

Solar Energy Innovation Network Application

Team Name or Initiative Title

This can be a descriptive working name for the team or a title for the initiative, if it does not yet have an official name.

Western Colorado Rural Clean Energy Corridor Road Map

Team Members

The final team make-up should include all key stakeholders that will be necessary to successfully implement the initiative. At the application stage, not all team members may have fully committed.

Please discuss the following (in at least one paragraph): Which stakeholders have committed to participate in the SEIN program if the team is selected? What additional stakeholders or expertise are critical to initiative success? Which would you want to include if the project is selected? Given their roles or positioning, how will these team members contribute to the project's success

The following organizations have committed to participating:

Local Governments in a 3-county region in Colorado:

Garfield Clean Energy (A governmental clean energy authority/Collaborative with the following government members: Garfield County; the Towns of Parachute, Rifle, Silt, New Castle, Glenwood Springs, Carbondale; Roaring Fork Transportation Authority, CMC)

Pitkin County

Eagle County

Electric utilities:

Xcel Energy

Holy Cross Energy

Glenwood Springs Municipal Utility

Aspen Municipal Utility

3 regional clean energy nonprofits serving the 3-county region:

CLEER, CORE, Walking Mountains Science Center

Regional Community College system: Colorado Mountain College

Solar Industry: Colorado Solar Energy Industries Association

Other/Wildlife, public lands rep:

Colorado Wildlife and Parks

The team consists of government, utility, nonprofit, education and industry representatives.

Each sector will play an important role in creating a road map that addresses challenges and

barriers and is informed with up to date information, expertise, and practical development experience. Additional team members that would be included at a later time are economic development organizations/chambers of commerce to maximize the economic development benefits and outreach.

Which types of institutions do you anticipate being represented in your team?

(Check all that apply.)

Utility / Electric Cooperative

Government

Regulatory / Utility Commission

Solar Industry

Other Industry

Stakeholder Group

Nonprofit

Educational institutions

Other - Colorado Wildlife and Parks – and will also be reaching out to Ski Industry and conventional energy industry representatives

List the State(s) or Territories represented

Colorado

City/County/Region(s) represented (if applicable)

Colorado Counties represented: Garfield, Pitkin, Eagle

Communities: Parachute, Rifle, Silt, New Castle, Glenwood Springs, Carbondale, Basalt, Aspen, Snowmass Village, Eagle, Vail, Avon, Gypsum, Minturn.

Relevant RTO/ISO (if known)

NA

Team Goals and Objectives

Please describe the initiative the team will undertake as part of the program (in up to one page). The initiative should be action-based, such as piloting a solution, developing and implementing a plan, or informing a decision-making process through research and analysis. As part of your response, please address the following questions: What makes the initiative innovative? What are the team's goals and objectives related to the initiative? What challenges or barriers is the initiative designed to address? How will the initiative help accelerate solar market adoption? How or where might it be replicated?
(answered on next page)

Team Goals and Objectives

The Western Colorado Rural Clean Energy Corridor initiative is a collaborative project in three neighboring counties in western Colorado: Garfield, Eagle and Pitkin. It is aimed at creating and implementing a shared roadmap to meet the region's renewable energy targets while maximizing the economic diversification and job training benefits.

Goals of the initiative

1. Collaboration between multiple governments, four electric utilities, and other organizations serving the region to result in more renewable energy on the grid from utility-scale production facilities.
2. Development of distributed and community-scale solar energy to supplement utility renewable energy and reach local clean energy targets.
3. Expand and fine-tune solar energy as an economic diversification and job training opportunity.

Objectives of the initiative

- Strengthen long-term collaboration among electric utilities, governments, nonprofits and other stakeholders within the region in order to expand production of solar energy.
- Map out high-potential locations for large scale and community solar with data that includes: brownfields, potential wildlife impact, property owner designations (private, federal, state, local public), and including a utility transmission line overlay where utilities could add solar or need infrastructure improvements.
- Propose an action-oriented plan for developing prime solar sites.
- Cooperate closely with the four electric utilities serving the region to ensure that added renewable energy is helpful, not harmful, to grid operations.
- Work with electric utility managers and operators to build technical knowledge and confidence for expanding locally produced renewable energy on the grid. Resolve utility-related business model and financial issues to avoid rate impacts.
- Inventory varying permitting, fees and inspection requirements for solar installations across region, draft a plan for streamlining and standardizing using input from solar developers, and present to decision-making boards for approval.
- Mobilize new sources of financing and make use of regional economies of scale to accelerate installation of local solar.

What makes the initiative innovative? What challenges or barriers is it designed to address?

- The initiative is innovative because it connects counties that have clean energy goals in common but currently these counties have differing economic drivers (energy and resource development/agriculture in Garfield County; ski and resort industry in Pitkin and Eagle Counties.)
- The objectives above are designed to address the challenges and barriers that exist in a 3-county interconnected region served by 4 different utilities. (incorporated into objectives above.)
- It directly ties renewable energy to economic development and diversification.
- It involves three types of electric utilities (investor owned, rural co-op and municipal) and encourages collaboration and learning between utilities, governments, community college to reach targets.
- It tackles rural job training and workforce challenges, including cost of labor, job placement for solar training program graduates, and providing a competitive and comprehensive solar training program in the community college setting.

How will the initiative help accelerate solar market adoption?

The initiative will help quantify how much more renewable energy production will be needed in the coming years in order to meet our region's clean energy targets. With clear figures in hand, utilities and communities can work together to use solar and other renewable energy production to achieve the targets on time, and work together to remove barriers to accelerated solar adoption.

How or where might it be replicated?

This work would be relevant in other rural areas seeking economic diversification and increased job opportunities, are served by multiple electric utilities, or have a community college that seeks to provide relevant job training for the solar workforce of the future.

Role of Solar Energy Innovation Network

Please clearly articulate how SEIN can contribute to the team's initiative and to its achievement of stated goals and objectives (in at least one paragraph). What are the major barriers that could be addressed through participation in the program? What types of technical assistance or analysis could be helpful in advancing the project goals? Which program elements do you anticipate will be most helpful in reaching the goal?

SEIN can contribute to this initiative's success in multiple ways:

- Provide technical expertise and analytical tools to help with regional map of potential solar sites and address grid and storage challenges.
- Access to peer groups around the country will help our region become more aware of best practices that will address the barriers and challenges listed in Goals and Objectives section.
- SEIN analytical tools will help our region identify how best to maximize solar in our region to reach the various renewable energy and carbon targets and encourage innovation.
- Access to any sample relevant solar roadmaps from other regions will help inspire our region as to what is possible and how a region with multiple utilities can best work together to achieve solar goals and create a rural Clean Energy Corridor.
- Access to NREL SEIN technical assistance can help our region maximize the economic development benefits of solar.
- Being part of this overall network can help our region become more aware of and implement supporting policies, financing mechanisms, educational efforts and market incentives, and will help provide external resources and structure to assist with collaboration between multiple governments, utilities, and organizations.

Institutional Commitment and Progress to Date

Strong applicants will have made concrete steps towards the realization of the candidate initiative and should be able to demonstrate clear institutional commitment, which could be in the form of financial resources, political commitment, or coalitions of relevant stakeholders. Please describe the institutional commitment to the project and progress to date (at least one paragraph).

There is strong institutional commitment to this regional effort, as demonstrated in the following ways:

- Representatives of all the team members listed in this application attended a "Maximizing solar in our region" workshop on July 14 2017 in Rifle Colorado, and discussed the Solar Energy Innovation Network opportunity and challenges/barriers/actions to include in this application.
- The July 14 Workshop was a follow up step to a previous regional workshop entitled "Clean Innovative Energy Sources to Power our Region", held in March 2017 at which NREL staff presented on solar.
- This proposed regional Clean Energy Corridor roadmap is the result of multiple joint meetings held by organizations and governments from our 3-county region where policy makers have discussed the opportunity and benefits of working across county lines to collaborate on increasing local production of clean energy and using clean energy to diversify the economy and reach adopted clean energy or carbon reduction targets.
- Xcel Energy and Garfield Clean Energy have worked together through Xcel Energy's

Partners in Energy program to create an Energy Action Plan(EAP) for Garfield County, released in April 2017. The EAP includes a renewable energy goal of providing 35-50% of energy from renewable energy sources. The MOU signed by GCE and Xcel Energy outlining steps for an 18-month implementation period includes development of a strategic plan for how to reach the renewable energy target. This initiative is part of implementing that step.

- In addition, the other governments and individual jurisdictions in this 3 county region have adopted varying clean energy or carbon related goals that demonstrate institutional commitment to this effort:
 - o Eagle County: 25% reduction in greenhouse gas by 2025; 80% by 2050.
 - o Colorado Mountain College: 12.5% reduction in greenhouse gases every 5years; net zero by 2050.
 - o Aspen: 30% reduction in carbon by 2020; 80% by 2050.
 - o Holy Cross Energy: Reach 30% renewable generation by 2020 and 35% by 2025;
 - o Xcel Energy: Xcel Energy's annual goals for electric and natural gas energy savings are 1.5 percent and 1.0 percent efficiency, respectively with a goal of 45% percent greenhouse gas emissions reduction by 2021

Contact Information

Please provide a contact name, email address and phone number for all committed team members. Indicate if a primary contact person, or "champion," for the entire team has been selected. The project champion(s) is the point of contact that can share information with project stakeholders, and coordinate activities between stakeholders, peer groups, and technical and facilitation assistance.

Contact info:

Near term project contact for logistical coordination/follow up to application:

Alice Laird ahlaird@cleanenergyeconomy.net 970 319 7026

(If project is selected there will be a joint champion team handling logistics and coordinating the effort.)

Contact info for team members:

Garfield Clean Energy (9 member government collaborative)

Erica Sparhawk

esparhawk@cleanenergyeconomy.net

970 704 9200

Stuart McArthur, GCE Chair

stuartmc@parachutecolorado.com

970.285.7630, x-106

Eagle County

John Gitchel

John.Gitchell@eaglecounty.us

970 328-8766

Adam Palmer

adam.palmer@eaglecounty.us

970-328-8734

Pitkin County

Cindy Houben cindy.houben@pitkincounty.com 970-920-5097

George Newman george.newman@co.pitkin.co.us

Xcel Energy

Kevin Cray Kevin.Cray@xcelenergy.com 303-571-6437

Eric Vanorden eric.vanorden@xcelenergy.com 303-294-2037

Holy Cross Energy

Bryan Hannegan

bhannegan@holycross.com

(970) 945-549

Chris Hildred

childred@holycross.com

(970)947-5414

Glenwood Springs Municipal Utility

Debra Figueroa

debra.figueroa@cogs.us

970-384-6401

Aspen Municipal Utility

David Hornbacher

970-429-1983- David.Hornbacher@cityofaspen.com

CLEER

Alice Laird

ahlaird@cleanenergyeconomy.net 970 319 7026

Erica Sparhawk

esparhawk@cleanenergyeconomy.net 970 704 9200

CORE

Mona Newton

mona@aspencore.org 970 925-9775

Walking Mountains Science Center

Kim Langmaid

kiml@walkingmountains.org

970-827-9725 ext. 131

John-Ryan Lockman

johnryan@energysmartcolorado.com

970 328 8777

(contact info continued on next page)

Colorado Mountain College

Carole Boughton

caboughton@coloradomtn.edu 970 625-1871

Adrian Fielder

afielder@coloradomtn.edu

Colorado Solar Energy Industries Association

Rebecca Cantwell

rcantwell@cosea.org

303-333-7342

Colorado Parks and Wildlife

Taylor Elm. Land Use Specialist - taylor.elm@state.co.us - 970-947-2971

Michael Warren, Energy Liason, - michael.warren@state.co.us - 970-947-2920