

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

*DOE's Tribal Energy Program*



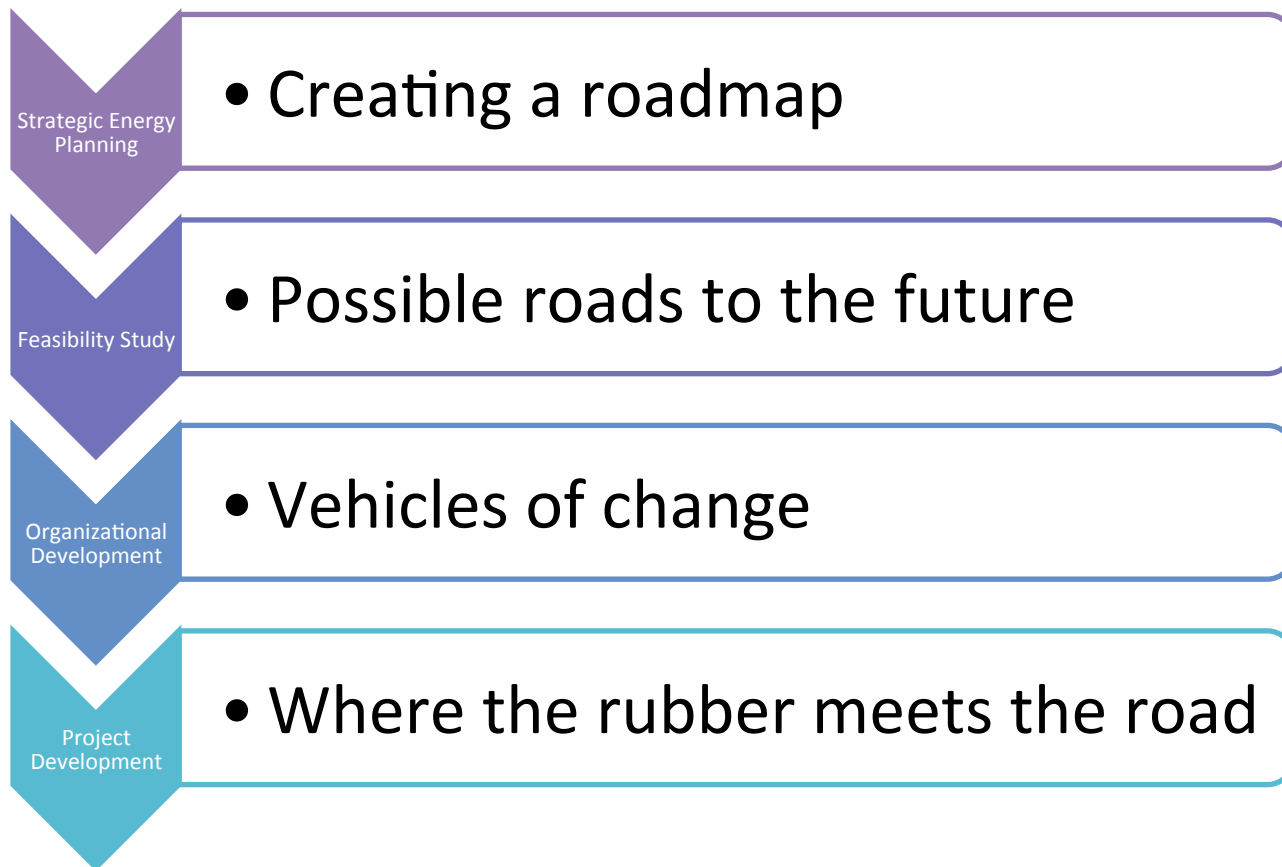
*Pathways to Energy Development & Energy Security*

November 13, 2012

Lizana Pierce, Project Manager  
U.S. DOE, Tribal Energy Program



# Pathway to Project Development

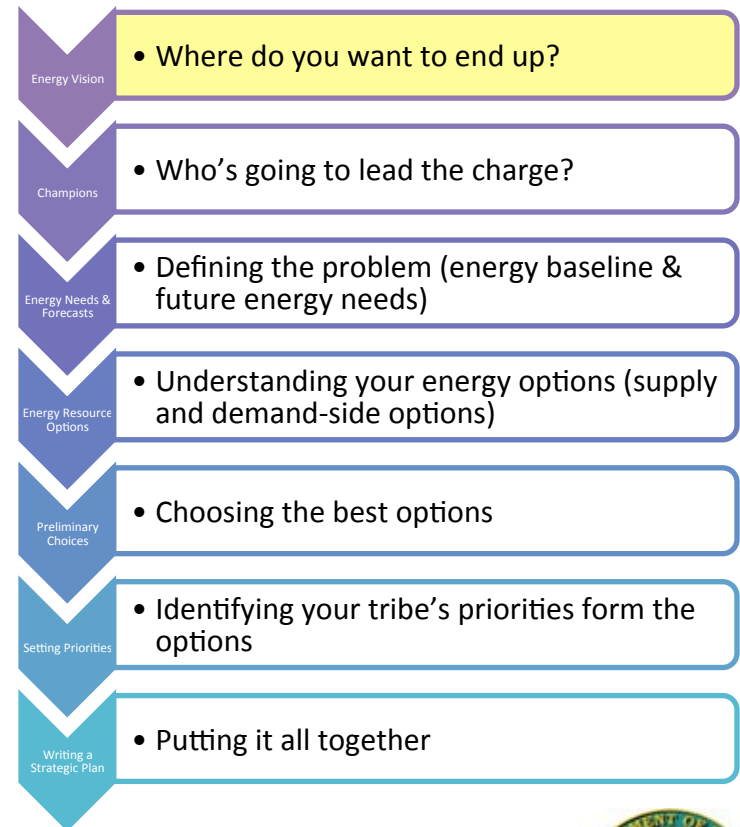


# Strategic Energy Planning

## 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)*

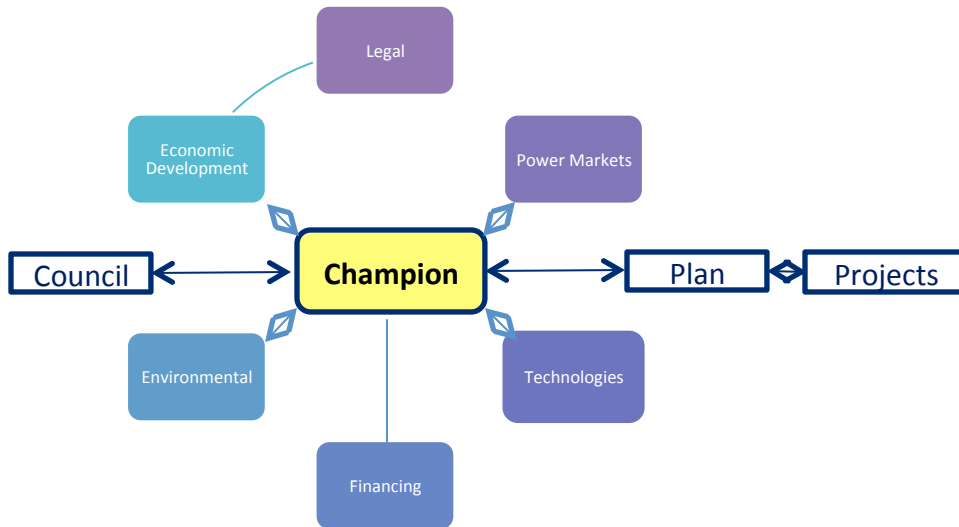
*“The Organized Village of Kasaan’s energy vision is of a healthy, efficient, sustainable community, having our own renewable energy system which supplies Kasaan as well as other communities with reasonably priced power, improving the overall well-being of our area.” (Courtesy of Organized Village of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



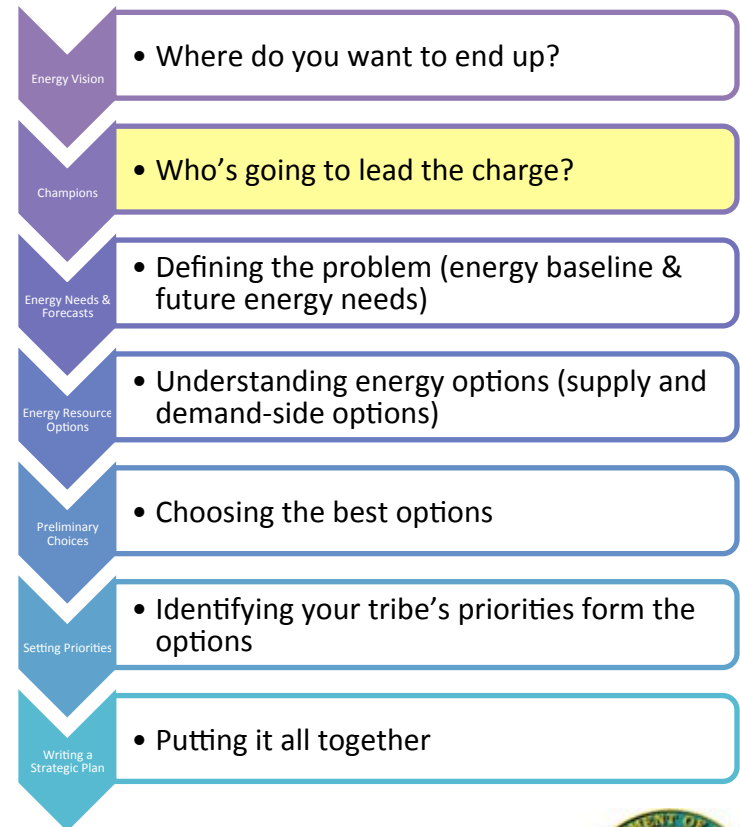
# Strategic Energy Planning

## Strategic Energy Planning

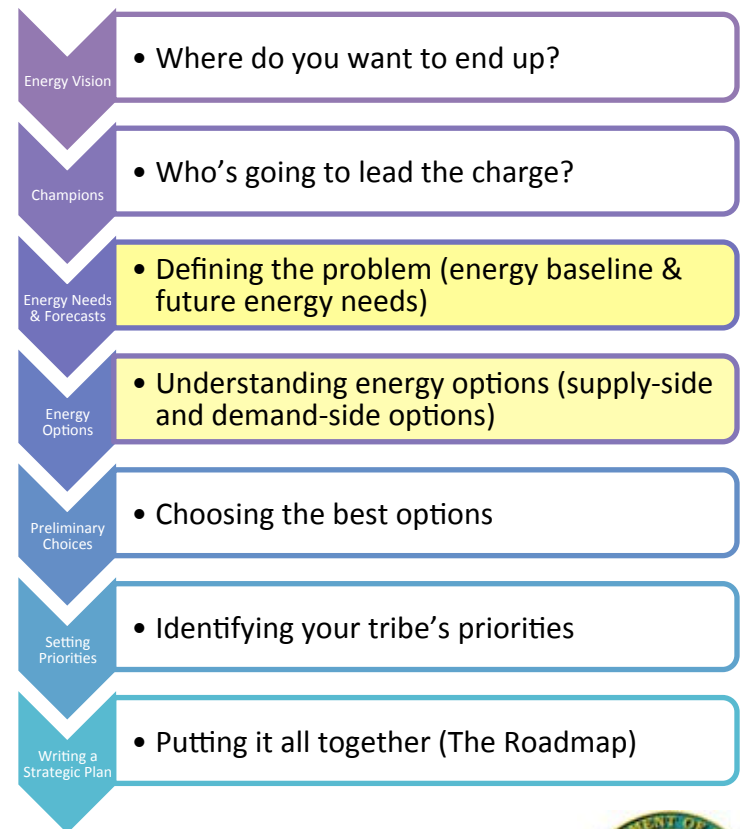
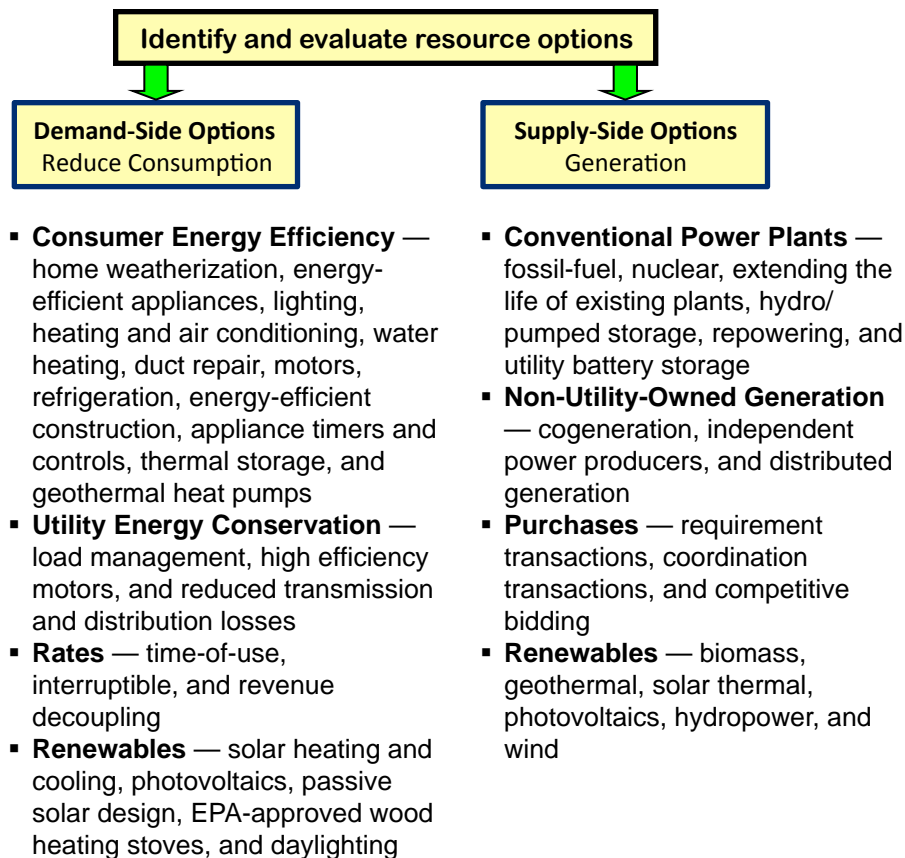
- 1) Defining where you are,
- 2) Where you want to end up,
- 3) What are your energy options, and
- 4) Developing a plan to get there.



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



# Strategic Energy Planning



# Strategic Energy Planning

TUESDAY, NOVEMBER 13<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\*

TIME	DESCRIPTION	PRESENTERS
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**Strategic Energy Planning**

Moderator: Jami Alley (CNJV, Golden Field Office)

11:00 a.m.	Santa Ynez Band of Chumash Indians - Strategic Energy Planning and Capacity Building Project (CA)	Cherlyn Seruto
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11:30 a.m.	Soboba Band of Luiseno Indians - Strategic Tribal Energy Planning Project (CA)	Erica Helms-Schenk
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12:00

Strategic Energy Mod

1:00

TUESDAY, NOVEMBER 13<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\* – Continued

TIME	DESCRIPTION	PRESENTERS
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**Strategic Energy Planning (Continued)**

Moderator: Jami Alley (CNJV, Golden Field Office)

1:10 p.m.	Cabazon Band of Mission Indians - Strategic Energy Planning: Renewable Energy Demonstration Center (CA)	Leilani Gomez
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**Strategic Energy Planning (Continued)**

Moderator: Kris Venema (CNJV, Golden Field Office)

1:40 p.m.	Confederated Tribes of Siletz Indians - Next Step for STEP (OR)	Claire Wood
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2:10 p.m.	Quinault Indian Nation - Comprehensive Biomass Strategic Planning Project (WA)	Jesse Cardenas
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2:40 p.m.	Ponca Tribe - Project Earth Lover (NE)	Stephanie Prichard-Slobotski
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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

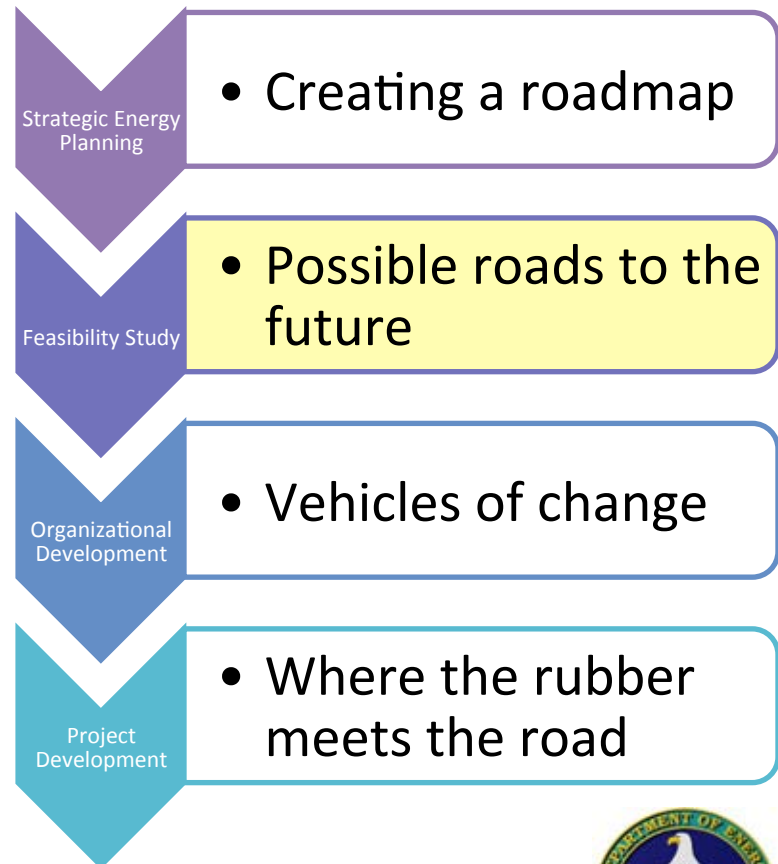
Now that you have a Energy Plan  
(or Roadmap), what next?

**Energy Efficiency  
The Low Hanging Fruit**

**(Demand-side)**

## Elements of an energy efficiency feasibility study :

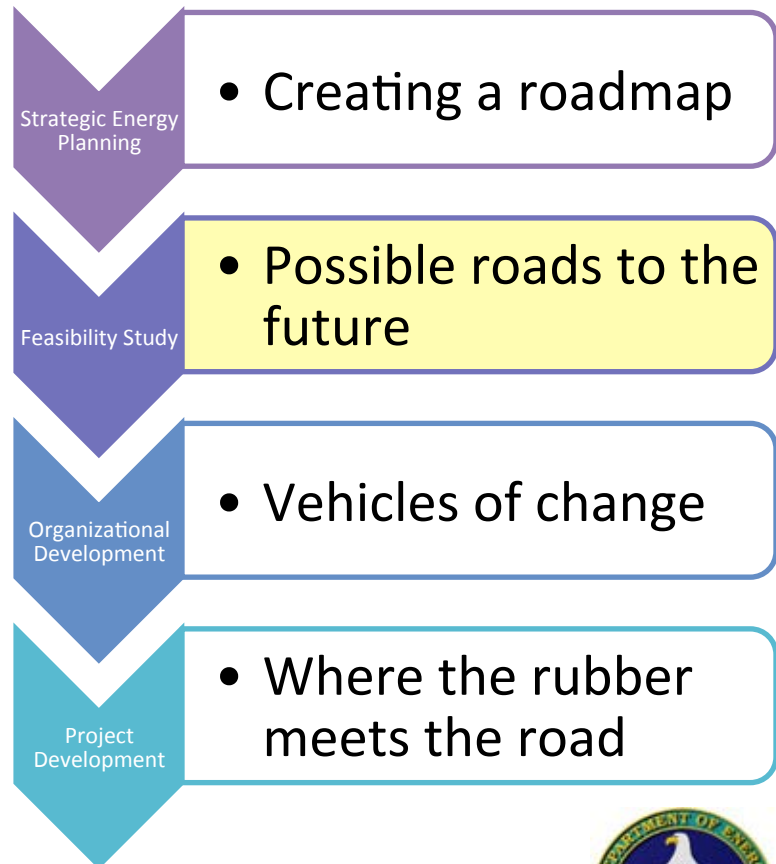
- Conducting energy audits;
- Documenting current energy consumption;
- Assessing the economics;
- Conducting preliminary engineering for the development of material lists for energy efficiency improvements;
- Projecting energy savings or fossil fuel reduction; and
- Assessing potential financing options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



# Possible Roads to the Future

## Energy Efficiency – The Low Hanging Fruit

WEDNESDAY, NOVEMBER 14 <sup>th</sup> (8:30 a.m. – 5:30 p.m.)*		
TIME	DESCRIPTION	PRESENTERS
<b>Energy Efficiency – The Low Hanging Fruit</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
9:40 a.m.	The Sea Lion Corporation - Hooper Bay Energy Efficiency Feasibility Study (AK)	William Naneng
10:10 a.m.	Break	
<b>Energy Efficiency – The Low Hanging Fruit (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
10:30 a.m.	Coeur d'Alene Tribe - Energy Efficiency Feasibility Study Project (ID)	James Helmstetter Glenda Matt
11:00 a.m. - 11:59 a.m. <b>WEDNESDAY, NOVEMBER 14<sup>th</sup> (8:30 a.m. – 5:30 p.m.)* - Continued</b>		
TIME	DESCRIPTION	PRESENTERS
<b>Energy Efficiency – The Low Hanging Fruit</b> Moderator: Cass Gillham (CNJV, Golden Field Office)		
1:00 p.m.	Project Introductions	Lizana Pierce
1:10 p.m.	Sault Ste. Marie Tribe of Chippewa Indians - Building Audit Training & Energy Audits (MI)	Jeff Holt
1:40 p.m.	Inter-Tribal Council of Michigan, Inc. - Energy Efficiency Study and Resulting Plan for the Bay Mills Indian Community (MI)	Chris Kushman
2:10 p.m.	Oneida Tribe of Indians - Energy Optimization Model Development & Energy Audits (WI)	Eugene Schubert Chad Wilson
2:40 p.m.	Native Village of Unalakleet – Feasibility Study for Retrofit of 14-Apartment Complex (AK)	Cory DiRutigliano





# 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

- Creating a roadmap

Feasibility Study

- Possible roads to the future

Organizational  
Development

- Vehicles of change

Project  
Development

- Where the rubber meets the road



# Possible Roads to the Future

## Supply-side Renewable Energy Options

THURSDAY, NOVEMBER 15 <sup>th</sup> (8:30 a.m. – 5:00 p.m.)*		
TIME	DESCRIPTION	PRESENTERS
7:30 a.m.	Registration & Continental Breakfast	
8:30 a.m.	Welcome & Introduction	
<b>Feasibility of Renewable Energy Development</b> Moderator: Cass Gillham (CNJV, Golden Field Office)		
8:40 a.m.	Agua Caliente Band of Pomo Indians - Project at Whitewater	
9:10 a.m.	Chickaloon Native Village - (RE & EE) Feasibility Study	
9:40 a.m.	Fort Peck Assiniboine Indian Reservation - Generation from Geothermal	
10:10 a.m.	Break	
<b>Feasibility of Renewable Energy Development</b> Moderator: Kris Venema (CNJV, Golden Field Office)		
10:30 a.m.	Confederated Salish and Kootenai Tribes - Determine the Technical Feasibility of Co-generation Biomass Development for the Tribe	
11:00 a.m.	Lac Courte Oreilles Band of Lake Superior Chippewa Indians - Hydro Dam and Wx T	
11:30 a.m.	Pueblo of Zia - Renewable Energy Study (NM)	

THURSDAY, NOVEMBER 15 <sup>th</sup> (8:30 a.m. – 5:00 p.m.)* - Continued		
TIME	DESCRIPTION	PRESENTERS
<b>Feasibility of Renewable Energy Development (Continued)</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
1:10 p.m.	Navajo Hopi Land Commission - Feasibility Study for 4,000MW Solar Power at Paragon-Bisti Ranch (AZ)	Roman Bitsue
1:40 p.m.	San Carlos Apache Tribe - Solar Feasibility Study & Tribal Energy Organization Project (AZ)	Gail Haozous
2:10 p.m.		

FRIDAY, NOVEMBER 16 <sup>th</sup> (8:30 a.m. – 4:00 p.m.)*		
TIME	DESCRIPTION	PRESENTERS
7:30 a.m.	Registration & Continental Breakfast	
8:30 a.m.	Welcome & Introductions	Lizana Pierce
<b>Feasibility of Renewable Energy Development (Continued)</b> Moderator: Cass Gillham (CNJV, Golden Field Office)		
8:40 a.m.	White Earth Reservation Tribal Council - Biogas/Biomass Feasibility Study	Jerome Lhotka Michael Triplett
9:10 a.m.	Te-Moak Tribe of Western Shoshone - Battle Mountain Colony Feasibility Study for Battle Mountain Renewable Energy Park	Gelford Jim Donna Hill
9:40 a.m.	Standing Rock Sioux Tribe - Feasibility Study Supporting Wind Development & Establishment of Renewable Energy and Energy Development Office (ND)	Fawn Wasin Zi



# Organizing and Skills for Success

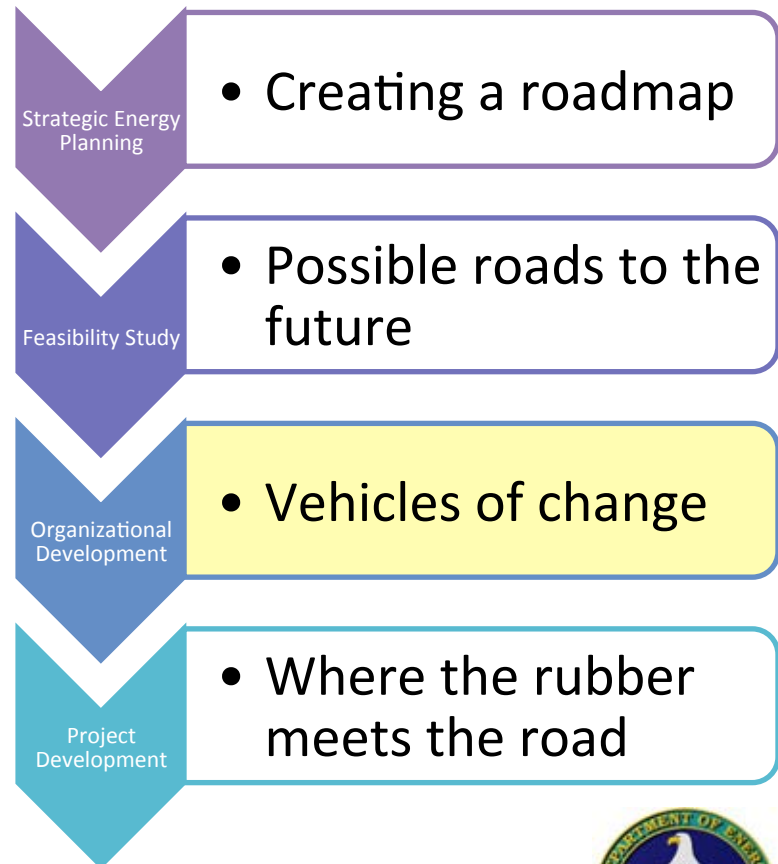
## Vehicles of Change

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



# Organizing and Skills for Success

## TUESDAY, NOVEMBER 13<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\* – Continued

TIME	DESCRIPTION	PRESENTERS
<b>Organization and Skills for Success</b> Moderator: Kris Venema (CNJV, Golden Field Office)		
3:30 p.m.	Confederated Tribes of the Colville Reservation - Tribal Utility Development (WA)	Karenia Simpson
4:00 p.m.	Scotts Valley Band of Pomo Indians - Scotts Valley Energy Office and Human Capacity Building (CA)	TeMashio Anderson
<b>Student Internships &amp; Green Buildings</b>		
4:30 p.m.	Introduction to DOE's Sandia National Laboratories (SNL) & Student Internships	Sandra Begay-Campbell
5:00 p.m.	Tribal Green Building Codes & Policy	Chelsea Chee

## WEDNESDAY, NOVEMBER 14<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\*

TIME	DESCRIPTION	PRESENTERS
7:30 a.m.	<b>Registration &amp; Continental Breakfast</b>	
8:30 a.m.	Welcome & Introductions	Lizana Pierce
<b>Organizing and Skills for Success (Continued)</b> Moderator: Cass Gillham (CNJV, Golden Field Office)		
8:40 a.m.	Washoe Tribe - Alternative Energy Feasibility Study and Nevada Inter-Tribal Energy Consortium Organization Enhancement Project (NV)	Tara Hess
9:10 a.m.	Little River Band of Ottawa Indians - Human Capacity Building (MI)	David Hawley

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



# Project Development & Deployment

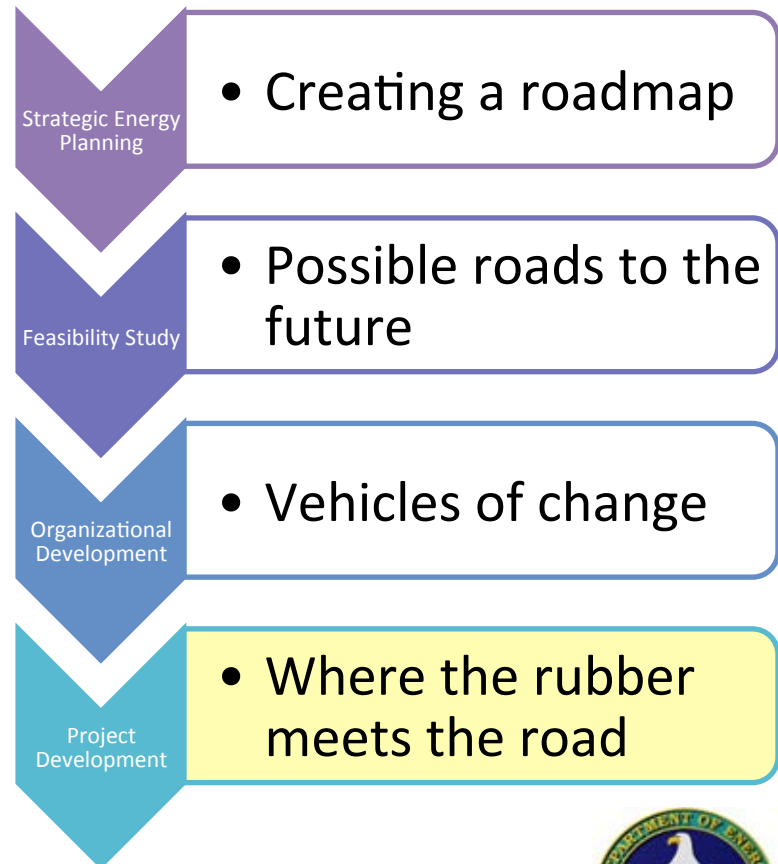
## Where the rubber meets the road

**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

WEDNESDAY, NOVEMBER 14<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\*

TIME	DESCRIPTION	PRESENTERS
11:30 a.m.	Forest County Potawatomi Community - Assessing Energy Upgrades at Potawatomi Carter Casino Hotel & Energy Efficiency Improvements to Wundar Hall (WI)	Mercedes Vega

WEDNESDAY, NOVEMBER 14<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\* - Continued

TIME	DESCRIPTION	PRESENTERS
<b>Retrofits for Energy Savings</b> Moderator: Jami Alley (CNJV, Golden Field Office)		
3:30 p.m.	Nez Perce Tribe - Energy Efficient Facilities Installation Project (ID)	Terry Kinder
4:00 p.m.	Eastern Band of Cherokee Indians - Facility Retrofit Project	Manuel Maples

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# 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.

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# Project Development & Deployment

## Supply-side Renewable Energy Options

WEDNESDAY, NOVEMBER 14<sup>th</sup> (8:30 a.m. – 5:30 p.m.)\* **Continued**

TIME	DESCRIPTION	PRESENTERS
	<b>Renewables for Village Heating</b> Moderator: Jami Alley (CNJV, Golden Field Office)	
4:30 p.m.	Chaninik Wind Group – Thermal Heating to Enhance the Efficiency of Wind-Diesel Hybrid Power Generation in Tribal Regions of Alaska (AK)	William Igkurak Dennis Meiners
5:00 p.m.	Port Graham Village Council - Community Building Biomass Heating Design Project	Chief Patrick Norman Charles Sink
5:30 p.m.	<b>Adjourn</b>	

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# Project Development & Deployment

## Where the rubber meets the road

Renewable Energy Options

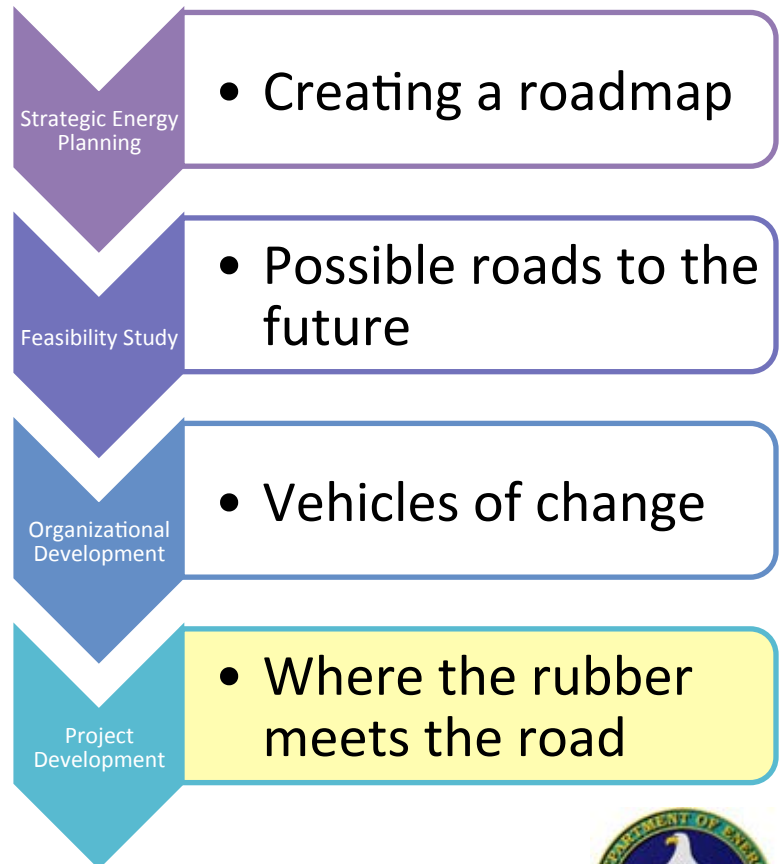
(Supply-side)

### 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.



# Project Development & Deployment

## Supply-side Renewable Energy Options

FRIDAY, NOVEMBER 16<sup>th</sup> (8:30 a.m. – 4:00 p.m.)\*

TIME	DESCRIPTION	PRESENTERS
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### Renewable Energy Development and Deployment

Moderator: Jami Alley (CNJV, Golden Field Office)

10:30 a.m.	Hualapai Tribe – Hualapai Wind Energy Development (AZ)	Mark Randall
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11:00 a.m.	Campo Band of Mission Indians - Kumeyaay Wind II (CA)	Melissa Estes
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11:30 a.m.	Cherokee Nation Businesses - Cherokee Wind Energy Development (OK)	Carol Wyatt
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**12:00 p.m. Lunch (Provided)**

### Renewable Energy Development and Deployment (Continued)

Moderator: Lizana Pierce (DOE, Golden Field Office)

1:00 p.m.	Project Introductions	Lizana Pierce
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1:10 p.m.	Rosebud Sioux Tribes - North Antelope Highlands Wind Development Project (SD)	Paul Valandra
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1:40 p.m.	To'Hajiilee Economic Development, Inc. (TEDI) - Shandiin Solar Farm Development To'Hajiilee NM	Delores Apache Rob Burpo
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2:10 p.m.	Penobscot Indian Nation - 227 MW Alder Stream Wind Project	Eric Nicolcar
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2:40 p.m.	Oneida Seven Generations Corp. - A Waste-to-Energy Project	Kevin Cornelius
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3:10 p.m.	Round Table Discussion	All
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<b>4:00 p.m.</b>	<b>Adjourn</b>	
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# Questions?

