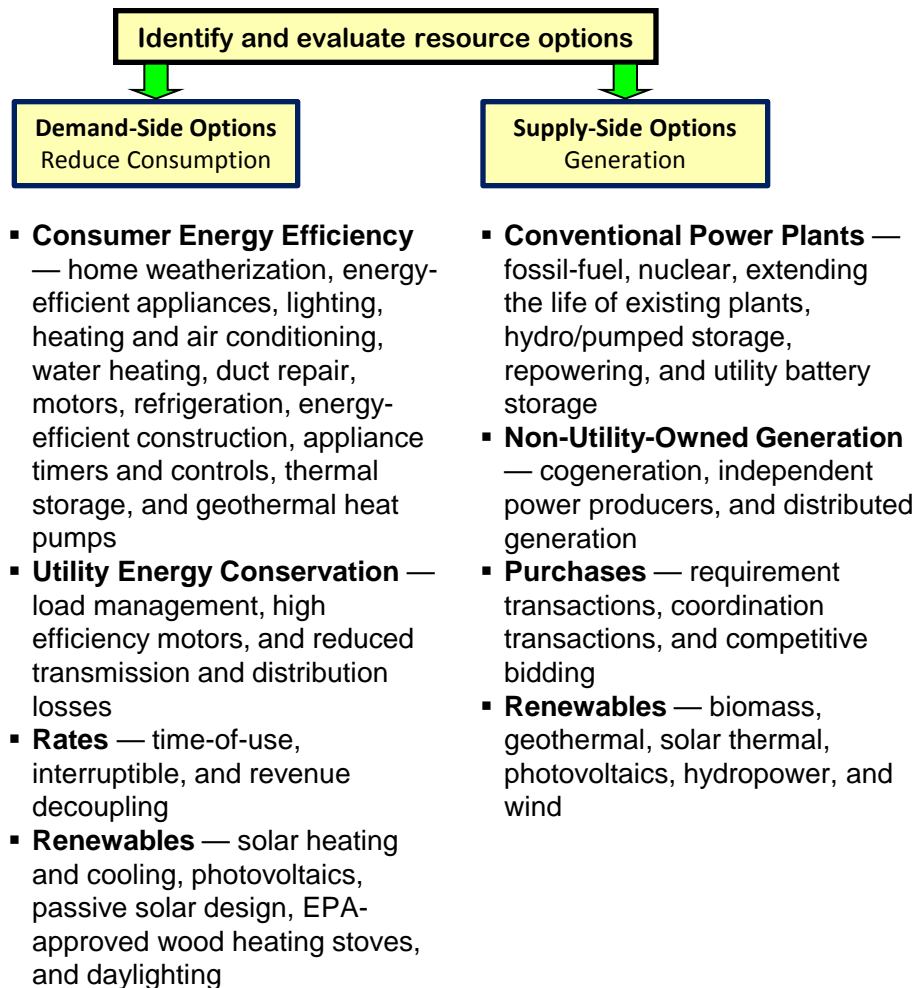
- 1) Defining where you are,
- 2) Where you want to end up,
- 3) What are your energy options, and
- 4) Developing a plan to get there.



Intended to result in a long-term sustainable plan for energy sufficiency or energy development on tribal lands.



# Strategic Energy Planning



# Strategic Energy Planning

## Planning for Energy Development

Moderator: Lizana Pierce (DOE, Golden Field Office)

3:50 p.m.	Project Overview & Introductions	Lizana Pierce
4:00 p.m.	Cabazon Band of Mission Indians – Strategic Energy Planning: Renewable Energy Demonstration Center (CA)	Becky Ross
4:30 p.m.	Confederated Tribes of the Colville Reservation – Tribal Utility Development (WA)	Cary Tonasket

## MONDAY, MARCH 24<sup>th</sup> (1:00 p.m. – 6:30 p.m.) – Continued

<u>TIME</u>	<u>DESCRIPTION</u>	<u>PRESENTERS</u>
<b>Planning for Energy Development</b> Moderator: Lizana Pierce (DOE, Golden Field Office)		
5:00 p.m.	Quinault Indian Nation – Comprehensive Biomass Strategic Planning Project (WA)	Jesse Cardenas
5:30 p.m.	Santa Ynez Band of Chumash Indians – Strategic Energy Planning and Capacity Building Project (CA)	Lars Davenport
6:00 p.m.	Yerington Paiute Tribe – Building Organizational Capacity for Renewable Energy Projects (NV)	Ginny Hatch
<b>6:30 p.m.</b>	<b>Adjourn</b>	

Energy Vision

- Where do you want to end up?

Champions

- Who's going to lead the charge?

Energy Needs & Forecasts

- Defining the problem (energy baseline & future energy needs)

Energy Options

- Understanding energy options (supply-side and demand-side options)

Preliminary Choices

- Choosing the best options

Setting Priorities

- Identifying your tribe's priorities

Writing a Strategic Plan

- Putting it all together (The Roadmap)



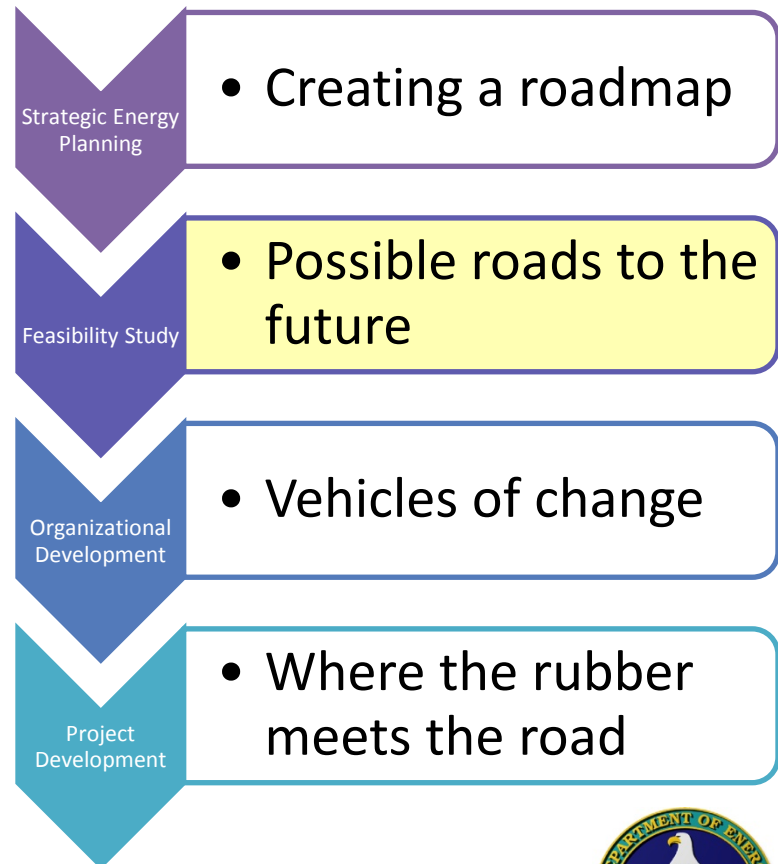
# Possible Roads to the Future

Now that you have a Energy Plan  
(or Roadmap), what next?

**Energy Efficiency  
The Low Hanging Fruit**  
  
**(Demand-side)**

## Elements of an energy efficiency feasibility study :

- Conducting energy audits;
- Documenting current energy consumption;
- Assessing the economics;
- Conducting preliminary engineering for the development of material lists for energy efficiency improvements;
- Projecting energy savings or fossil fuel reduction; and
- Assessing potential financing options for implementation.



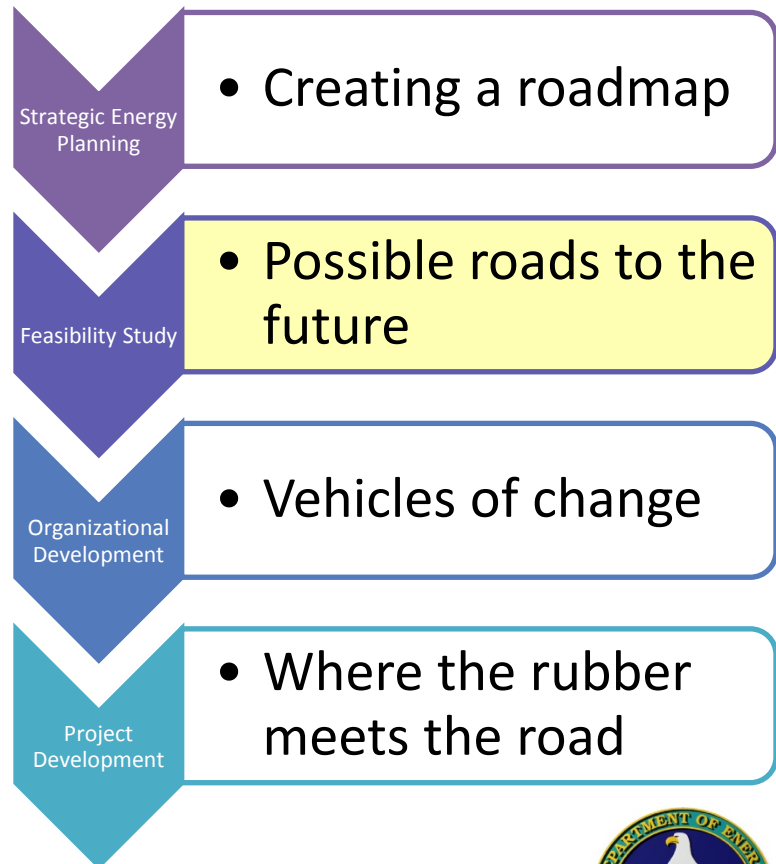
# Possible Roads to the Future

## Energy Efficiency – The Low Hanging Fruit

### Energy Efficiency – The Low Hanging Fruit (Continued)

Moderator: Kristopher Venema (CNJV, Golden Field Office)

9:40 a.m.	Oneida Tribe of Indians – Energy Optimization Model Development & Energy Audits (WI)	Michael Troge Gene Schubert Chad Wilson
10:10 a.m.	<b>Break</b>	
<b>Energy Efficiency – The Low Hanging Fruit (Continued)</b>		
Moderator: Kristopher Venema (CNJV, Golden Field Office)		
10:30 a.m.	Confederated Salish and Kootenai Tribes – Feasibility Study to Determine the Technical and Economic Viability of a Co-generation Biomass Fuel Power Plant & Organizational Development for the Acquisition of KERR Dam (MT)	Brian Lipscomb
11:00 a.m.	Confederated Salish and Kootenai Tribes – Assessing the Potential Reductions in Energy Use in Tribal Buildings (MT)	Willie Stevens
11:30 a.m.	Sault Ste. Marie Tribe of Chippewa Indians – Building Audit Training & Energy Audits (MI)	Jeff Holt Kathleen Brosemer
12:00 p.m.	<b>Lunch (Provided) Speaker</b> Mark Randall (PNE Wind USA): Tribal Wind Farm Leases (Hearth Act versus BIA Approval)	





# Possible Roads to the Future

Now that you have a Energy Plan  
(or Roadmap), what next?

Renewable Energy Options  
(Supply-side)

## Elements of a renewable energy feasibility study :

- Site-specific renewable resource assessment(s);
- Tribal energy load assessment(s), if for local consumption;
- Export markets, transmission and inter-connections
- Technology analysis;
- Economic analysis;
- Environmental assessment (i.e., benefits and impacts);
- Benefit assessment (e.g., employment, cultural and social);
- Preliminary system design(s);
- Training and other tribal professional development planning;
- Long-term operating and maintenance planning; and
- Business planning for implementing a sustainable renewable energy development project.

Strategic Energy  
Planning

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# Possible Roads to the Future

## Supply-side Renewable Energy Options

U.S. DEPARTMENT OF  
**ENERGY**
Energy Efficiency &  
Renewable Energy

**Tribal Energy Program**

**TUESDAY, MARCH 25<sup>th</sup> (8:30 a.m. – 5:30 p.m.) – Continued**

<u>TIME</u>	<u>DESCRIPTION</u>	<u>PRESENTERS</u>
<b>Feasibility of Renewable Energy Development</b> Moderator: Kristopher Venema (CNJV, Golden Field Office)		
1:00 p.m.	Project Introductions	Lizana Pierce
1:10 p.m.	Agua Caliente Band of Cahulla Indians – Wind/Solar Project at Whitewater Ranch (CA)	Todd Hooks
1:40 p.m.	Fort Peck Assiniboine & Sioux Tribes – Electricity Generation from Geothermal Resources (MT)	Shawn Olson
2:10 p.m.	Lac Courte Oreilles (LCO) Band – Assessing the Feasibility of the LCO Hydro Dam (WI)	Jason Weaver
2:40 p.m.	Pueblo of Zia – Renewable Energy Development Feasibility Study (NM)	Peter Pino
3:10 p.m.	<b>Break</b>	
<b>Feasibility of Renewable Energy Development (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
3:30 p.m.	Gila River Indian Community – Renewable Energy Feasibility Study (AZ)	Dale Anderson Rudy Mix Tim Rooney (Antares) Anneliese Schmidt (Antares)
4:00 p.m.	Iowa Tribe of Oklahoma – Assessment of Wind Resource on Tribal Land (OK)	Michelle Holiday
4:30 p.m.	Navajo Hopi Land Commission – Feasibility Study for 4,000MW Solar Power at Paragon-Bisti Ranch (AZ)	Christina Lewis
5:00 p.m.	Pinoleville Pomo Nation – Renewable Energy Feasibility Study (CA)	Zack Sampsel
5:30 p.m.	<b>Adjourn</b>	

Registration starts at 12:00 p.m. on Monday and at 8:00 a.m. each morning Tuesday through Thursday.

U.S. DEPARTMENT OF  
**ENERGY**
Energy Efficiency &  
Renewable Energy

**Tribal Energy Program**

**WEDNESDAY, MARCH 26<sup>th</sup> (8:30 a.m. – 6:00 p.m.)**

<u>TIME</u>	<u>DESCRIPTION</u>	<u>PRESENTERS</u>
8:30 a.m.	Welcome & Introductions	Lizana Pierce
<b>Feasibility of Renewable Energy Development (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
8:40 a.m.	Pascua Yaqui Tribe – Solar Feasibility Study (AZ)	Maria Arvayo
9:10 a.m.	Stockbridge-Munsee Community – Feasibility of Using Solar to Power the Health and Wellness Center (WI)	Greg Bunker
9:40 a.m.	Ute Mountain Ute Tribe – 1MW Solar Farm Feasibility Study (CO)	Tawnie Knight
10:10 a.m.	<b>Break</b>	
<b>Feasibility of Renewable Energy Development (Continued)</b> Moderator: Kristopher Venema (CNJV, Golden Field Office)		
10:30 a.m.	Standing Rock Sioux Tribe – Feasibility Study Supporting Wind Development & Establishment of Renewable Energy and Energy Development Office (ND)	Fawn Wasin Zi
11:00 a.m.	Te-Moak Tribe of Western Shoshone – Feasibility Study for Battle Mountain Renewable Energy Park (NV)	Rhonda Hicks Gelford Jim Donna Hill
11:30 a.m.	San Carlos Apache Tribe – Solar Feasibility Study (AZ)	Gail Haozous



# Organizing and Skills for Success

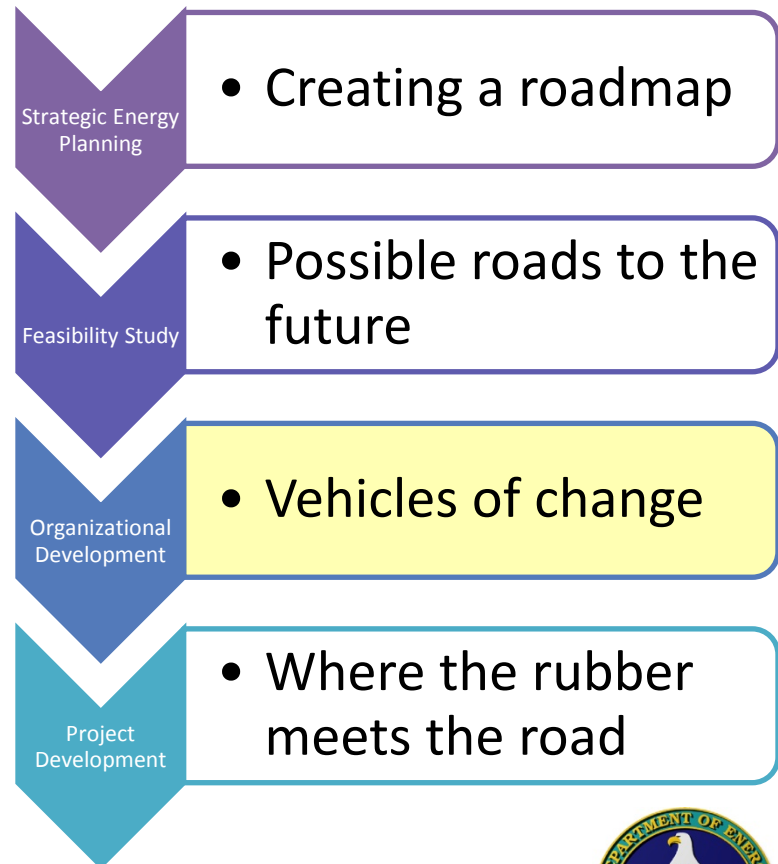
## Vehicles of Change

Organizations & People

Common organizational options are:

- Tribal utility authority
- Cooperatives
- Energy service companies
- Joint ventures
- Small businesses

Knowledge and skills are essential to developing, implementing and sustaining clean energy projects



# Project Development & Deployment

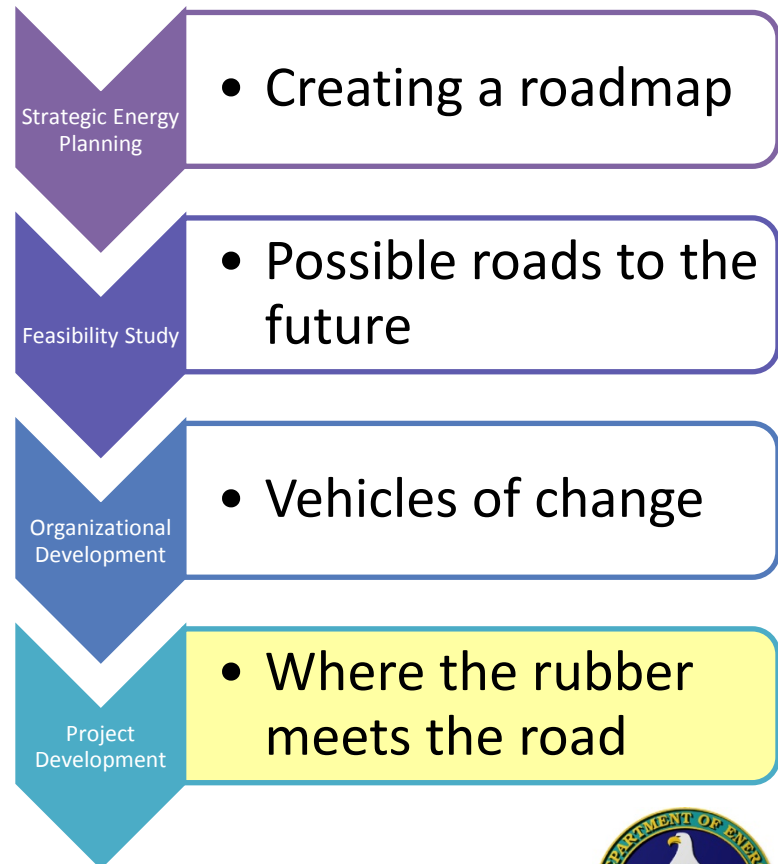
## Where the rubber meets the road

**Energy Efficiency  
The Low Hanging Fruit**

**(Demand-side)**

### Energy Efficiency Improvements

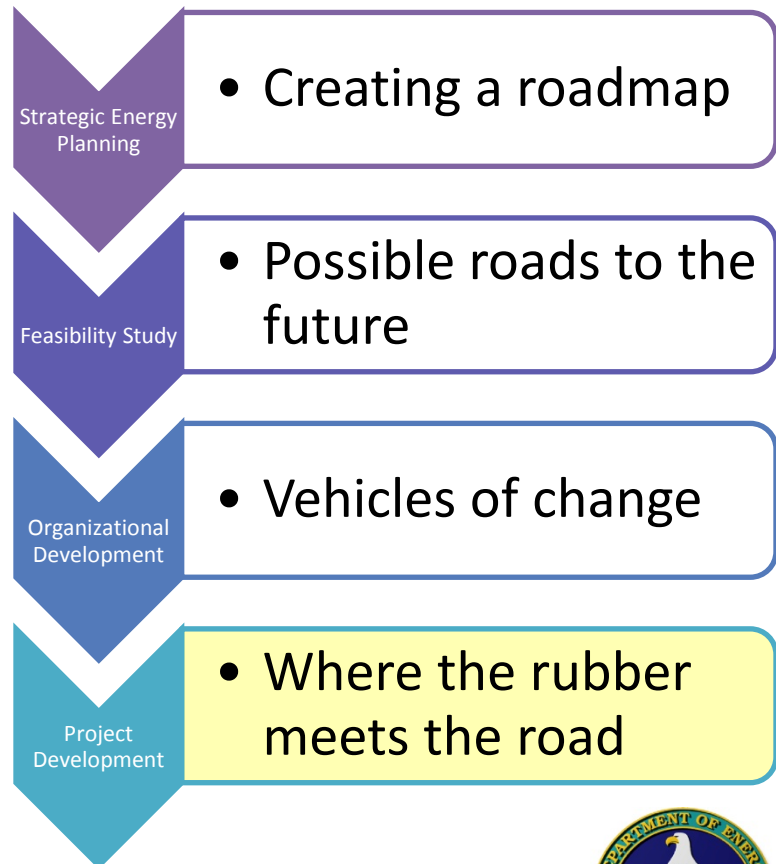
Building envelope improvements leading to significant reductions in heating and/or cooling costs, space heating and cooling, water heating, lighting, appliances, office equipment and building electrical equipment.



# Project Development & Deployment

## Energy Efficiency – The Low Hanging Fruit

<p>U.S. DEPARTMENT OF <b>ENERGY</b>   Energy Efficiency &amp; Renewable Energy</p> <p><b>Tribal Energy Program</b></p>		
<p><b>TUESDAY, MARCH 25<sup>TH</sup> (8:30 a.m. – 5:30 p.m.)</b></p>		
<b>TIME</b>	<b>DESCRIPTION</b>	<b>PRESENTERS</b>
8:30 a.m.	Welcome & Introductions	Lizana Pierce
<p><b>Energy Efficiency – The Low Hanging Fruit</b> Moderator: Jami Alley (CNJV, Golden Field Office)</p>		
8:40 a.m.	Coeur d'Alene Tribe – Energy Efficiency Feasibility Study & Benewah Market Energy Efficiency Project (ID)	James Alexie James Helmstetter
9:10 a.m.	Forest County Potawatomi Community – Assessing Energy Upgrades at Potawatomi Carter Casino Hotel (WI)	Terry Rye



# Project Development & Deployment

## Where the rubber meets the road

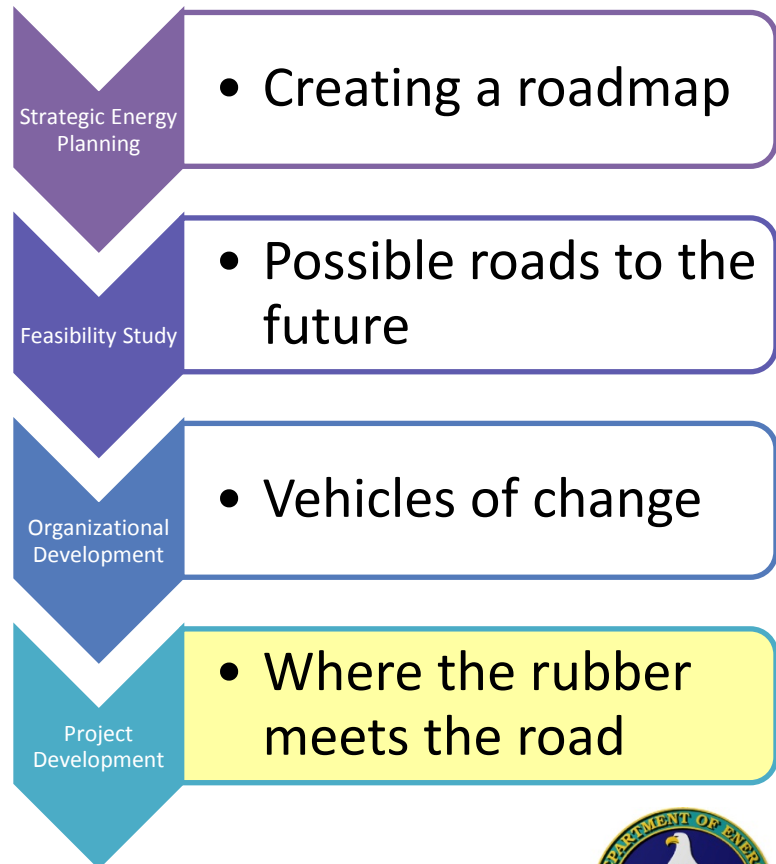
Renewable Energy Options

(Supply-side)

### “Renewables for Buildings” (Community-scale)

Power (electricity) specifically for buildings includes, photovoltaic (solar electric) or wind power physically attached to the building or ground-mounted in close proximity to the building.

Heating or cooling applications include, the use of biomass for high efficiency stoves, boilers or furnaces, active or passive solar thermal systems for space or water heating, direct heating or cooling using geothermal resources (including ground source heat pumps), or other renewable energy hybrid systems for the production of heat or air cooling.



# Project Development & Deployment

## Supply-side Renewable Energy Options

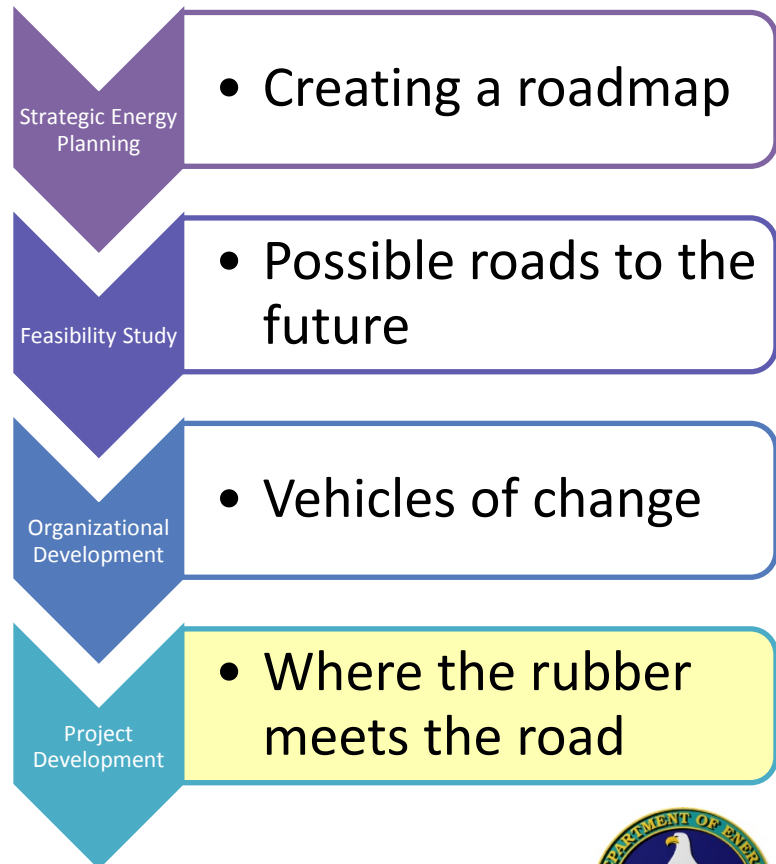
WEDNESDAY, MARCH 26<sup>th</sup> (8:30 a.m. – 6:00 p.m.) - Continued

TIME	DESCRIPTION	PRESENTERS
<b>Clean Energy Development in Alaska (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
1:40 p.m.	Gwichyaa Zhee Gwich'in Tribal Government (GZGTG) – Gwich'in Solar and Energy Efficiency in the Arctic (AK)	Walter Peter David Pelunis-Messier
2:10 p.m.	Alaska Native Tribal Health Consortium (ANTHC) – Energy Efficiency Upgrades for Sanitation Facilities in Selawik (AK)	Rebecca Pollis
2:40 p.m.	Native Village of Eyak – Wind Energy Resource Assessment on Alaska Native Lands in Cordova Region of Prince William Sound (AK)	John Whissel
3:10 p.m.	<b>Break</b>	
<b>Clean Energy Development in Alaska (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
3:30 p.m.	Kootznookoo Incorporated – 1 MW Thayer Creek Hydro-electric Development Project (AK)	Peter Naroz
<b>Clean Energy Development in Alaska (Continued)</b> Moderator: Kristopher Venema (CNJV, Golden Field Office)		
4:00 p.m.	Yukon River Inter-Tribal Watershed Council (YRITWC) – Energy Efficiency for Nunamiut People of Anaktuvuk Pass (AK)	Dan Goodman
4:30 p.m.	Aleutian Pribilof Island Association's – False Pass Tidal Energy Feasibility Project (AK)	Bruce Wright Monty Worthington (ORPC)
5:00 p.m.	Port Graham Village Council – Community Building Biomass Heating Design Project (AK)	Charles Sink
5:30 p.m.	Tlingit Haida Regional Housing Authority (THRHA) – Energy Cents Program - Household Energy Use Assessments, Monitoring and Household Energy Education (AK)	Tasha McKoy
6:00 p.m.	<b>Adjourn</b>	

Registration starts at 12:00 p.m.

**Clean Energy Development in Alaska**  
Moderator: Jami Alley (CNJV, Golden Field Office)

1:00 p.m.	Project Introductions	Lizana Pierce
1:10 p.m.	Council of Athabascan Tribal Governments (CATG) – Fort Yukon Wood Energy Program: Wood Boiler Deployment (AK)	Kelda Britton



# Project Development & Deployment

## Where the rubber meets the road

Renewable Energy Options

(Supply-side)

### Development (Pre-construction) Activities:

Environmental assessments; detailed design or engineering drawings; interconnection assessments for grid-connected projects; negotiations for utility grid interconnect agreements and power purchase agreements; permitting; finalizing business agreements; conducting due diligence on selected technologies; and negotiating and obtaining financial commitments.

### Deployment (Construction):

Installation of renewable systems for export of power.

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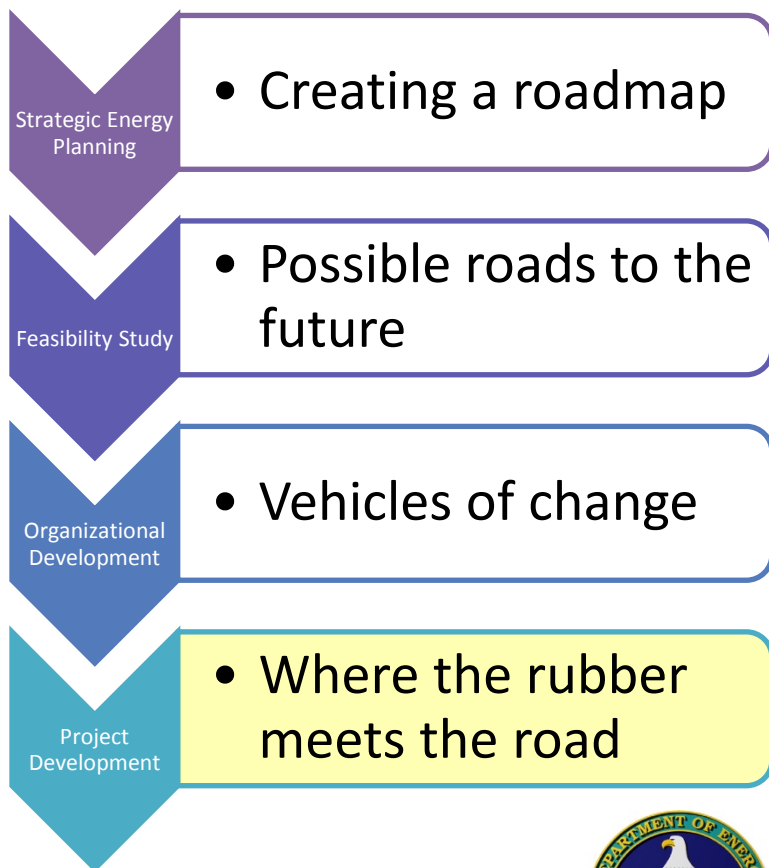
# Project Development & Deployment

## Supply-side Renewable Energy Options

U.S. DEPARTMENT OF ENERGY   Energy Efficiency & Renewable Energy		
Tribal Energy Program		
THURSDAY, MARCH 27 <sup>th</sup> (8:30 a.m. – 5:00 p.m.)		
TIME	DESCRIPTION	PRESENTERS
8:30 a.m.	Welcome & Introductions	Lizana Pierce
<b>Indian Renewable Energy Development</b> Moderator: Lizana Pierce (DOE, Golden Field Office)		
8:40 a.m.	Campo Band of Mission Indians – Kumeyaay Wind II (CA)	Melissa Estes
9:10 a.m.	Cherokee Nation Businesses – Cherokee Wind Energy Development (OK)	Carol Wyatt
9:40 a.m.	Rosebud Sioux Tribes – RST Wind Energy Development (SD)	Paul Valandra
10:10 a.m.	<b>Break</b>	

<b>Indian Renewable Energy Development</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
10:30 a.m.	To'Hajiilee Economic Development Solar Farm Development	
11:00 a.m.	Southern Ute Indian Tribe Project (CO)	
11:30 a.m.	Tonto Apache Tribe – School Facilities Project (AZ)	
12:00 p.m.	<b>Lunch (Provided)</b>	
<b>Indian Renewable Energy Development</b> Moderator: Kristopher Venema (CNJV, Golden Field Office)		
1:00 p.m.	Project Introductions	
1:10 p.m.	Menominee Tribal Enterprises Combined Heat & Power Project	
1:40 p.m.	Seneca Nation of Indians Common Lands near Lake Ontario	
2:10 p.m.	White Earth Reservation Feasibility Study & Shoo Project (MN)	
Registration starts at 12:00 p.m. on Monday		

U.S. DEPARTMENT OF ENERGY   Energy Efficiency & Renewable Energy		
Tribal Energy Program		
THURSDAY, MARCH 27 <sup>th</sup> (8:30 a.m. – 5:00 p.m.) – Continued		
TIME	DESCRIPTION	PRESENTERS
<b>Indian Renewable Energy Development (Continued)</b> Moderator: Lizana Pierce (DOE, Golden Field Office)		
2:40 p.m.	Winnebago Tribe – Solar Project (NE)	Autumn Nieman
3:10 p.m.	<b>Break</b>	
3:30 p.m.	Forest County Potawatomi Community (FCPC) – Installation of Solar Photovoltaic Systems (WI)	Nathan Karman
4:00 p.m.	Circle Discussion & Feedback	All
4:30 p.m.	Closing Remarks	Lizana Pierce
5:00 p.m.	<b>Adjourn</b>	



# Questions?

