



MadiSUN Solar Group Buy Program: Expansion of Residential Solar Across Dane County

Abstract:

Many potential Dane County solar residential customers, especially those in rural areas or in underserved neighborhoods, have less opportunity to learn about and 'go' solar, hampering the expansion of distributed renewable energy. RENEW Wisconsin expanded the popular MadiSUN solar group buy program to educate Dane County residents, especially those in rural and underserved neighborhoods, about the benefits of solar energy, and facilitated growth in local solar energy capacity.

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Contractor for MadiSUN Solar Group Buy Program

Final Report, covering activities from June 1, 2021 to December 31, 2021.

Program Metrics:

Participants Enrolled as “Interested” in Program: 329

Participants “Pre-Qualified” for Program: 133

Contracted Solar Systems: 51

Program Overview: Many potential Dane County solar residential customers, especially those in rural areas or in underserved neighborhoods, have less opportunity to learn about and ‘go’ solar, hampering the expansion of distributed renewable energy.

In 2021, RENEW Wisconsin adapted and expanded the MadiSUN program to educate and engage more Dane County residents, especially in rural and underserved neighborhoods, and facilitate growth in local solar energy installations. The geographic program expansion was possible thanks to new funding from Dane County.

Task 1 - Analyze Industry Trends and the Successes and Challenges of the Previous Years to Update MadiSUN’s Design to Better Reach Residents Across Dane County.

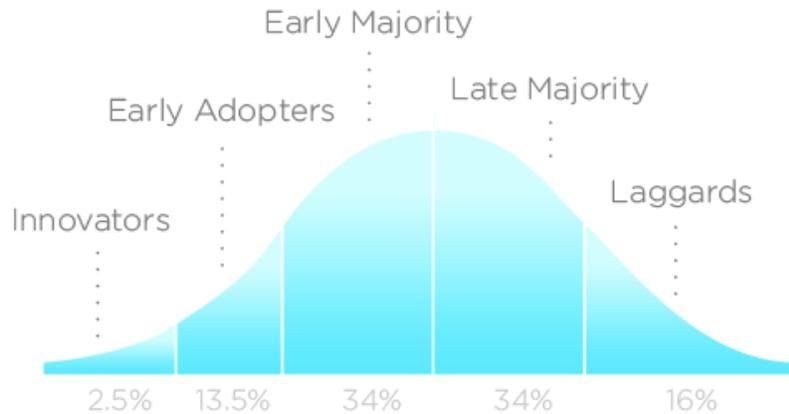
Overall, residential solar adoption in the Dane County region has continued to increase with each passing year. Many factors have influenced these trends including the federal tax credits for solar installation, increasing awareness of solar energy options, and the reduced costs of solar systems. Nevertheless, some Dane County residents as noted above have less knowledge and/or resources to help them go solar. RENEW is dedicated to helping provide greater access to solar energy with the support of Dane County for rural and underserved neighborhoods.

Five years ago, the MadiSUN Group Buy Program was established to increase residential solar adoption among Madison area residents. Over 1,600 area residents have engaged with MadiSUN since the program began, and approximately 800 kilowatts of renewable energy have been installed through the program. Information from Focus on Energy and the Solar Energy Industries Association (SEIA) indicates hundreds of additional kilowatts of residential solar capacity have been installed in the past several years, especially in southern Wisconsin.

Residential solar adoption continues to increase as technology and market forces improve. Feedback from MadiSUN participants indicate that financial benefits are the primary reason for installing a residential solar PV system. Solar arrays can now be seamlessly integrated into a home’s architectural design, which increases visual appeal.

Our research indicates that the Madison/Dane County area has reached the end of the early adopter curve and our community is moving on to the “early majority” stage of residential solar implementation. The technology innovation adoption lifecycle describes the types of people that acquire new technology once it has been introduced. As we are in the ‘early majority’ phase of solar adoption, we need to focus on reaching the next demographic group of solar adopters or

the 'late majority'. The 'late majority' is slightly more conservative and risk averse by nature. We will reach out to them with education focused on bill savings, ease of installation, and minimal maintenance.



INNOVATION ADOPTION LIFECYCLE

To reach rural Dane County, underserved residents, and the 'late majority' groups, MadiSUN is engaging with new stakeholders including municipal officials. We are reframing certain messaging, and we are connecting with new media and marketing partners. We believe these communication and administrative strategies have created a solid platform which will ensure a successful 2021 residential solar program.

Task 1 is complete

Task 2 - Review At Least Five (5) Other Solar Group Buy Models To Identify Best Practices That Expand Solar Access to Previously Underserved Populations.

RENEW staff examined the following solar group buys in an effort to expand solar access to rural and underserved communities in Dane County:

- Solarize Philly
- Bay Area SunShares
- Cheq Bay Renewables
- Grow Solar: Central Wisconsin
- Solar United Neighbors Virginia
- Grow Solar: Milwaukee Shines

These group purchase programs were chosen because their communities were either at similar stages of solar adoption as Dane County, their programs assisted underserved populations, or their programs served rural populations. We choose particular components from each program to incorporate into our 2021 MadiSUN programming.

Staff also conducted a research project with graduate students from UW-Madison in March in order to better understand solar adoption rates within Black, Indigenous, and people of color (BIPOC). The

research indicated that BIPOC households were significantly less likely to install solar energy systems than white households, and faced more barriers to solar energy installation.

From this study, staff recognized the importance of “solar seeding,” the phenomena in which adoption of solar energy by a neighbor can influence additional adoption and lead to clustering. The MadiSUN program, funded by Dane County helps to advance “solar seeding”. We found that in many cases, the “neighbor” who went solar was a leader within the community. These community leaders are often seen as trusted messengers that could be far more effective at solar education than our own staff. RENEW staff helped elevate and promote such messengers from the community including La Movida radio, Mt. Zion Baptist Church, and Madison 365 to educate more people, especially diverse and underserved neighborhoods, about the value of solar.

Staff recognized that an all-encompassing residential solar program must also reach rural portions of Dane County to be successful. We examined group buys that were successful in rural areas, like Cheq Bay Renewables and Grow Solar Central Wisconsin, for best practices. These group buys all contained installation options for their participants. Staff knew that for MadiSUN to be successful and reach rural and underserved populations, our group buy would need to have options as well.

To expand MadiSUN countywide, and to serve the growing number of residential solar installations in Dane County, RENEW chose three solar contractors, all offering unique materials, price points, and customer experiences. Program participants would be able to solicit quotes from one to three of our pre-approved solar contractors and select the firm that most appealed to them and best suited their needs. Utilizing the past success and name-recognition of MadiSUN, and incorporating concepts from other successful solar group buys, staff landed on three central tenets for the program. All group buy participants would be guaranteed:

- One to three proposals from qualified and experienced solar contractors
- The lowest price possible for a quality solar installation
- Additional support, service, and solar education at every step of the process

In short, we guaranteed a simplified buying process for all residents of Dane County. By making the residential solar buying process easy and straightforward, and by providing choices with multiple qualified solar contractors, we were able to ensure a satisfying program experience for every participant.

Task 2 is complete

Task 3 - Expand the City of Madison’s MadiSUN Educational Outreach Efforts to all of Dane County.

To reach and educate Dane County residents outside of Madison, staff crafted a three-pronged approach. We began by expanding our virtual education sessions. Due to the dynamic nature of the ongoing COVID-19 pandemic, these education sessions took the form of online webinars. In years past, RENEW staff typically hosted four to five webinars or education sessions during the group buy period. To expand and reach more residents of Dane County, staff increased the number of webinars to seven. Feedback from participants was all very positive, as many residents, especially those in rural areas, could attend the information sessions from home. This made the information sessions easier to attend, increased attendance, and expanded solar education throughout the county.

In addition to expanding the number of education sessions, RENEW partnered with several Dane County municipalities as co-hosts for these webinars. We co-hosted solar education sessions with local officials

from Middleton, Monona, Cottage Grove, and Madison in an effort to increase participation from residents in outlying municipalities. Partnering with multiple municipalities also increased the validity of the program. Many participants expressed security in knowing this was an official, publicly-supported program.

RENEW also utilized our existing partnership with greenpenny bank in our educational outreach. Staff wanted to ensure that participants, and potential participants understood the rules and nuances to financing a residential solar array, and to understand that upfront capital was not necessarily a barrier to solar adoption. Greenpenny co-hosted a webinar with RENEW staff, and presented in depth analysis on financing for residential solar projects.

The second part of our outreach effort was to expand our communications and marketing campaign. We utilized advertising with the Wisconsin State Journal to reach a larger geographic audience. Portions of our social media campaign were geotargeted to reach rural and outlying portions of the county. Finally, we revised our messaging to mirror messaging in other successful group buys. Taglines like “producing your own energy” and “decreasing your electric bills” resonated well with group buys in rural areas.

RENEW also utilized the outreach potential of the program’s participants through a yard-sign campaign. The yard signs increased program visibility among neighbors, another aspect of our solar-seeding initiative. We armed these participants with one-page sheets on talking points and other important, and easily-remembered facts on home solar to use when speaking with their neighbors. This proved exceptionally well in smaller municipalities and rural areas, where many residents often know their neighbors very well.

Finally, we conducted informal education by attending outdoor public events whenever possible. Staff talked with residents at a rain-barrel pickup in Cottage Grove, shared educational materials at the Middleton Good Neighbor Festival, and even distributed MadiSUN fliers door-to-door.

From the 329 total MadiSUN participants, approximately 32% were from outside Madison, and 18 of the total participants (approximately 5%) resided in rural (zip codes identified as “rural” through Focus on Energy) areas of Dane County. In previous years, these outlying residents typically made up less than 28% of total MadiSUN participants. This grant from Dane County has allowed RENEW to officially expand the MadiSUN program, and as a result, expand home solar adoption in Dane County.

Task 3 is complete.

Task 4 - Target Additional Countywide Education and Outreach Sessions to Previously Underserved Neighborhoods and Communities.

Our research with UW-Madison and Walnut Way indicated that underserved communities were interested in solar, but they faced multiple barriers to adoption which had to be addressed through the MadiSUN program. To expand our outreach to these communities, staff grew our network of partners to include trusted voices within these communities. These trusted voices included media sources, established organizations, and individual members of the community.

RENEW strengthened our partnership with La Movida, the primary Spanish-language radio station in Dane County, a relationship we began building in 2020. RENEW ran advertisements with La Movida during the months of June, July, and August. Staff also collaborated with the radio station to conduct an hour-long Q&A session with leaders in the Hispanic community. Listeners could call in and receive solar

information and insight in their primary language. MadiSUN promotional materials are being translated into Spanish, and we expect to be able to share these materials for the 2022 program.

In an effort to reach more diverse portions of Dane County, RENEW connected with Madison 365, a local nonprofit media organization focused on creating a dialog between members of diverse communities. We purchased digital advertising space with Madison 365 during the summer months, and even created an in-depth news article on residential solar for their readers.

To reach more underserved neighborhoods, staff compiled the locations of previous years MadiSUN participants. We pinpointed areas and neighborhoods with low or zero MadiSUN adoption rates, and worked with neighborhood newsletters and other local officials to help spread the word. We also partnered with Best Version Media and purchased print advertisement in these areas with low solar adoption rates.

Finally, staff partnered with Mt. Zion Baptist Church, a predominantly black church on Madison's south side. Church leadership was interested in adopting solar for their facility, and applied for a MadiSUN Backyard solar grant for nonprofits. Mt. Zion has begun promoting their solar project within the congregation, and have committed to additional outreach within their church-community in 2022 once the solar array is installed. They have pledged to work with RENEW to help build awareness about solar within the greater Madison community going forward.

Task 4 is complete.

Task 5 - Administer all Program Management Services for MadiSUN as Contracted by the City of Madison.

RENEW staff pre-assessed all 329 participants and contacted every applicant via phone or email. Staff educated all pre-assessed participants about the economic benefits of residential solar and referred all pre-approved participants to one or more of our solar contractors.

In addition to educating all participants about the economic benefits of solar, staff also took time to educate participants about the benefits of coupling solar energy with electric-vehicle charging and home battery storage. Staff also assisted all interested participants with information from greenpenny bank about solar project financing. These services began in 2020, and as market forces continue to shift, feedback from participants indicated that these services and technologies were very important.

The group buy program officially ended on September 1st, but staff allowed participants to enroll in the program through December 1st. Staff continued to pre-assess and provide solar education to all participants, regardless of sign-up date. We had to take a different approach to these late participants, as our solar contractors were not able to honor their original pricing structure due to supply chain issues. However, we communicated all this information to the participants, and many residents continued to solicit bids from our solar contractors.

Task 5 is complete.

Task 6 - Summarize Pilot Insights, Industry Best Practices, and Feedback from Participants Into a Scoping Study Report that Identifies Specific Strategies to Accelerate Solar Installations Across all Dane County Communities, Consistent with the Goals Outlined in the Climate Action Plan.

Throughout the planning, implementation, and analysis of the 2021 MadiSUN group buy expansion, staff took away three primary insights.

1. The Public Service Commission's PV Potential Study confirmed RENEW staff's preliminary assessment into Dane County's solar marketplace and the necessity for changes to MadiSUN.
2. RENEW's efforts to establish relationships and promote solar education in key community locations will lay the groundwork to expand public support and adoption of solar in Dane County's underserved communities.
3. The importance of funding from Dane County was vital in properly expanding the MadiSUN solar group buy program.

Our staff's preliminary research into Dane County's solar marketplace was accurate. The Madison-area solar marketplace has passed the "Early Adopter" portion of the adoption curve and had moved onto the "Early Majority" phase of adoption. Confirmation of these findings was found in a Cadmus study on potential rooftop solar PV, commissioned by the Public Service Commission (PSC) of Wisconsin in October.

The PSC study showed that residential solar adoption among Madison Gas and Electric (MGE) customers is substantial. MGE ratepayers consume only 2.5% of Wisconsin's total electricity, yet it makes up nearly 8% of the state's residential rooftop solar capacity. The study also confirmed that while solar adoption in Dane County is ahead of other areas of the state, there is still a great deal of potential for distributed, home solar systems in our area.

The study's results also demonstrate why more solar installers were needed for the MadiSUN expansion across Dane County. With more participants likely to enroll, RENEW wanted to ensure that all program participants would have access to qualified contractors. Having multiple contractors also gave our participants choices, something we found very important through our research into solar adoption in underserved communities. This choice proved important, as our group buy collected 51 solar contracts, MadiSUN's most successful year to date.

RENEW's second finding was that building access to solar in underserved communities requires a focus on relationships and a variety of education and outreach approaches. We began exploring new connections with Hispanic residents in 2020, when we first began our partnership with La Movida. With additional community connections among African American churches and rural partners, we further deepened and expanded access to renewable energy information. We are excited to build upon our work to date on expanding solar equity in Dane County. RENEW and our new partners have committed to working together to expand solar adoption to underserved communities in 2022.

Our final, and perhaps most important, takeaway was the importance of the additional funding from Dane County. The City of Madison has always been accepting and supportive of residents outside Madison utilizing the MadiSUN program. However, because of the nature of the program, staff were never able to officially market the program outside Madison. The county's grant money allowed staff to promote the program in new geographic areas, partner with neighboring municipalities, and conduct solar education sessions outside the city. In turn, local officials across Dane County were able to offer their residents a professionally administered solar group buy with trusted name recognition. The 2021 MadiSUN group buy represented a win for municipalities in Dane County, residents of Dane County, and a win for the health, ecosystems, and economy of Dane County.

Task 6 is complete.

Task 7 - Submit a Short Project Update to Dane County's Office of Energy and Climate Change on a Monthly Basis, Beginning Approximately One Month after Project Start Date.

Task 7 was completed prior to this report.