

## Background

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### ***Mission and Needs Addressed***

The Resource Innovation Group (TRIG) is a 501 (c)3 non-profit social-science based global climate change research, education, and technical assistance organization.

*Our mission is to foster the development and application of innovative thinking and approaches to the complex causes and solutions to climate change. Our approach is grounded in the integration of whole systems thinking with the physical and social sciences, capacity building, social equity, and change management.*

Since the program was initiated, TRIG has made major strides towards achieving our mission of working with varied stakeholders to address climate change. We assess the needs of the communities where we will work, form local partnerships, and then implement programs or activities that are best suited to meet those needs. We are proud of our track record of successfully instituting new programs and policies that protect the environment and improve social welfare and the economy including: helping the State of Oregon and the State of Washington, as well as many local communities in both rural and urban counties, engage in sustainability and climate change planning and policy development efforts; creating the regionally and nationally known Climate Master household and business focused carbon emission reduction programs; and supporting numerous low income and low capacity rural communities and Native American tribes protect their environment and generate sustainable. We also feel strongly that through our educational work (e.g. workshops, seminars, and conferences), writing (e.g. our director's books and articles and organizational reports on economic impacts of climate change in Oregon and Washington) and speaking (our staff average one presentation a week), we have helped thousands of people understand the interconnectedness between social welfare, economic well-being, and environmental protection and also how to think more sustainably.

### ***Current Programs***

The *Climate Preparedness* program identifies and evaluates effective methods and tools to foster and support integrated, multi-dimensional climate preparedness and adaptation programs and policies.

The *Climate Education and Communication* program identifies and evaluates methods and tools to foster personal, household, organizational and institutional change that leads to reduction of greenhouse gas emissions and effective climate preparedness.

The *Community Energy Initiative* develops methods and tools to support the adoption of small-scale distributed renewable energy technologies and land management partnerships that improve the health of the land and strengthen local economies.

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The *Climate Economics Program* offers policymakers and private sector leaders credible analysis and useful tools to understand the economic costs and benefits of the consequences and solutions to global warming.

The *Climate Equity and Social Justice* seeks to understand the causes and consequences of, and options for reducing, the disproportionate effects of climate change on vulnerable populations such as the poor, homeless, elderly, and those with special needs.

### ***Population Served***

We believe that diversity and openness leads to stronger communities as well as maximizes organizational potential. Global warming will have disproportional consequences within and between communities, regions and nations. We believe that every individual in every region of Oregon, the U.S. and world has equal right to a stable atmosphere, strong economy, and healthy natural environment. We believe all people have an equal right to obtain information and resources and to fully participate in decision-making processes affecting the climate, the economy, and social wellbeing. The Resource Innovation Group works with diverse constituencies across the region and nation with a special emphasis on disadvantaged populations, inviting participation from individuals that are representative of the community where they live.

## Project Description

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### ***Purpose and Relationship to EWEB's Mission***

The Resources Innovation Group (TRIG) proposes to develop a unique community solar photovoltaic (CPV) system that will enable new renewable energy generation for Eugene residents by providing access to solar for those who currently are unable to invest in this zero emissions technology. Even with tax credits, the installation of a photovoltaic system is often beyond the financial capacity of many households and businesses. Many residences also have insufficient solar access to install a system on their own home, or they do not own their home and are unable or unwilling to invest the capital for a photovoltaic system in a residence that does not belong to them. CPVs are a relatively new concept that holds great potential for providing renewable energy to multiple customers at affordable rates who might not otherwise be able to own a solar system. By paying for just a share of a CPV system in a central location, households can obtain the benefits of renewable energy at rates they can afford. Although technically only those possessing shares in the system will own the CPV, the system will showcase Eugene and EWEB as a forward-thinking community through the use of renewable energy technology that is used by only a few communities in the nation. This project will also provide a model for CPV that can be replicated elsewhere in Lane County and through Oregon. The expanded opportunity to own renewable power resources, the national recognition, the potential for replication, along with the environmental benefits of solar power places this project directly in line with EWEB's mission to, *"be an outstanding provider of energy and water products that meets customer needs and benefits the citizens of Eugene."*

### ***Population Served and Benefits***

Individuals throughout EWEB's service territory would benefit from a CPV system by giving citizens access to collectively-owned green power generated in their community. Participating individuals will become a part of the solution to climate change and other environmental, economic and political problems associated with the use of non-renewable energy. Moreover, they will benefit financially over time as they receive payment for the energy generated by their share of the system.

Additional community benefits would include the building of strong networks between EWEB, local government, civic and non-profit organizations, citizens and business around renewable energy. The physical and online presence and promotion of the CPV system will serve as an educational tool that reaches beyond just those participating in the program, as it will demonstrate the effectiveness of solar in Eugene. Schools and other groups could take field trips and hold educational workshops to highlight the project. EWEB would benefit from this project by obtaining the knowledge and skills needed to replicate CPV systems in other locations, thus providing distributed renewable energy to its customers and reducing electricity related greenhouse gas emissions.

This project will also serve as a testbed on the effectiveness of a particular business model of CPV system in the area. Different marketing and sales mechanisms will be tested. As such, the project will provide valuable information for future community renewable energy projects in

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Oregon and across the nation. TRIG is seeking additional funding to carry out a follow-up outreach component (not included in this budget) to develop a handbook on how to develop a CPV. If we are successful in raising these funds, the project will also provide a model that can be used by others to develop similar programs across the state and possibly even the nation.

### ***Strategies for Implementation***

A key component of developing a community solar project is creating an infrastructure that can manage the construction of new phases, sell shares, obtain incentives like state and federal tax credits, and payout subscribers. TRIG proposes to build this infrastructure and set up the first phase of a CPV. Our goal will be to transition the management of phase one of the CPV and all future phases to a self-governing organization for long-term management of this project for the community.

Specifically, developing a community solar project involves the following components:

- Research to identify best program structure & business model
- Creating an organizational structure
- Securing a location
- Obtaining financing to initiate the project
- Building the system
- Publicity, marketing and participant recruitment
- Creating and maintaining a web presence for people to subscribe to the program, for subscribers to track generation, and to promote the program beyond Eugene.

TRIG will manage the project as described below, working in conjunction with several community partners.

### ***Location***

The initial photovoltaic (PV) system would start at 30 kilowatts (kW) and would grow in phases as more members of the community start to participate. If additional phases are to be added on to the project, either TRIG or the subsequently formed organization will manage those phases. Saint Vincent DePaul has offered any of their buildings to be used for the initial phase of the system. One potential location for phase one of the system would be 2345 West Broadway in Eugene in the former Aurora glass foundry building. The building has a 312° south facing 10,000 square foot roof with full, unimpeded solar access. If this proposal is funded, Advanced Energy Systems will conduct a site and structural analysis to assess whether indeed, this is the optimal location. If not, TRIG will investigate the options for installation on other Saint Vincent DePaul buildings and other locations within the city. As the program is expected to grow in phases, additional locations will be identified for those future phases.

### ***Financing and Incorporating***

Other community solar systems have been installed at a rate of approximately \$7 per watt. For a 30-kilowatt system at that rate, the cost of installation would therefore be \$210,000. A portion of the funding for the panels would come from the EWEB GreenPower grant, with the remainder made up of business and residential subscriptions. If the initial sign-ups are insufficient to cover the costs of the system, then TRIG will develop a full range of other financing options to assure project completion.

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In order to keep the program as cost effective for participants as possible, TRIG will structure the organizational model of the CPV so that it can best obtain any incentives and tax credits that are available to lower the costs of the system. This could be a cooperative organization that obtains Business Energy Tax Credits (BETC) using a pass-through partner. There may also be opportunities to use Clean Renewable Energy Bonds (CREB) or other federal financing mechanisms like the solar energy Investment Tax Credit (ITC).

The organization, whether it be a cooperative corporation, a limited liability corporation or a part of an existing business or nonprofit, will eventually be the entity to receive payment from EWEB for the power through a power purchase agreement at 11 cents per kilowatt hour for 10 years. By the end of the grant period, this entity will also be responsible for paying out subscribers to the CPV on a quarterly or annual basis for the energy generated by their percentage of the system. TRIG will do the initial market analysis needed to determine the most effective and appealing fee and payment structure.

While TRIG will manage the bidding process and the actual construction, the entity that will manage the system will be responsible for system maintenance and all other program responsibilities. It is likely that they would retain a portion of system revenue to cover the ongoing administrative costs.

### *Marketing*

A marketing campaign will be instituted to apprise the community of the opportunity to participate in the CPV program and to sell the initial shares in a timely manner. As such, TRIG will work with partners like the City of Eugene, EWEB, and local solar installation companies to spread word of the program. We will also hold informational sessions at the Eugene Public Library as well as visit neighborhood associations, business groups and Rotary Clubs to solicit participants. We will develop a website and use social media and possibly paid advertisement in the Register Guard and Eugene Weekly.

## Evaluation

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The project will be considered a success based on the following criteria: 1) a model has been created and the infrastructure is in place for the development of Eugene's first and future community energy projects; 2) phase one of the community solar project is built; 3) the 30 kW system is at least 75 percent subscribed.

We will measure the success of the program by tracking and documenting the creation of a model and infrastructure for a community energy project. We will also track the number of subscribers, greenhouse gas emissions offset, financial performance of the final selected business model, and the amount of energy generated.

## Project Management

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### *Timeline*

#### *July – August, 2010*

TRIG will form an advisory team of energy and financing professionals to inform project development and research and incorporate the most effective business model in terms of obtaining state and federal tax credits and incentives, and in terms of selling shares in the most appealing way to subscribers. During this time, with the help of Advanced Energy Systems, TRIG will finalize which location in EWEB territory will be best suited for phase one. Upon conclusion of this investigation, TRIG will incorporate the entity that will manage the CPV; initiate paperwork for tax credits and incentives; and obtain bids for installing the system.

#### *September – November, 2010*

With a system in place for signing up subscribers and a cost-structure in place for selling shares, TRIG will begin publicizing and promoting the CPV to EWEB customers and signing up subscribers. As described above, this will take place through the media, through public workshops that highlight the effectiveness of solar in Eugene, and through social media connections to a website we will build during this time. Once the system is built, the website will hold the real time and lifetime generation of the system as well as reductions in greenhouse gas emissions, so subscribers can “see” the impact of their purchase.

#### *December, 2010 – March, 2011*

TRIG will oversee construction of the solar system, while continuing to solicit subscribers and publicize the system. TRIG will also be seeking a contractor or partner organization to manage the facility beyond the grant period.

#### *April – June, 2011*

In the final months of the grant, TRIG will finalize the transition all management of the project to the established entity. If the program is closed, we will start a wait list for the second phase. If there are still shares available, we will continue to sign people up. In conclusion of TRIG’s involvement with the project, we will write up our findings and experience and post them on our own website and that of the CPV so that other communities may draw from the program.

Project Narrative – Community Solar for Eugene

**Budget**

This one-year budget includes staff time for TRIG to research, develop and incorporate the organizational model for running a CPV program, to oversee the start-up of the project and the transition to the final organizational entity. The budget also includes the cost of building the solar array, for which we are asking approximately one quarter of the funds from EWEB, the remainder of which will be obtained from subscribers and state and/or federal incentives. Advanced Energy Systems is offering their services pro bono to do the site analysis, engineering and design for the system, at a value of approximately \$375. Finally, the budget includes the costs of publicity and promotion of the program, including the development of a website.

<b>Community Solar Project Budget</b>	<b>Expenses</b>	<b>Revenue and In Kind</b>	<b>Amount Requested</b>
<b>Expenses</b>			
Project Development	\$63,276	\$24,413	\$38,863
Web site development	\$2,200		\$2,200
Info Sessions and Promotion (includes paid advertising and brochures)	\$3,950		\$3,950
Solar Panels			
30 kW array @ \$7/watt	\$210,000		\$54,600
Design and engineering (Advanced Energy Systems - in kind)	\$375	\$375	
<b>Revenue</b>			
Subscription Fees to participate in program (\$800/panel)		\$155,400	
<b>Totals</b>	<b>\$279,801</b>	<b>\$180,188</b>	<b>\$99,613</b>

## Key Staff Biographies

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**Bob Doppelt** is Executive Director of The Resource Innovation Group. He is also an adjunct professor in the Department of Planning, Public Policy and Management at the University of Oregon. In addition, Bob teaches sustainability management at the Presidio Graduate School in San Francisco. His expertise is in systems dynamics and change. Bob is the author of *Leading Change toward Sustainability: A Change Management Guide for Business, Government, and Civil Society* (Greenleaf Publishing, 2003), which, just six months after its release, was deemed one of the "ten most important publications in sustainability" by a GlobeScan survey of international sustainability experts. His most recent book, *The Power of Sustainable Thinking: How To Create a Positive Future for the Climate, The Planet, Your Organization and Your Life*, (Earthscan Publishing, 2008) focuses on the importance of and methods for changing personal thinking and behavior to combat climate change. Bob writes regular columns on global warming for the Eugene Register-Guard and Salem Statesman-Journal newspapers.

**Steve Adams** manages TRIG's National Climate Preparedness Program and provides assistance and insight to policy makers and practitioners and in federal, state, and local government agencies across the country. Steve has more than fifteen years of public policy experience in climate change, energy, environment and natural resource management issues. He most recently served in the administration of Florida Governor Charlie Crist where he directed energy and global climate change policy development and managed the staff of the state's Energy and Climate Commission and the Governor's Action Team on Energy and Climate Change. Previously, he served as Director of Planning and Strategic Projects for Florida's Department of Environmental Protection where he played key roles in developing the 2006 Energy Bill (SB 888) and the landmark 2008 Florida Energy and Climate Bill (HB 7135). In 2009, Steve led Florida's energy investment planning that successfully secured more than \$175M in Recovery Act funds for research and deployment of renewable energy technologies, smartgrid technology and energy efficiency. In 2002-2003, he served at the U.S. Environmental Protection Agency as Senior Advisor to Administrator Christie Todd Whitman's Environmental Indicators Initiative, an effort that resulted in the publication of EPA's first national assessment of environmental and human health using environmental indicators. Steve holds a Bachelor of Arts in Economics from the University of West Florida and a Master of Public Administration from the Askew School of Public Administration and Policy at the Florida State University.

**Sarah Mazze** is the Climate Education Director for TRIG. Her research interests lie in individual and collective behavior change and educating for sustainability at the community level. In this capacity she has developed and managed the Climate Masters at Home and the Climate Masters at Work climate change outreach programs and developed the Junior Climate Stewards middle school curriculum, which were authorized by the state of Oregon in the Oregon Climate Corps Act, SB 942. She is now working with communities nationwide to replicate the Climate Master programs. Mazze managed TRIG's media program, holding workshops for the media to improve their coverage of climate change, and has written on climate change and other topics in the popular press. Mazze has more

than a decade of experience in various forms of education and outreach and many years of program management experience. She holds a Courtesy Research position at the University of Oregon's Institute for a Sustainable Environment and has Master's degrees in Environmental Studies and Journalism as well as a certificate in Nonprofit Management from the University of Oregon.

## Previous EWEB Funding

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TRIG has received three Partners in Education Grants from EWEB for our Climate Masters at Home, Climate Masters at Work and Junior Climate Stewards programs for a total of approximately \$30,000 dollars over three years. We've also received sponsorships for the latter two programs amounting to \$7,000 over three years.