



222 S. Hamilton, Madison, WI 53703

August 25, 2016

Ms. Sarah Klein
Administrator
Division of Business & Program Management
610 N. Whitney Way
P. O. Box 7854
Madison, WI 53707-7854

RE: RENEW Wisconsin Recommendations for Focus on Energy
Renewable Energy Program Funding for 2017 & 2018

Dear Ms. Klein:

RENEW Wisconsin respectfully offers the following background, observations, and recommendations for funding renewable energy systems through the Focus on Energy program in 2017 and 2018. We sincerely thank the Commissioners and Commission Staff for the opportunity to provide our perspective. In summary:

We recommend the Commission allocate \$5 million per year in 2017 and 2018 to renewable energy rebates through Focus on Energy. This recommendation is based on:

- A historic average of \$5.7 million per year for renewable energy rebates
- There continues to be more demand for customer renewable energy systems than has been funded in 2015 and 2016
- The up-front cost of renewable energy technologies remains the key barrier to private investment into these projects, and the rebate program directly addresses that barrier
- This budget level will provide consistency, predictability, and stability to the state's renewable energy marketplace and industry, ensuring the total market impact of renewable energy, which is about 5x the rebate amount, remains consistent for the next two years

The renewable energy Revolving Loan Fund holds promise, but thus far only 12% of the funding for 2015 and 2016 has been utilized in that program, while 96% of the rebate funding for 2015 and 2016 has already been utilized (see Table 1 on Page 6).

BACKGROUND ON RENEW WISCONSIN'S INTERESTS IN FOCUS ON ENERGY

RENEW Wisconsin is the state's leading renewable energy advocacy and education organization in Wisconsin, and has been since 1991. We were instrumental in the establishment and design of Focus on Energy's renewable energy program in 1999, and our interest in maintaining the policy mechanisms that support customer-sited renewable energy systems continues to this very day.

In addition, we have 56 businesses amongst our Membership who are in the renewable energy development and installation/construction industry in Wisconsin, across solar, biogas, and wind energy systems. These companies also have a vested interest in this program.

FOCUS ON ENERGY RENEWABLE ENERGY FUNDING HISTORY THROUGH 2016:

In Fall of 2014, during the Quadrennial Planning Process II, the Commission voted to approve renewable energy funding as follows:

Rebates:

- \$5 million in rebates for 2015
- \$3.5 million in rebates for 2016

Revolving Loan:

- Create a new Revolving Loan Fund with \$10 million in funding for 2015 through 2018

Biogas:

- Allocate \$6 million towards a digester program for agricultural farms

The Commission agreed at that time to review the various programs in 2016 to determine how to proceed in 2017 and 2018.

An additional \$380,000 was added to the 2015 renewable energy budget as installation activity for residential and small business customers had exceeded expectations.

Historic Funding & Program Structure

Since the current iteration of Focus on Energy's program funding was established in 2006-7, the funding for customer renewable energy systems has been approximately as shown below, according to RENEW Wisconsin's records.

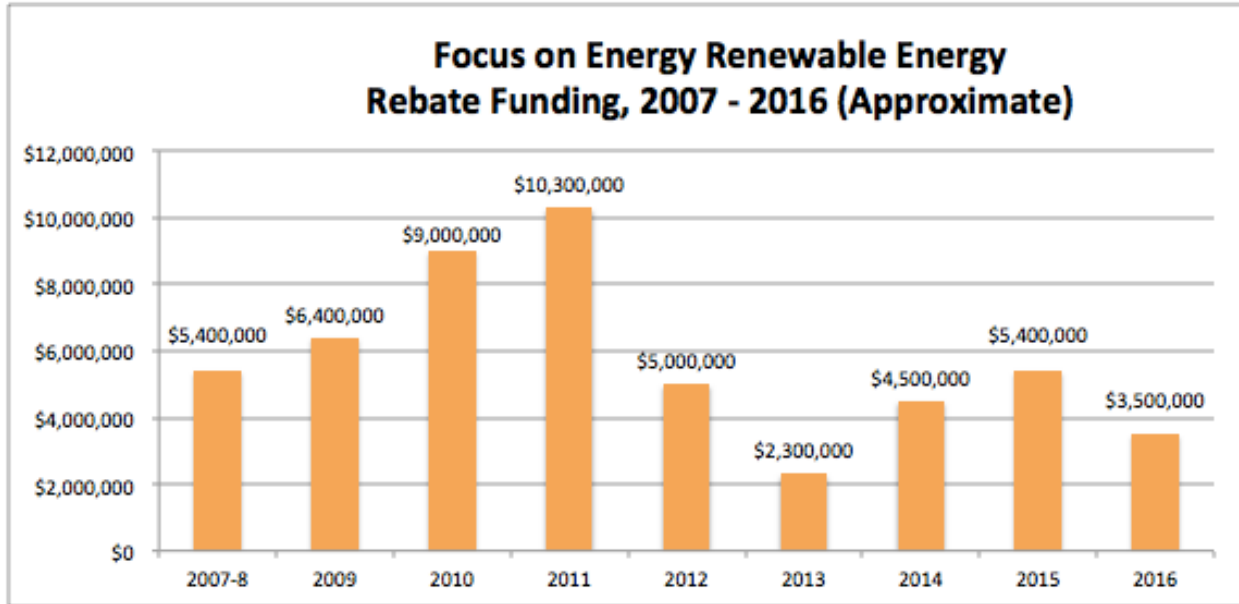


Figure 1: Focus on Energy renewable energy rebate budgets, 2007 through 2016

The average level of Renewable Energy Rebate Funding per Program Year from 2007 through 2016 was **\$5.7 million per year**.

In the late 2000s, the program had a goal of raising the expenditures on renewable energy rebates to be 10% of the total Focus on Energy budget. Following the 2010 and 2011 years when funding reached approximately 10% of the total budget, the renewables program budget was reduced, and there were periods where no rebates were available in the marketplace.

In the past three years, the funding has been more consistent and predictable, which has made a huge difference for the renewable energy market. Consistency and predictability are key factors to successful programs so that customers can take advantage of the program as part of their decision-making analyses when considering investments in renewable energy systems.

The renewable energy program serves the following primary technologies:

- Solar Energy
- Geothermal systems
- Biogas energy systems
- Biomass energy
- Small wind

The program is also divided into two major categories:

- Residential and small business incentives which are a set per-unit rebate amount based on the size of the installation, and currently apply to geothermal and solar. For example, solar installations can receive \$600 per kilowatt of solar installed, up to a maximum of \$2400. The program is first-come first-serve based on a reservation system.

- Larger business incentives which are structured as a competitive request-for-proposals solicitation called RECIP (Renewable Energy Competitive Incentive Program), and apply to any eligible renewable technology

OBSERVATIONS FROM 2015 & 2016 MARKET ACTIVITY

RENEW Wisconsin frequently interacts with the renewable energy marketplace of consumers, potential consumers, industry businesses, and with CB&I and their subcontractors who run these programs. Our observations below are based on these frequent interactions.

1. Rebates are effective and popular and address the primary barrier to customer investment.

The market activity to date demonstrates that the Focus on Energy rebate programs for both residential & small business and the business competitive incentives (RECIP) have been and remain an effective strategy for stimulating renewable energy installations large and small.

Residential and small business rebates: In 2015 the original budget for this sub-market was approximately \$540,000, and an additional \$380,000 was added to this budget in September 2015 because demand for the rebates far exceeded expectations. Still, the rebates budget was fully utilized in 2015.

The budget for this sub-market in 2016 is \$1.08 million. As of 8/22/2016 (as posted on Focus on Energy's website¹) approximately \$704,000 of that has already been paid (\$447,000) or reserved (\$257,000). From our conversations with installers and knowledge of the level of market activity amongst residential customers, we have no doubt that the entire budget will once again be used in 2016.

Business competitive incentives (RECIP). In RECIP (Renewable Energy Competitive Incentive Program), the proposals for funding have far exceeded the level of funding available for projects by a factor of 3 to 1. Although there was funding allocated by the Commission for both 2015 and 2016, the RECIP program in the past two years issued just one request for proposals, in spring 2015. All the available funds were reserved for projects in both years with just one competitive solicitation. Thus, there hasn't even been a competitive offering for larger business projects offered in 2016 despite the large number of unfunded applications from the previous year. A number of prominent businesses and institutions held open houses this year for large solar PV systems, including Letterhead Press in New Berlin, Darlington School District, JONCO Industries in Milwaukee, and O&H Danish Bakery in Racine. The rebates they received came out of the 2015 RECIP round.

¹ The current renewable energy program budgets and remaining funds are available at: <https://focusonenergy.com/residential/renewable-energy>

The up-front investment required for renewable energy systems remains the biggest barrier to enabling private actors to invest their own funds in these projects. The Focus on Energy rebate directly addresses that barrier by reducing the up-front cost of the investment.

2. Rebates are essential for helping nonprofit customers access onsite renewables. Nonprofit entities such as schools, houses of worship, community-serving organizations, and local governments cannot use federal tax credits to reduce the cost of renewable energy systems for their own use. The out-of-pocket cost of a renewable energy generation system can be 30% higher for them than it would be for taxpaying entities investing in the same installation. Up-front rebates for renewables, on the other hand, provide the same benefit to nonprofits as they do for-profit entities. Insofar as nonprofit customers contribute to the Focus on Energy program at the same level as for-profit entities, rebates are essential for equalizing the value of Focus on Energy to all ratepaying customers irrespective of their tax status.

3. Focus on Energy’s revolving loan program is still in its infancy and does not fully meet the needs of the renewable energy marketplace

In 2013 and 2014, RENEW Wisconsin worked with then-Commissioner (now Chairperson) Nowak and her Executive Assistant to provide information about the success of a revolving loan program in Iowa that some of our member solar installers were utilizing in that state. We do support this program as a market-transformation opportunity to engage lenders throughout Wisconsin in these technologies, which are new to many lending institutions.

Though the revolving loan program holds promise, it is not yet mature, and does not address all the barriers to investment in renewable energy systems.

This program was intended to be launched in early 2015 so that it could be compared with the rebate program over the same time period. However, the loan program was not launched until January 2016. Since then, the program has started to gain some traction, but uptake has been slow thus far and there are significant hurdles to customer and lender participation.

We have had many discussions with CB&I and their subcontractor for the renewable energy revolving loan fund, as well as with our member companies in the industry and potential customers. Our observations thus far include:

- It is clear that lending institutions are having trouble making the program work for residential customers. One issue is that banking computer systems largely do not allow “participation lending” for consumer loans and are having to do manual work-arounds. Our understanding is that very few, if any, loans have actually been made to homeowners.
- Residential customers that need financing are finding that home-equity loans or home-equity lines of credit tend to be simpler and easier.
- Banking computer systems do allow “participation lending” for business loans, and thus we see the business renewables market being able to utilize this program more readily than residential consumers in the near-term.

- Biogas developers have indicated that other lending programs, such as those offered by the U.S. Department of Agriculture, typically have much less uptake, and that similarly this program is not in-and-of-itself very attractive to multi-million dollar biogas projects.
- Our understanding of the loans issued thus far is that the projects also took advantage of Focus on Energy rebates to bring down the up-front cost. The loan offering solves a cash-flow issue that is faced by a certain segment of customers, but does not address the up-front cost barrier that is prevalent for every customer.

Current Status of Rebate & Loan Programs:

The Focus on Energy website has been updated as of August 22, 2016 for the status of the rebate programs and as of August 11, 2016 for status of the Revolving Loan Fund. Thus far, based on funding allocations, here is how the programs have fared:

Table 1: Status of Focus on Energy Renewable Energy Rebates and Revolving Loan Fund, 2015 & 2016 year-to-date

Market Segment	Rebates: Jan 2015 – Aug 22, 2016	Revolving Loan Fund: Jan 2015 – Aug 11, 2016
Residential & Small Business	\$2.0 million allocated \$1.6 million paid / reserved *	\$0.4 million financed/pending
Commercial	\$6.9 million allocated \$6.9 million paid / reserved	\$0.2 million financed/pending
Total	\$8.9 million allocated \$8.5 million paid /reserved * 96% utilized	\$5.0 million allocated \$0.6 million financed/pending 12% utilized

*As stated above, it is highly likely that the remainder of these rebates will be fully utilized in 2016 by homeowners investing in solar and geothermal systems.

RENEW Wisconsin does believe the loan program is a value-add and will support certain segments of the renewable energy market; however, at this time, the loan program is not structured to meet the variety of market segments and technologies that Focus on Energy’s funding has historically supported.

We would support the Commission enabling CB&I some flexibility to identify ways to make this program work more easily for lenders and customers, including piloting concepts to streamline participation. We also support increased budgets on marketing & education to ensure lenders are aware of and educated about how to utilize the program.

4. The Wisconsin Renewable Energy Market Served by Focus on Energy is Local, State-Based, and Still Relatively Small

Wisconsin's renewable energy industry is largely comprised of small-to-medium sized businesses located throughout the state. Most of the businesses in the project development and installation industry employ 5-50 people, and many are still family-owned and operated.

Solar PV: One technology that has garnered particular attention nationally over the past few years is solar PV (photovoltaics) for electricity production. Although this market has been expanding, estimates from Focus on Energy, RENEW Wisconsin, and the Solar Energy Industries Association place the total number of homes with solar PV at approximately 2,100 statewide, and the number of businesses with solar PV at approximately 600, as of the end of 2015.

Wisconsin continues to lag the national solar PV market significantly. Table 2 below compares solar PV installations from the U.S. and Wisconsin over the past seven years.

Table 2: Number of Solar PV Installations by Year, U.S. and Wisconsin, 2009 – 2015²

	2009	2010	2011	2012	2013	2014	2015
U.S.	35,069	51,699	64,904	94,688	154,858	199,000	319,000
Wisconsin	277	334	482	159	217	298	431

One way to put this table in perspective: Wisconsin accounts for approximately 1.8% of the population of the U.S. If we had installed 1.8% of the solar PV projects in 2015, that would have been 5,760. Instead, we installed 431. The U.S. market has grown nearly 10-fold in this time period, while Wisconsin's market has fluctuated somewhat but not grown significantly.

In addition, in looking at the market penetration of solar technology, it is clear that Wisconsin's market is still very nascent. Wisconsin has approximately 2.66 million housing units according to the U.S. Census³. We estimate that 2,100 homes have solar PV, which is approximately 0.08% of Wisconsin's housing units. That is 8 homes with solar for every 10,000 housing units.

Although solar PV adoption is growing nationally, the Wisconsin market still lags significantly. The Focus on Energy rebate funding remains a significant driver to stimulating Wisconsin's renewable energy market.

Biogas & Anaerobic Digesters: Another renewable energy technology that is very important to Wisconsin is anaerobic digesters which produce biogas. Wisconsin remains the national leader

² Data sources: Interstate Renewable Energy Council: *U.S. Solar Market Trends 2013*; Solar Energy Industries Association (SEIA) / GTM Research *U.S. Solar Market Insight*; RENEW Wisconsin

³ U.S. Census Quickfacts, Number of housing units in Wisconsin July 1, 2015, found at <http://www.census.gov/quickfacts/table/PST045215/55>.

in on-farm digesters with 34, although New York, California, and Vermont are adding farm digesters more rapidly than we are. According to the Wisconsin Biogas Survey Report⁴ issued recently there are 136 operating anaerobic digester systems in the state including those on farms, at municipal wastewater treatment plants, and at industrial wastewater facilities.

Focus on Energy over the years has supported the investments into many of these systems, including systems brought online in 2014 and 2015 which Focus on Energy competitive RECIP rebates supported. Three 2015 projects include Focus rebates to wastewater treatment plants for renewable electricity production: City of Kiel, Kenosha Water Utility, and Stevens Point Wastewater Treatment Plant. These biogas generators will partially power the wastewater treatment plants and reduce the plants' operating expenses, saving taxpayer money.

One 2014 project, on Statz B Farm near Sun Prairie, supports electricity generation that offsets about 85% of the electricity usage on the dairy farm, while providing a stream of co-benefits to the farm and the surrounding community including greatly reduced odor, manure management, bedding for the cows, better fertilizer for crops, and water quality protection.

Focus on Energy's rebates have been and remain a critical piece to these successful biogas projects and Wisconsin's leadership role in the biogas industry.

MARKET IMPACT OF REBATES AND LOANS

One important factor in considering funding levels of loans and rebates is the level of renewable energy market activity that these programs generate. The total investment in the sector is what drives job creation and business activity in the state.

Historically, rebates tend to support 10-20% of a project's up-front cost, meaning the rebate program generates a 5x (or more) economic multiplier on projects. In other words, the total investment in renewable energy projects is about 5 times the monetary value of the rebate budget.

The loan program as currently structured initially provides a 2x multiplier on projects: it is a 50% loan from Focus on Energy partnered with a 50% loan of private capital. When the loan recycles one time and the Focus on Energy funds are lent out again, it does create another 1x multiple of market impact. But, the loan dollars will have to revolve 4 times (which takes probably 20-30 years given typical loan repayment periods) to have the same market impact as the same amount of rebate funding.

Given the historic average rebate level of \$5.7 million per year, an estimated \$28.5 million in total renewable energy market impact has been created annually.

For 2017 and 2018, the \$2.5 million of loans will generate \$5 million per year in economic

⁴ Available at <http://www.stateenergyoffice.wi.gov/docview.asp?docid=27510&locid=160>

impact, if they are utilized. To keep the level of market impact consistent, an annual rebate allocation of \$4.7 million is required, which will generate approximately \$23.5 million in annual market impact.

RENEW WISCONSIN’S RECOMMENDATIONS FOR 2017 & 2018 FUNDING

RENEW Wisconsin believes that the combination of rebates and low-interest financing will leverage more high-quality renewable energy installations at a lower overall cost to ratepayers than would a rebate-only or a revolving loan-only program.

The Commission has already committed funds to the revolving loan program through 2018. In our view, the amount approved should be sufficient to give this program a fair test, provided, however, that rebates are adequately funded to reduce the up-front cost of renewable energy systems to business, non-profit, and residential customers.

Based on the factors described above, RENEW Wisconsin respectfully recommends that the Commission allocate \$5 million in 2017 and \$5 million in 2018 to rebates for renewable energy technologies.

We suggest that \$1.5 million be allocated to residential customers and \$3.5 million for business customers. We further suggest that the business renewables program have \$750,000 in prescriptive rebates for smaller business installations, and \$2,750,000 in competitively bid installations.

Table 3: RENEW Wisconsin’s Recommended Renewable Energy Rebate Funding for 2017 & 2018

Category	2017	2018
Residential Renewables	\$1,500,000	\$1,500,000
Business Renewables	\$750,000	\$750,000
RECIP (Competitive RFP)	\$2,750,000	\$2,750,000
Total Rebates	\$5,000,000	\$5,000,000

At this point in time, we expect the Revolving Loan Program to carry a significant uncommitted balance going into 2017 given that it is currently 12% subscribed. While RENEW fully supports the PSC’s existing commitment to inject \$2.5 million into the revolving loan fund in both 2017 and 2018, we would support repurposing a portion of the uncommitted revolving loan dollars at the end of 2016 into rebate programs for 2017.

We also intend to continue working with CB&I and their subcontractors to identify ways to maximize the market impact of the Focus on Energy renewable energy funding in 2017 and 2018, including reviewing the rebate levels needed to stimulate market activity for solar.

Thank you in advance for the opportunity to comment on this matter and for your consideration of this information.

Sincerely,

A handwritten signature in black ink that reads "Tyler Huebner". The signature is written in a cursive, slightly slanted style.

Tyler Huebner
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