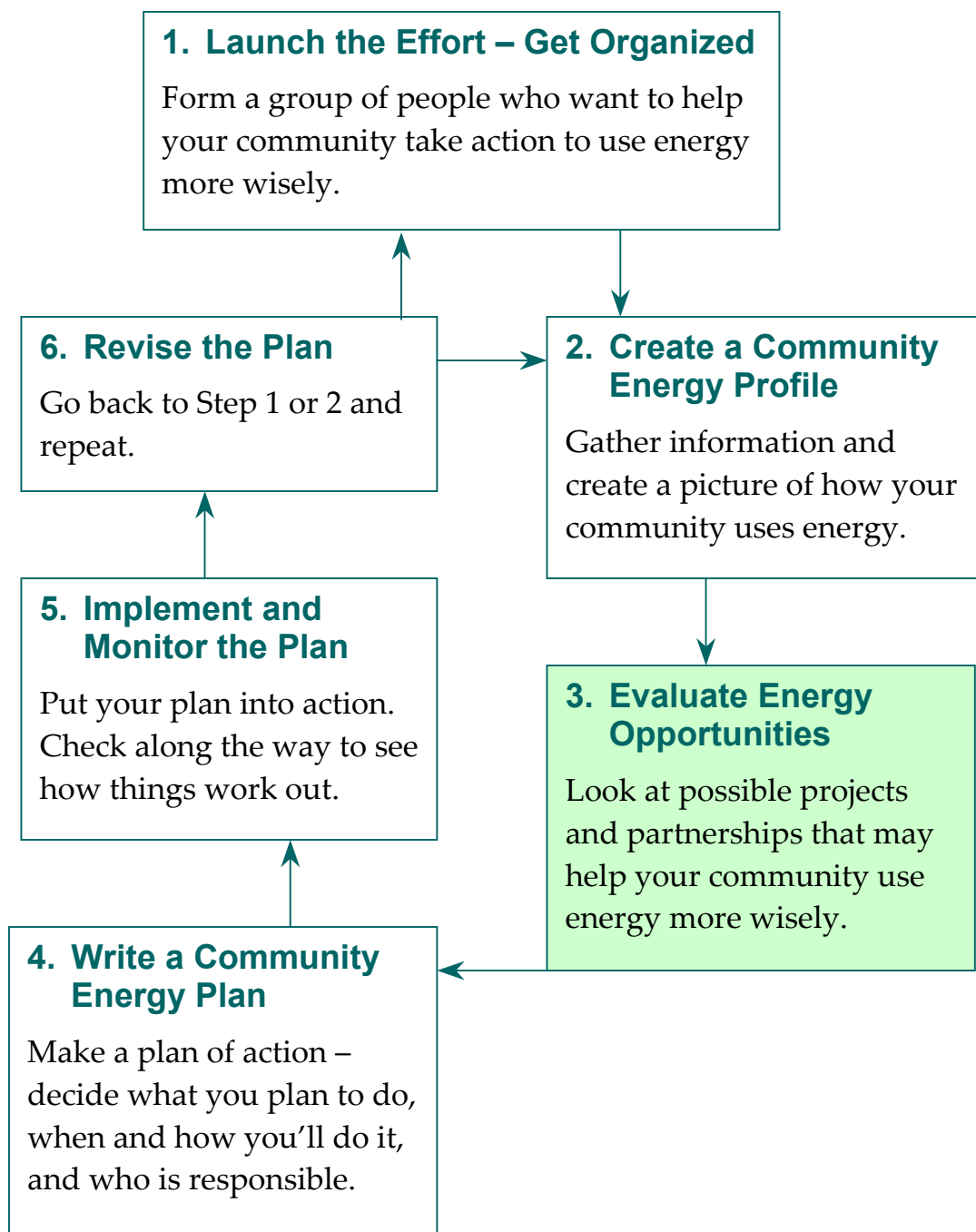


Step 3 of the 6-step Community Energy Planning Process



Contents Step 3:

Evaluate Energy Opportunities

Once you complete **Step 2: Create a Community Energy Profile** you move to **Step 3: Evaluate Energy Opportunities**. This section of the toolkit has guidelines, worksheets, samples, and practical information to help you assess what ideas work best for your community.

What does it mean to evaluate energy opportunities?5

Raise awareness and collect ideas5

Ideas and tips to encourage people to participate6

Energy related door prizes for community meetings or workshops9

Who do we need to include?10

Community energy meeting overview.....11

Sample agenda – 2-hour community meeting13

Community energy profile workshop outline and sample agenda.....14

Sample agenda 4-hour workshop.....15

Activities for schools18

Other activities to raise awareness and collect ideas19

Summarize the activities you carried out.....25

Identify potential projects26

Do the projects focus on technology?.....29

What strengths, opportunities, and barriers in your community influence potential projects?.....29

| | |
|--|-----------|
| Worksheet 3-1: Strengths, Opportunities, Barriers | 30 |
| What people and groups, financial backing, and government support do we have? | 32 |
| What kinds of projects can a community government carry out? | 41 |
| Make a list of potential projects | 42 |
| Evaluate potential projects | 43 |
| Explore the needs and results for each potential project | 43 |
| Worksheet 3-2: Explore the needs and results for each potential project | 44 |
| Develop criteria and rank each potential project..... | 46 |
| Sample criteria..... | 47 |
| Worksheet 3-3: Project score card | 49 |
| Choose the top five to 10 projects | 50 |
| Gather more information and confirm the top projects ... | 50 |

Appendix 3-A: Energy efficiency and renewable energy posters

Appendix 3-B: Step 3 Worksheets and Samples

What does it mean to evaluate energy opportunities?

Step 3 of the energy planning process gives you an opportunity to look carefully at different energy projects that your community might take on. You gather ideas and dreams about possible ways to use less energy and save money. Then you assess the ideas and decide what works best for your community.

During step 3 you need to get people in your community very involved in the process:

- Raise awareness and collect ideas.
- Identify potential energy projects.
- Evaluate potential energy projects and choose the best ones.

Raise awareness and collect ideas

To help raise awareness and collect ideas, use the energy profile poster and report as background information for different activities. Start with the energy profile so people understand how they use energy right now. The Toolkit includes other helpful resources:

- Five energy efficiency posters
- Eight renewable energy posters
- List of sample ideas

Look in Appendix 3-A for the energy efficiency and renewable energy posters. Look in Appendix 3-B for a list of sample ideas.

The Toolkit presents some ideas of ways you can raise awareness in the community and collect ideas. Some common activities that communities use include:

- A community meeting or workshop
- A presentation to a community or business group, school class, or government agency.
- A door-to-door survey, to talk to people directly.

As you talk to people, listen carefully to their ideas and questions. Be open and accept that all ideas are important.

We know it's not always easy to get people to participate and come to a public meeting or workshop about energy. Think of what works in your community and apply any good ideas and tips to encourage people to participate.

Ideas and tips to encourage people to participate

Here are some ideas and tips to encourage people to participate in meetings and workshops. When you advertise the event, include information about any benefits for participants if they attend.

1. **Pay an honorarium:** Offer workshop participants a small consultation fee if you have the funding. Make the fee small enough so people don't participate just for the money, but large enough so people feel you value their time and knowledge. How much would a consultant charge to produce or share the same knowledge that people create at a workshop?
2. **Provide free goods:** Ask a local business to sponsor free goods for each participant, such as a compact fluorescent light bulb.

3. **Give out door prizes:** Buy a few door prizes or ask a local business to sponsor them. For example, three participants win an Energuide evaluation for their home or business.
4. **Provide daycare or a space for small children to play:** Organize a space for small children and people to supervise and play with them.
5. **Offer the workshops as a course:** Present the workshop as a course and give people a certificate at the end.
6. **Join with an existing participatory process:** Work with an existing group or process if your community already has one that could form the basis for an energy meeting or workshop. One possible example is the local adult education class.
7. **Have good food and drinks:** Provide lots of good food and drinks. This always brings people together and helps them participate more actively.
8. **Ask groups to send representatives:** Send an invitation to specific groups and ask them to send someone to represent their interests. People may feel more commitment to participate if they represent a certain group, such as the Housing Authority, the Chamber of Commerce, the Band Council, etc.
9. **Use personal connections:** Send people personal invitations and follow up with phone calls. Drop by to see people and ask them to attend. Personal contact helps people feel welcome and makes it harder for them to refuse.
10. **Choose the day and time carefully:** Find a day and time as free as possible from other activities in the community.

11. **Advertise:** Use creative, catchy ways to advertise. Think about what works well in your community. Think about what message is best to reach the people you want to participate. Advertise close to the event so people talk about it on the day it happens.
12. **Get the youth involved:** Directly ask the youth to attend. Go to the school and offer to do a survey, discussion, presentation, worksheets, etc. Youth help spread the message to their parents.
13. **Set up the physical space and the process to encourage participation:** Arrange the chairs in the room so people share the power. For example, a circle. Break the large group into small groups to help generate ideas and discussion.

Meetings often have the 'important people' at the front and everyone else in rows. People in the rows may not speak freely - they are uncomfortable or do not feel responsible to share their ideas. People at the front feel responsible for everything – they have the power.

Meetings or workshops often consist of a series of presentations, with little or no opportunity for participants to express their ideas or questions. Use a process that truly gives people a voice.

Energy related door prizes for community meetings or workshops

Look for local sponsors to purchase these door prizes. Some of the prizes in the list are small and inexpensive. Others are much larger and cost quite a bit.

Offer a limited number of door prizes at each meeting or workshop. Give each participant a ticket when they arrive. Let people know ahead of time when you plan to draw for the door prizes. Save at least one for the end.

- Wind-up radio
- Shaker flashlight
- Wind-up flashlight
- Low-flow shower head
- Faucet aerator
- Insulation blanket for hot water tank
- Insulation tube and elbow for hot water pipe
- Plastic window film
- Indoor or outdoor silicon sealer
- Weather-stripping
- Foam pads to go behind light switches & sockets
- Outdoor vehicle timer
- Indoor appliance timer
- Compact fluorescent light bulbs
- Power-bar to switch off electric equipment when not in use

Who do we need to include?

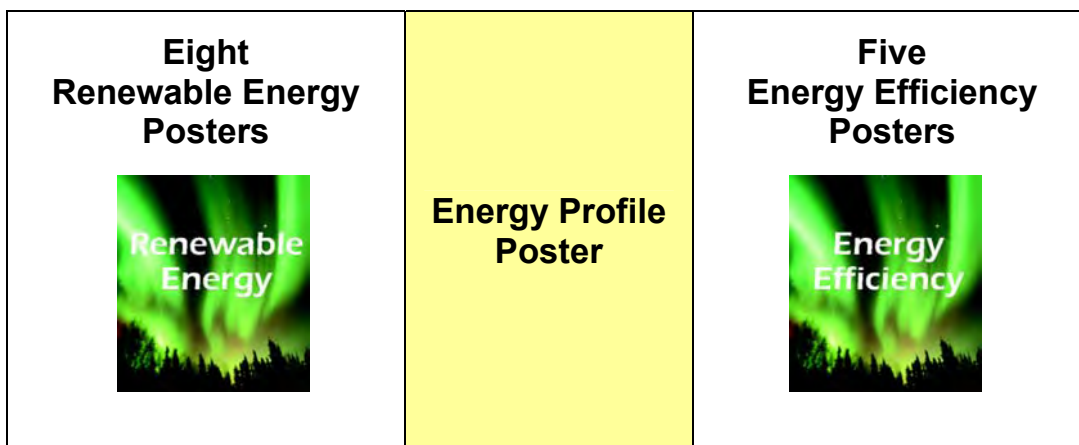
| | |
|----------------------------|------------------------------|
| Aboriginal groups | Architects |
| Banks & Credit Unions | Builders & Contractors |
| Business Owners | Chamber of Commerce |
| Churches | Service groups |
| Developers | Economic Development Officer |
| Elected officials | Electricians |
| Environmental groups | Energy-related businesses |
| Government agencies | Hardware & Appliance stores |
| Home owners | Industry |
| Landlords | Libraries |
| Low-income groups | Media |
| Neighbourhood associations | Plumbers |
| Property managers | Renters |
| Teachers | Town Planner |
| Town Manager | Utility staff |
| Youth and Elders | Everyone Else! |

Community energy meeting overview

Plan to complete an energy meeting in about two hours. You may choose to combine the meeting with other activities for a longer event such as a workshop. The Toolkit has a sample meeting agenda and information about other activities.

The main resources you use to raise awareness are the renewable energy posters, the energy profile poster, and the energy efficiency posters. You created your own energy profile poster. Look in Appendix 3-A for the other posters. They're also on the CD that comes with this Toolkit.

Set up the posters like this if you have the space:



First explain the energy profile poster. Show how energy flows into the community and where it goes. Ask questions to encourage people to find the information themselves.

Second explain that when people decide to use energy more wisely they can choose one of two main ways to change things:

- i) Change where energy comes from - the renewable energy side.
- ii) Change how you use energy - the energy efficiency side.

Most communities look at both sides.

Third ask people if they have questions or ideas. Write them down and put them on the poster that the idea or question relates to. Make a new poster if you need to.

Fourth ask each person to take five sticky notes and put them on the posters they think are the best options. Use the notes and posters as a record of what people suggested. Encourage people to talk about their ideas.

Sample agenda – 2-hour community meeting

| Activity | Timing |
|--|---------|
| Welcome | 5 min. |
| Present the energy profile. Explain it and the energy options posters. | 30 min. |
| Share vision and general targets | 10 min. |
| Share success stories | 15 min. |
| Break | 10 min. |
| Collect ideas and discuss. Ask people to 'vote' by putting sticky notes on the posters closest to their ideas. | 45 min. |
| Summarize and wrap up | 15 min. |



Youth in Fort McPherson discuss future energy options for their community.

Community energy profile workshop outline and sample agenda

Look for the workshop checklist in Step 1 of this Toolkit and use it to help organize the workshop.

Imagine that the workshop participants include Elders, community leaders, or other interested groups of people. The sample agenda is for a workshop that lasts about four hours. We encourage you to add your own activities and create a full day workshop, if that's what works best in your community.

Offer energy efficient products as door prizes. Give everyone a ticket when they first arrive. Draw for prizes after each presentation. The Toolkit includes a list of possible door prizes.

Sample agenda 4-hour workshop

1. Opening prayer and introductions **15 minutes**

2. Video on climate change and discussion **30 minutes**

Examples of videos:

- Sila Alangotok - Inuit observations on climate change. International Institute for Sustainable Development (iisd).
- Impacts of a Warming Climate – Arctic Climate Impact Assessment key findings.
- The Climate Change Show. Science North.

Call the Arctic Energy Alliance about videos. 1-877-755-5855

Discussion: Think about our local community and around the world. What are the main problems we see related to climate change? What causes climate change?

3. What is the situation here? **45 minutes**

- Introduce the energy profile and give out copies of the report.
 - Make a giant size version of the poster and cut it into pieces. See the diagram below. As you put the pieces together, tell the energy profile story.
 - i) Start with the photo of the community
 - ii) Add the pieces that show each supply of energy – talk about costs, source, etc.
 - iii) Add the power plant - talk about how much heat energy a diesel generator wastes and how the community could use it
 - iv) Add the greenhouse gas emissions cloud and graph
-

-
- v) Add the pieces that show homes, buildings, and transportation – discuss
 - vi) Add the pieces that show the top five alternate energy sources and the top five ways to use less energy. Tell people that after the break we'll talk more about these kinds of options.
-

Break**15 minutes**

Set up the renewable energy and energy efficiency posters. Invite people to look at them and talk about what they see there.

4. What are the options?**30 minutes**

Focus on the renewable energy and energy efficiency posters

- Discuss each renewable energy option
- Discuss each energy efficiency option

Ask participants – Can you imagine any of these options in your community? Why or why not?

5. What do you want to do?**1 hour**

- Encourage people to discuss their ideas. Ask them to write each idea on a sticky notes and stick it on the poster that it matches. Make a new poster if you need to.
 - Break the large group into smaller groups if it works better this way. You can approach small groups in various ways. For example, ask the small groups to work on their own and then in turn, present their ideas to the large group. Or give each small group a different topic and ask them to develop ideas related to that topic.
-

6. Summarize

15 minutes

- Review the ideas people suggested. Talk about what the community can do next in the energy planning process. Encourage people to participate.

| Cut up the poster like this - to tell the energy profile story | | |
|--|---|---|
| Energy supply – different fuels as sources of energy | Diesel power plant breakdown – waste heat and electricity | Greenhouse gas emissions |
| | Photo of community | Energy use: <ul style="list-style-type: none"> ▪ Homes ▪ Other buildings ▪ Transport |
| Renewable energy options | | Energy efficiency options |

Activities for schools

House-to-house questionnaire

- i) Brainstorm with students to develop the questionnaire about how people in your community use energy. Look in Step 2 of this Toolkit for the 'Household Energy Survey' and use it for ideas, if you want.
- ii) Organize a team of older students to go house-to-house to complete the questionnaire.
- iii) Work with the energy coordinator and energy committee.
- iv) Add the results of the survey to the energy profile

Workshop on how to weatherize a home

- i) Do a quick training session in the classroom about what simple things people can do weatherize their homes.
- ii) Take students into a house and look for air leaks. Use a blower-door if you can get one.
- iii) Go into several homes and do simple projects to make each home more weather tight.
- iv) Encourage students to attend other meetings or workshop and share their new knowledge and skills.

Energy Profile Activity

- i) Ask students to work together to make their own version of the energy profile.
- ii) Draw or cut out pictures, or take photos of fuel sources and the places where people use energy in the school or the community.

- iii) Cut-out and draw arrows to show how energy flow.
- iv) Look at and talk about the renewable energy and energy efficiency posters.
- v) Ask students to come up with ideas about what are the best options for their community to use less energy.
- vi) Ask students to write a story, draw a picture, make a video or radio show, or some other creative expression of their favourite idea. Encourage students to work in pairs or small groups.

Other activities to raise awareness and collect ideas

Community Energy Mapping

- Use this activity to introduce the community energy profile poster and energy profile report.
 - i) Make cards with pictures that represent different sources of energy in the community.
 - ii) Make cards that show energy services and the environmental effects of energy use.
 - iii) Have a large map of the community and other maps, such as a map of the NWT and a world map.
 - iv) Ask participants to put the pictures on a map to show how energy flows.
 - v) Talk about how energy flows through the community and what effects energy use has on the environment.

Light bulb demonstration



- Use this activity with the poster about Energy Star products.
 - i) Borrow a light bulb testing kit from the Arctic Energy Alliance. People use the kit to compare two different light bulbs to see for themselves how much electricity each bulb uses.
 - ii) Put a 60W old style or incandescent bulb and a 15W compact fluorescent bulb in the tester.
 - iii) Ask people to turn on each bulb and compare the brightness and energy use of each bulb.
 - iv) Discuss how other energy efficient products with the Energy Star symbol provide the same service as inefficient products, but use less energy.



The light box compares an incandescent light bulb with a compact fluorescent light bulb.

Community Energy Timeline

- Use this activity to introduce the community energy profile poster and report.
- i) Ask people to write notes or draw pictures about their community's energy use:
 - In the past
 - In the present
 - In the future

Encourage them to look at energy use related to heating homes, travelling, cooking, light, etc. for each time period.
- ii) Create a time-line on the wall. Put up all the notes and pictures on the appropriate place on the time-line. Organize them by type of energy use.
- iii) Look for patterns in the history and future of energy use in the community and discuss.

Efficient Product Store Survey

- Use this activity with the energy efficiency poster with the Energy Star symbol and the one about renovating older buildings.
- i) Copy and hand out the list of energy efficient products that your local store should sell - pages 22 and 23.
- ii) Or brainstorm with the group a list of products they have or know they could buy, to help them use less energy. Then check the brainstorm list with the list on the handout.
- iii) Visit the local store with the participants and try to find the products on the list.

- iv) Talk to the store manager or write a letter to ask the store to bring in the missing items. Clearly explain why it's important to stock these items.



Sonny Zoe, Alphonse Apples and TliCho Elders discuss energy options for a traditional Dogrib housing project.

Does your local store sell these energy efficient products?**Water use**

- ☐ Low-flow showerhead – units that use less than 9.8 litres or 2.5 gallons per minute.
 - ☐ Low-flow kitchen and bathroom faucet aerators – units that use less than 5.7 litres or 1.5 gallons per minute
 - ☐ Low volume flush toilets - units that use six litres of water, or less, per flush
 - ☐ Dual flush toilets – six litre / three litre. They use less water to remove liquids.
-

Hot water

- ☐ Insulation blanket on hot water tank
 - ☐ Insulation tube and elbow for hot water pipe
-

Window, doors, etc.

- ☐ Plastic window film
 - ☐ Indoor and outdoor silicon sealer
 - ☐ Weather-stripping
 - ☐ Low expansion spray foam to fill gaps around door and window frames
 - ☐ Foam pads to go behind light switches & sockets
-

Does your local store sell these energy efficient products?**Electricity**

- ☐ Outdoor vehicle timer
 - ☐ Indoor appliance timer – great for industrial coffee pots
 - ☐ Compact fluorescent light bulbs
 - ☐ Power-bar with switch - to turn off TV, VCR, DVD, Stereo, Microwave, and Nintendo when not in use
-

Appliances

- ☐ Order or buy Energy Star rated appliances – especially fridges and clothes washers, but also TVs, computers, and other electronic equipment.
-

Furnaces

- ☐ Most popular furnace filters
 - ☐ Programmable thermostats
 - ☐ High temperature sealant to fill holes around chimney
-

Summarize the activities you carried out

Keep a record of all the activities you carried out and write a brief summary after each one. It's important to include this information when you write the actual energy plan during Step four of the process. And it's easier to write a summary when things are fresh in your mind.

We suggest you include the following information:

- What kind of activity? For example, community meeting, workshop, presentation, etc.
- Who was the main audience? For example, community residents, council members, Elders, youth, etc.
- How many people participated?
- What happened? Briefly describe the process.
- What results came out of the activity? Briefly outline how the activity increased awareness or how many / what ideas participants contributed.

Identify potential projects

You carried out various activities, and met and spoke with lots of community people to increase awareness and gather ideas. You may have hundreds of ideas. You need to bring the ideas together into potential projects.

Projects usually fall into one of two broad categories:

- Energy efficiency – projects that reduce the amount of energy people use
- Renewable energy – projects that affect the community's energy supply, that replace non-renewable sources of energy with renewable ones

Here are some potential projects, based on the topics you find on the five energy efficiency posters and the eight renewable energy posters.

Potential projects – energy efficiency:

- Develop energy efficient habits
- Promote people using Energy Star products
- Promote energy efficient transportation
- Promote building new buildings that save energy
- Promote renovating older buildings so they save energy

Potential projects – renewable energy:

- Look into solar hot water
- Look into solar air heating
- Look into solar electricity

- Look into passive solar heating
- Look into run-of-river hydro
- Look into wind turbines
- Look into efficient wood heating
- Look into cogeneration

Each potential project listed above may include actions or tasks related to one or more of the following:

- Do public education – give people information they can understand and use
- Build capacity – for example go to a workshop or learn new skills
- Look for partners among other groups with skills in this area or funding for a project
- Lobby the territorial and/or federal government to create new programs, policies, or laws
- Give people financial incentives
- Make a community bylaw
- Do a demonstration project in your community

Sort through all your ideas and combine similar ideas to identify potential projects. Aim for a number of projects that your community can successfully handle. Keep track of all the ideas related to each potential project. You can probably use them later to help write the work plan, during Step 4 of the planning process.

As you combine ideas into projects, it's important to consider many factors that affect how well a project might work in your community. We encourage you to closely examine these things in the context of your community and your potential project ideas:

- Do the projects focus on technology?
- What strengths, opportunities, and barriers in our community influence the project?
- What people and groups, financial backing, and government support do we have?
- What kinds of projects can a community government carry out and control?

Do the projects focus on technology?

You will probably consider projects that use technology. People often focus on technology to find solutions to energy issues.

Technology is important and we've seen a lot of positive development in recent years. But successful community energy planning depends on other things, as well as technology.

To make technology work effectively, you need to consider social and economic factors. For example a wind turbine is very good technology. To ensure it works effectively for your community you need to pay the capital costs to buy and install the technology and you need to train local people to operate and maintain it.

As you develop a work plan for each project in Step 4 of the planning process, we also encourage you to include non-technological actions for projects that focus on technology. For example, if one of your projects is to look at the potential for wind turbines in your community, include in your work plan an action to carry out public education about wind energy.

What strengths, opportunities, and barriers in your community influence potential projects?

Another tool to help you combine ideas into projects is to carefully consider the strengths, opportunities, and barriers in your community that influence potential energy efficiency and / or renewable energy projects. Consider these things from the perspective of different stakeholders.

Use Worksheet 3-1 to examine strengths, opportunities, and barriers in your community.

Worksheet 3-1: Strengths, Opportunities, Barriers

Strengths: Useful things

List the qualities, skills, unique characteristics, and resources that your community has and can use to help start an energy project. Include physical assets such as money, programs, and buildings; and human assets such as leadership, commitment, willpower, and concern for the environment.

Opportunities: Chances to take action now

List the events, decisions, conditions, or actions you can work with. And don't worry if you can't figure out if something is a strength or an opportunity – put it under both!

Barriers: What's stopping you?

List the obstacles, disincentives, and constraints you need to overcome if you want to start an energy project.

Some examples of opportunities or incentives:

- In the near future, the community needs to build a new power generating plant, a new school or nursing station, or other new infrastructure.
- Stakeholders need to meet commitments to reduce greenhouse gas emissions.
- The community and / or stakeholders can apply for and receive government funding for energy efficiency or renewable energy projects.

Some examples of barriers or disincentives:

- Stakeholders have no financial incentive to reduce costs. For example they set the upcoming budget for energy services based on last year's budget.
- The community's current power plant is over-sized – it produces more electricity than the community needs right now.
- In the past, stakeholders had bad experiences with renewable energy and efficiency projects.
- Stakeholders make profits from selling fuel. They make less profit if the community uses less electricity from the diesel power plant, less fuel oil to heat homes or other buildings, or less fuel for transportation.

Look carefully at each energy input system in your community as you identify projects. Talk to all the stakeholders and look for incentives to encourage them to participate.

What people and groups, financial backing, and government support do we have?

As you combine ideas into projects, here are the three very important things, apart from technology, to consider.

- i) Bring the right people and groups together
- ii) Obtain financial backing
- iii) Get government support

These things play out differently in different communities. When you combine ideas into projects, consider carefully how these things play out in your community.

The Toolkit also has a list of questions that relate to people and groups, finances, and government - to help stimulate thinking as you examine your community's strengths, opportunities, and barriers. We divided the questions into four broad project areas:

- Homes or community residences
- Other community buildings
- Community transportation
- Community energy systems

Think about it ...

Get the right people and groups together, with financial backing and government support.

Build on the community's strengths, take advantage of opportunities, and overcome barriers to reach the community's energy vision and targets.

Residential housing questions

Use these questions to help stimulate thinking as you examine your community's assets, opportunities, and barriers to implementing energy efficiency and renewable energy projects.

People and groups

- Do homeowners, landlords, and renters know the benefits of investing in energy efficiency?
 - Do community businesses offer energy efficient technologies, renewable energy, or other related services?
 - Do people know where they can buy energy saving products like compact fluorescent light bulbs, low flow showerheads, or efficient wood stoves?
 - Do any groups or agencies in your community actively promote energy efficiency?
 - Do people recognize how energy efficiency and renewable energy relates to other important issues in your community?
 - Do people in your community build new houses to energy efficient EGH-80 standards? Are contractors and builders aware of the EGH-80 standard?
 - Do you have any good examples of an energy efficient house?
-

Financing

- What low-cost or no-cost measures can save energy in residential houses?
 - Do homebuyers know about energy efficient mortgages? Can people get an energy efficient mortgage in your community?
 - Do you have programs that offer financial incentives for energy efficiency?
-

- Do people know about the Energuide for Houses rebate program?
- Do the people that design and build houses in your community know that cost effective, energy efficient designs exist?
- Can people get a loan to pay for home improvements that increase energy efficiency?
- Do you have a local community economic development program?
- Do any upcoming projects or developments offer an opportunity to get funding?
- How are people billed for their energy use?
- What residents are hit hardest by energy costs? Do you have any programs that help them cut those expenses?

Government

- Does local government recognize the benefits of energy efficiency and renewable energy? Do they do anything to promote them?
 - What policies have they tried in the past to promote energy efficiency and renewable energy?
 - Does the planning department have an energy office or anyone in charge of energy?
 - Are publicly funded houses energy efficient?
 - Do local building codes encourage energy efficiency and renewable energy design?
 - Does any government subsidize the cost of energy in your community?
-

Community and Commercial Building Questions

Use these questions to help stimulate thinking as you examine your community's assets, opportunities, and barriers to implementing energy efficiency and renewable energy projects.

People and Organizations

- Do businesses and community building managers know the benefits of investing in energy efficiency?
 - Do local businesses offer energy-efficient technologies, renewable energy or other related services?
 - Do people know where they can buy energy saving devices such as energy saving light bulbs, efficient shower heads or efficient wood stoves?
 - Do any community groups promote energy efficiency?
 - Do people recognize how energy efficiency and renewable energy relates to other important community issues?
 - Do people build new community or commercial buildings to energy efficient standards?
 - Do you have a good example of an energy efficient community or commercial building?
-

Financing

- What are low-cost or no-cost measures that can save energy in community/commercial buildings?
 - Do you have community programs that offer financial incentives for energy efficiency? f
 - Do people know about the Commercial Buildings Incentive Program (CBIP) - gives funding to energy efficient buildings?
 - Do people know about Leadership in Environmental Design
-

(LEED) certification?

- Do people that design and build community or commercial buildings know that energy efficient, cost effective designs exist?
- Can people get a loan to pay to make a community or commercial building more energy efficient?
- Do you have a local community economic development program?
- Do any upcoming projects or developments such as new buildings or renovations offer an opportunity to get funding?
- How are people billed for the energy use in community and commercial buildings?
- What is the most energy-expensive building in the community? Do you have any programs that could help cut those expenses?

Government

- Does local government know the benefits of energy efficiency and renewable energy? Do they do anything to promote them?
 - What policies have you tried in the past to promote energy efficiency and renewable energy?
 - Does the planning department have an energy office or someone in charge of energy?
 - Are publicly funded community buildings energy efficient?
 - Do local building codes encourage energy efficiency and renewable energy design?
 - Does any government subsidize the cost of energy in your community?
-

Transportation Questions

Use these questions to help stimulate thinking as you examine your community's assets, opportunities, and barriers to implementing energy efficiency and renewable energy projects.

People and Organizations

- Do people know the benefits of energy efficient transportation?
 - Do dealerships in your community offer energy efficient vehicles?
 - How do people get around in your community? How many vehicle trips do people make each day and how far do they go?
 - If your community has a public transit system, who uses it? How could you get more people to use it?
 - Do any groups in your community promote energy efficient transportation?
 - Do people recognize how efficient transportation relates to other important community issues?
 - Do you have any good examples of an energy efficient vehicle?
-

Financing

- What low-cost or no-cost measures can save energy in transportation?
 - Does your community have programs that offer people financial incentives to use energy efficient transportation?
 - Can people get a loan to buy an energy efficient vehicle?
 - Do you have a local community economic development
-

program?

- Do any upcoming projects or developments offer an opportunity to get funding for energy efficient transportation?
 - How do people pay for their transportation energy use?
 - What residents are hit hardest by transportation energy costs? Do any programs help them cut those expenses?
-

Government

- Does local government know of the benefits of energy efficient transportation? Do they promote it?
 - How efficient, on average, are government vehicles in your community?
 - Do you have any form of public transportation?
 - What policies have you tried in the past to promote energy efficient transportation?
 - Does the planning department have an energy office or someone in charge of energy?
 - Do people think about transportation when they build new additions to the community? Is your community spread out or are things within walking distance?
 - Does any government subsidize the cost of transportation energy in your community?
-

Community Energy Systems Questions

Use these questions to help stimulate thinking as you examine your community's assets, opportunities, and barriers to implementing energy efficiency and renewable energy projects.

People and Organizations

- Do people and groups know the benefits of investing in efficient wood heat, a renewable energy system such as district heating, or renewable electricity?
 - Do businesses in your community offer energy efficient or renewable energy technologies or other related services?
 - Who benefits from a program to create new community energy systems?
 - Do any groups in your community promote renewable energy or community energy system projects?
 - Do people recognize how energy efficiency and renewable energy relates to other important community issues?
 - Do any community systems offer a good example of a energy efficient or renewable energy system?
-

Financing

- What low-cost or no-cost measures save energy for the whole community?
 - Do people know the financial benefits of efficient wood heat or community energy heating systems?
 - Does your community have any energy programs that offer financial incentives?
 - Do the people that design and build houses and buildings in your community know that cost effective, community energy
-

systems exist?

- Can you get a loan to finance improvements to the community energy system?
 - Do you have a local community economic development program?
 - Do any upcoming projects or developments offer an opportunity to get funding? Do you need a new power plant soon?
 - How are people billed for their energy use? Who pays for the heat wasted by the local power plant?
-

Government

- Does local government know the benefits of energy efficient systems and renewable energy? Do they promote them?
 - What policies have you tried in the past to promote community energy systems and renewable energy?
 - Does the planning department have an energy office or someone in charge of energy?
 - Do publicly funded buildings connect to a community energy system?
 - Do local building codes encourage energy efficiency or renewable energy design?
 - Does any government subsidize the cost of energy in your community?
-

What kinds of projects can a community government carry out?

As you combine ideas into projects, you also need to think about what projects a community government can realistically carry out. Community governments have more power over some areas than others.

- **Lead by example:** Use community buildings and vehicles as examples of how you want the whole community to do things.
- **Do public education:** Give people information they can easily understand and use - inspire them.
- **Build capacity:** Go to a workshop, learn new skills, look for funding, etc.
- **Look for partners:** Work closely with other groups with skills or interest in this area.
- **Lobby the territorial and federal government:** Ask them to create programs, policies, or laws that support energy efficiency and renewable energy projects.
- **Give people financial incentives:** Develop policies or programs to help local people save money when they use less energy.
- **Make a community bylaw:** Develop a local bylaw that encourages and supports energy efficiency and renewable energy projects.
- **Do a demonstration project:** Develop and carry out a project within the community to show people what's possible.

Make a list of potential projects

As you combine ideas and consider all the factors, you create a list of potential projects. For each potential project, write down the name of the project and a brief description. Keep track of all the ideas you combined to identify the potential project – they may be useful during Step 4 of the planning process.

Evaluate potential projects

Now you have a list of up to 25 potential projects. You need to look more closely at the list and decide what projects work best right now, to possibly include in your community's energy plan.

The Toolkit has worksheets and information to carry out the following process to help evaluate all the potential projects:

- Explore the needs and results for each potential project
- Develop criteria and rank each potential project
- Choose the top five or 10 projects

After you choose the top projects, you can decide if you need more detailed information about any project and how to get it.

Explore the needs and results for each potential project

Fill out the worksheet on the next page to explore the needs and results for each potential project. Use your own knowledge and perceptions to answer the questions – do not do research.

You may not have answers for all the questions – you can't know everything about each potential project. Make a note of any further information you think you need and how you might get it.

Worksheet 3-2: Explore the needs and results for each potential project

Answer these questions for each potential project. Use your own knowledge and perceptions for the answers - do not do research.

1. Project name:

2. Project partners:

3. Brief project description:

4. What does the project achieve?

5. What barriers does the project help to overcome?

6. Who benefits from the project? How?

7. Who does the project most affect? How?

8. When do we see results from this project?

- ☐ Less than one year.
 - ☐ Two to three years.
 - ☐ Four or more years.
-

9. What will it take to make the project a reality? Check ☒ all that apply.

- ☐ Technical assistance
 - ☐ Funding
 - ☐ Time
 - ☐ Political support
 - ☐ Equipment and materials
 - ☐ Skills and expertise
 - ☐ Partnerships and joint efforts
 - ☐ No investment or low costs
 - ☐ Large investment and long-term payback
 - ☐ Small investment and quick payback
 - ☐ No idea about investment
-

10. How does this project improve the energy picture?

- ☐ Directly save energy.
 - ☐ Make it easier to save energy.
 - ☐ Replace oil based energy with renewable energy.
-

11. How does the project help the economy?

- ☐ Free up money we used to spend on energy.
 - ☐ Create a local demand for energy-saving products and services.
 - ☐ Keep money in the community?
 - ☐ Create new jobs?
-

Develop criteria and rank each potential project

To help evaluate the potential projects, develop a set of criteria and use it to make a scorecard to rank each potential project. The criteria should match the energy committee's vision and general targets.

The Toolkit includes sample criteria you can use to develop your own criteria. We developed the samples from the Rocky Mountain Institute's publication called "The Community Energy Workbook" and from a federal government publication called "Overview of Energy Efficiency and Renewable Energy in Aboriginal and Northern Communities".

Look over the sample criteria with the energy committee – they need to help develop and approve the criteria you use. Add other ideas or change the sample criteria to suit your community's needs, so it matches the energy committee's vision and general targets.

Use the criteria to make a scorecard to rank potential projects. The committee, a local team of energy experts, or your energy consultant fills out the scorecards. If more than one person fills out the scorecards, fill out the first one together to make sure everyone understands the criteria. Add up the score for each potential project – a high score means strong support for the project.

As you fill in the scorecards, you may not have the answers to all the questions – it's not possible to know everything about a potential project, but it's still a useful tool to compare projects. Make the best guess you can, and make a note of other information you really need and how you might get it.

Sample criteria

1. **How easy is it to successfully implement and maintain the project?**

Ask: Do we have the resources and leadership to carry out the project? Will the community support or oppose the project?

When you complete a successful project, you build confidence and momentum for other projects.

Consider projects that employ local skills as much as possible. You spend too much money outside the community if you have to fly in technicians to deal with things like broken equipment. And you lose the chance to develop local expertise.

2. **Is the project cost effective?**

Ask: Is the project a good investment? How quickly do the energy savings pay back the initial project costs?

You never know exactly how cost effective an energy project is until you run it for several years. But you need an idea of about how long it takes to pay back project costs, to compare with other projects. For example, an energy efficient light bulb usually pays for itself in less than one year and a large-scale wind turbine may take more than 10 years.

You may also find projects have value beyond money and you're willing to pay more for them. For example, you may have a demonstration project with significant educational value and environmental benefits.

3. **Will the project deal with your community's energy barriers?**

To really make a change, identify some long-term projects that deal with some of the barriers you identified.

Ideally, you end up with a mix of projects – some bring early

success and some more fundamentally change the community energy system.

4. Is the project fair?

Does the project put unfair burdens on certain groups of people? Who pays for it? Who benefits and who is harmed? You may find it difficult to define if a project is fair. But try to avoid projects that obviously place all the costs or benefits on one small group of people.

5. Does the project have acceptable environmental impacts?

All activities have an environmental impact– including energy efficiency and renewable energy projects. For example, energy efficient light bulbs often contain heavy metals that people must dispose of properly. Ask: What the long-term effects does the project have on the environment? Does the community find these effects acceptable?

6. Will this project reduce your community's dependence on outside sources of energy?

You want to get the most benefits for your money - you have limited resources. Some projects sound great but may not actually save that much energy compared to other ideas. Find a balance between how quickly a project brings benefits and the total benefits you realize in the end.

7. How does the project improve the economy?

Some projects create new jobs, others help small businesses, and others save people money that then stays in the community.

Ask: How can we design the projects to get the most benefits for the all parts of the local economy?

Worksheet 3-3: Project score card

For each project idea, circle the number that best matches your opinion about each statement. Each scorecard has room for two project ideas. Copy and fill in the worksheet for each project idea you want to evaluate. **5= Agree. 1 = Disagree.**

| Statement | Project idea: | Project idea: |
|--|-------------------------|-------------------------|
| The project: | | |
| Is easy to implement and maintain. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Appears to be cost effective. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Addresses barriers to better energy practices. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Is fair – does not unfairly burden or benefit any one. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Has environmental impacts the community can accept. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Reduces our dependence on outside sources of energy. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Benefits the local economy in various ways. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Total score | | |

Choose the top five to 10 projects

After you explore the needs and results of each potential project and rank each one, you probably have enough good information to help decide which are the top projects. Make a list of the best ones - name each project and briefly describe it.

Review the final list of projects with the energy planning committee. The ranking system is not perfect and you don't want to leave out a particularly good idea. Or you might realize that you can combine two projects.

The energy planning committee needs to be the final judge about which projects move on to the next step in the planning process. You may also still have questions you need to answer before you go ahead.

Gather more information and confirm the top projects

The ranking process produced a list of five to 10 projects that have a good chance of success.

Ask: Do you need more information? What research do you want to do before you decide to include projects in the energy plan?

Every project has unanswered questions and you don't need to answer all the questions to include a project in the community energy plan. But you may also decide you need more information.

The table below outlines some different topics you may want to study, to get more information.

| Project | Study topic |
|----------------------------|---|
| Renewable energy options | RETScreen study to show potential for wind or solar |
| Fix up community buildings | Energy audits |
| Fix up homes | EnerGuide for houses evaluations |
| New by law | Community government legislation |
| Educate public | Communication plan |

If you have funding you may also decide to hire a consultant and do a pre-feasibility study of one or more projects before you write the energy plan. To help set this up, use the RFP Guidelines and Guidelines to hire and work with a consultant in Step 1 of the Toolkit.

You do a pre-feasibility study to learn things that help you decide if you want to do a feasibility study. For example, if you're interested in run-of-river hydro a pre-feasibility study tells you general things about run-of-river hydro and helps you decide what sites might be good to look at more closely.

In this example, the pre-feasibility study gives you more information to help you decide if this is a good project for the community energy plan. If the pre-feasibility study finds no potential sites, you might drop the project. Or you might decide to include it anyway and look

again for potential sites. The pre-feasibility study gives you more information to make this decision.

If the pre-feasibility study finds one or more potential sites, you may include the project in the community energy plan and decide to do a feasibility study. A feasibility study tells you if something is possible. In the run-of-river example, you pick one or more sites you think might be good. You measure things such as water flow and the height of a waterfall over a year or more.

The Arctic Energy Alliance can help you gather more information, identify consultants that do this kind of research, and provide references and resources for different topics related to your potential projects.

After you gather all the information you need and you confirm the top five to 10 projects, move on to Step of the energy planning process - Write the Community Energy Plan.

Appendix 3-A: Energy efficiency and renewable energy posters

The Toolkit includes five energy efficiency posters and eight renewable energy posters. They are helpful resources for activities you carry out to raise awareness and gather ideas.

Energy efficiency posters – How can we use less energy?

- Renovate older buildings so they use less energy
- Build new buildings that save energy
- Use energy efficient vehicles
- Use Energy Star products
- Develop energy efficient habits

Renewable energy posters – Where can we get clean energy?

- Cogeneration
- Efficient Wood Stoves
- Wind Turbines
- Run-of-river Hydro
- Passive Solar Heating
- Solar Electricity
- Solar Air Heating
- Solar Water Heating

Appendix 3-B: Step 3 worksheets and samples

The Toolkit provides these worksheets and samples for Step 3. Also find them on the CD that comes with the Toolkit.

- Sample agenda: 2-hour community meeting
- Sample agenda: 4-hour community workshop
- Store survey activity handout
- Worksheet 3-1: Strengths, opportunities, barriers
- Worksheet 3-2: Explore the needs and results for each potential project
- Sample criteria
- Worksheet 3-3: Project score card

Sample agenda – 2-hour community meeting

| Activity | Timing |
|--|---------|
| Welcome | 5 min. |
| Present the energy profile. Explain it and the energy options posters. | 30 min. |
| Share vision and general targets | 10 min. |
| Share success stories | 15 min. |
| Break | 10 min. |
| Collect ideas and discuss. Ask people to 'vote' by putting sticky notes on the posters closest to their ideas. | 45 min. |
| Summarize and wrap up | 15 min. |

Sample agenda 4-hour workshop

1. Opening prayer and introductions **15 minutes**

2. Video on climate change and discussion **30 minutes**

Examples of videos:

- Sachs Harbour
- Arctic Impact Assessment
- Sheep

Call the Arctic Energy Alliance about videos. 1-877-755-5855

Discussion: Think about our local community and around the world. What are the main problems we see related to climate change? What causes climate change?

3. What is the situation here? **45 minutes**

- Introduce the energy profile and give out copies of the report.
 - Make a giant size version of the poster and cut it into pieces. See the diagram below. As you put the pieces together, tell the energy profile story.
 - i) Start with the photo of the community
 - ii) Add the pieces that show each supply of energy – talk about costs, source, etc.
 - iii) Add the power plant - talk about how much heat energy a diesel generator wastes and how the community could use it.
 - iv) Add the greenhouse gas emissions cloud and graph.
 - v) Add the pieces that show homes, buildings, and
-

transportation – discuss

- vi) Add the pieces that show the top five alternate energy sources and the top five ways to use less energy. Tell people that after the break we'll talk more about these kinds of options.
-

Break**15 minutes**

Set up the renewable energy and energy efficiency posters. Invite people to look at them and talk about what they see there.

4. What are the options?**30 minutes**

Focus on the renewable energy and energy efficiency posters

- Discuss each renewable energy option
- Discuss each energy efficiency option

Ask participants – Can you imagine any of these options in your community? Why or why not?

5. What do you want to do?**1 hour**

- Encourage people to discuss their ideas. Ask them to write each idea on a sticky notes and stick it on the poster that it matches. Make a new poster if you need to.
 - Break the large group into smaller groups if it works better this way. You can approach small groups in various ways. For example, ask the small groups to work on their own and then in turn, present their ideas to the large group. Or give each small group a different topic and ask them to develop ideas related to that topic.
-

6. Summarize**15 minutes**

- Review the ideas people suggested. Talk about what the community can do next in the energy planning process. Encourage people to participate.
-

| Cut up the poster like this - to tell the energy profile story | | |
|---|--|--|
| Energy supply – different fuels as sources of energy | Diesel power plant breakdown – electricity and waste heat | Greenhouse gas emissions. |
| | Photo of the community | Energy use: <ul style="list-style-type: none">▪ Homes▪ Other buildings▪ Transport |
| Renewable energy options | | Energy efficiency options |

Does your local store sell these energy efficient products?

Water use

- ☐ Low-flow showerhead – units that use less than 9.8 litres or 2.5 gallons per minute.
 - ☐ Low-flow kitchen and bathroom faucet aerators – units that use less than 5.7 litres or 1.5 gallons per minute
 - ☐ Low volume flush toilets - units that use six litres of water, or less, per flush
 - ☐ Dual flush toilets – six litre / three litre. They use less water to remove liquids.
-

Hot water

- ☐ Insulation blanket on hot water tank
 - ☐ Insulation tube and elbow for hot water pipe
-

Window, doors, etc.

- ☐ Plastic window film
 - ☐ Indoor and outdoor silicon sealer
 - ☐ Weather-stripping
 - ☐ Low expansion spray foam to fill gaps around door and window frames
 - ☐ Foam pads to go behind light switches & sockets
-

Does your local store sell these energy efficient products?

Electricity

- ☐ Outdoor vehicle timer
 - ☐ Indoor appliance timer – great for industrial coffee pots
 - ☐ Compact fluorescent light bulbs
 - ☐ Power-bar with switch - to turn off TV, VCR, DVD, Stereo, Microwave, and Nintendo when not in use
-

Appliances

- ☐ Order or buy Energy Star rated appliances – especially fridges and clothes washers, but also TVs, computers, and other electronic equipment.
-

Furnaces

- ☐ Most popular furnace filters
 - ☐ Programmable thermostats
 - ☐ High temperature sealant to fill holes around chimney
-

Worksheet 3-1: Strengths, Opportunities, Barriers

Strengths: Useful things

List the qualities, skills, unique characteristics, and resources that your community has and can use to help start an energy project. Include physical assets such as money, programs, and buildings; and human assets such as leadership, commitment, willpower, and concern for the environment.

Opportunities: Chances to take action now

List the events, decisions, conditions, or actions you can work with. And don't worry if you can't figure out if something is a strength or an opportunity – put it under both!

Barriers: What's stopping you?

List the obstacles, disincentives, and constraints you need to overcome if you want to start an energy project.

Worksheet 3-2: Explore the needs and results for each potential project

Answer these questions for each potential project. Use your own knowledge and perceptions for the answers - do not do research.

12. Project name:

13. Project partners:

14. Brief project description:

15. What does the project achieve?

16. What barriers does the project help to overcome?

17. Who benefits from the project? How?

18. Who does the project most affect? How?

19. When do we see results from this project?

- ☐ Less than one year.
 - ☐ Two to three years.
 - ☐ Four or more years.
-

20. What will it take to make the project a reality? Check ☒ all that apply.

- ☐ Technical assistance
 - ☐ Funding
 - ☐ Time
 - ☐ Political support
 - ☐ Equipment and materials
 - ☐ Skills and expertise
 - ☐ Partnerships and joint efforts
 - ☐ No investment or low costs
 - ☐ Large investment and long-term payback
 - ☐ Small investment and quick payback
 - ☐ No idea about investment
-

21. How does this project improve the energy picture?

- ☐ Directly save energy.
 - ☐ Make it easier to save energy.
 - ☐ Replace oil based energy with renewable energy.
-

22. How does the project help the economy?

- ☐ Free up money we used to spend on energy.
 - ☐ Create a local demand for energy-saving products and services.
 - ☐ Keep money in the community?
 - ☐ Create new jobs?
-

Sample criteria

1. **How easy is it to successfully implement and maintain the project?**

Ask: Do we have the resources and leadership to carry out the project? Will the community support or oppose the project?

When you complete a successful project, you build confidence and momentum for other projects.

Consider projects that employ local skills as much as possible. You spend too much money outside the community if you have to fly in technicians to deal with things like broken equipment. And you lose the chance to develop local expertise.

2. **Is the project cost effective?**

Ask: Is the project a good investment? How quickly do the energy savings pay back the initial project costs?

You never know exactly how cost effective an energy project is until you run it for several years. But you need an idea of about how long it takes to pay back project costs, to compare with other projects. For example, an energy efficient light bulb usually pays for itself in less than one year and a large-scale wind turbine may take more than 10 years.

You may also find projects have value beyond money and you're willing to pay more for them. For example, you may have a demonstration project with significant educational value and environmental benefits.

3. **Will the project deal with your community's energy barriers?**

To really make a change, identify some long-term projects that deal with some of the barriers you identified. Ideally, you end up with a mix of projects – some bring early success and some

more fundamentally change the community energy system.

4. Is the project fair?

Does the project put unfair burdens on certain groups of people? Who pays for it? Who benefits and who is harmed? You may find it difficult to define if a project is fair. But try to avoid projects that obviously place all the costs or benefits on one small group of people.

5. Does the project have acceptable environmental impacts?

All activities have an environmental impact– including energy efficiency and renewable energy projects. For example, energy efficient light bulbs often contain heavy metals that people must dispose of properly. Ask: What the long-term effects does the project have on the environment? Does the community find these effects acceptable?

6. Will this project reduce your community's dependence on outside sources of energy?

You want to get the most benefits for your money - you have limited resources. Some projects sound great but may not actually save that much energy compared to other ideas. Find a balance between how quickly a project brings benefits and the total benefits you realize in the end.

7. How does the project improve the economy?

Some projects create new jobs, others help small businesses, and others save people money that then stays in the community.

Ask: How can we design the projects to get the most benefits for the all parts of the local economy?

Worksheet 3-3: Project score card

For each project idea, circle the number that best matches your opinion about each statement. Each scorecard has room for two project ideas. Copy and fill in the worksheet for each project idea you want to evaluate. **5= Agree. 1 = Disagree.**

| Statement | Project idea: | Project idea: |
|--|-------------------------|-------------------------|
| The project: | | |
| Is easy to implement and maintain. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Appears to be cost effective. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Addresses barriers to better energy practices. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Is fair – does not unfairly burden or benefit any one. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Has environmental impacts the community can accept. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Reduces our dependence on outside sources of energy. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Benefits the local economy in various ways. | 1 2 3 4 5 Don't know | 1 2 3 4 5 Don't know |
| Total score | | |