



414 Nicollet Mall
Minneapolis, MN 55401

February 15, 2018

—Via U.S. Mail—

Minnesota Senate
75 & 100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Minnesota House of Representatives
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

(See attached service list for members served.)

RE: ANNUAL REPORT TO MINNESOTA STATE LEGISLATURE RENEWABLE
DEVELOPMENT FUND

Dear Senators and Representatives:

Pursuant to the Minn. Stat. § 116C.779, enclosed is our Renewable Development Fund Annual Report. This report itemizes actual and projected financial benefit to Xcel Energy's electric ratepayers for each project that has received an RDF project grant administered by Xcel Energy.

Please contact me at allen.krug@xcelenergy.com or (612) 330-6270 if you have any questions regarding this filing.

Sincerely,

/s/

ALLEN D. KRUG
ASSOCIATE VICE PRESIDENT, STATE REGULATORY POLICY

Enclosures

Mailing Address of House and Senate
Members in the Committee

Rep. Pat Garofalo
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St. Paul, MN 55155

Rep. Jim Newberger
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St. Paul, MN 55155

Rep. Karen Clark
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Rep. Tim Mahoney
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Rep. Jean Wagenius
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Rep. Paul Anderson
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Rep. Cal Bahr
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Rep. Sandy Layman
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Rep. Erin Maye Quade
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Rep. Jason Metsa
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Rep. Rena Moran
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Rep. Paul Thissen
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Rep. Bob Vogel
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Rep. Nolan West
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Sen. Andrew Mathews
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Xcel Energy
Renewable Development Fund (RDF)

Annual Report to the Minnesota State Legislature

February 15, 2018

Background

The Renewable Development Fund (RDF) program was first authorized by the Minnesota Legislature in 1994 in conjunction with legislation regarding the Prairie Island nuclear generating plant in Red Wing, Minnesota. As a condition of storing spent nuclear fuel in dry casks at Prairie Island, the RDF statute required Xcel Energy to transfer \$500,000 per year for each dry cask containing spent fuel to a renewable energy fund, which amounted to \$9 million annually. In 2003, this statute was amended to extend the life of the nuclear-waste storage at the Prairie Island plant; at that time the amount to be transferred into the RDF was increased to a fixed sum of \$16 million annually. In 2007, the statute was further amended to add an additional assessment for dry casks stored at our Monticello nuclear generating plant in Monticello, Minnesota. From 2008 to 2012, \$19.5 million was set aside annually for the RDF program. In 2013 the annual set-aside increased to \$22.75 million and in 2014 and 2015 the annual set-aside was \$24.6 million. In 2016 the annual set-aside increased to \$25.6 million and in 2017 the annual set-aside remained \$25.6 million. A cumulative total of \$326.95 million has been set-aside in the RDF since inception.

2017 Minnesota Session Laws Chapter 94, Article 10, Section 3 (the 2017 Legislation) made various changes to RDF program including, among other things

- the creation of a new Renewable Development Account (RDA) in the special revenue fund in the state treasury, which is administered by the commissioner of management and budget (whereas the monies collected under previous versions of the statute were known as the RDF, and administered by Xcel Energy);
- changes to the purposes for which RDA funds can be expended in future funding cycles;
- the creation of a new RDA advisory group (though the existing RDF advisory group remains for the purposes of oversight over the RDF's prior funding cycles);
- changes to the process for soliciting, selecting and awarding RDA funds in future funding cycles; and
- changes in reporting requirements
 - a RDA advisory group must submit this annual report on the projects funded by the RDA for the prior year and all previous years (whereas previous versions of the annual report were submitted by Xcel Energy).
 - the commissioner of management and budget will report to the legislature on the availability of funds in and obligations of the RDA.

Due to Xcel Energy's familiarity with the projects funded previously under the RDF, its continuing obligation for annual reporting with the Minnesota Public Utilities Commission, and that RDA advisory group process has not yet been established, Xcel Energy is submitting this report on behalf of the RDA advisory group.

RDA Grant Program Summary

As required by Minn. Stat. § 116C.779 (1)(p), since the 2017 Legislation was enacted in May 2017, no projects have been funded by the newly-created RDA fund in the prior year or any previous year.

RDF Grant Program Summary

For informational purposes, Attachment A includes a complete list of projects for all years that have been awarded RDF grant awards, prior to the enactment of the 2017 Legislation.

The costs of RDF program expenses allocated to Minnesota are recovered through a surcharge on our customer bill statements as part of their monthly charges for electricity. In 2017 the RDF charge was \$0.001034 per kWh. For a typical residential customer using 750 kWh per month, the RDF cost per month is \$0.76.

Since its inception, the RDF program has provided over \$291 million for renewable energy initiatives including \$92.1 million for Renewable Energy Production Incentive (REPI) payments, \$116.3 million for legislatively-mandated projects and programs, \$80.5 million which has been awarded over four grant cycles to 107 projects (see Attachment B - Financial Statement), and \$2.4 million for general program support. Mandated programs have included the appropriation of \$25 million to the University of Minnesota for the Initiative for Renewable Energy and Environment (IREE), \$21 million for the Minnesota Bonus Solar Rebate Program, and \$60 million for the Solar Energy Incentive Program.

In 2012, \$120 million had been appropriated for the Made In Minnesota Solar Energy Production Incentive Account. In 2017, this appropriation was rescinded. A total of \$48.0M was paid into the Made In Minnesota Solar Energy Production Incentive Account. Additional appropriations in 2017 also include \$20 million to the City of Benson, \$34 million to the Laurentian Power Authority, and \$1 million to the Department of Employment and Economic Development (DEED) 21st Century Fund; these additional appropriations will be paid out over the next several years in a manner consistent with newly enacted Minnesota law.

As Table 1 below shows, 68 projects have been completed and seventeen are active, including nineteen new Cycle 4 projects. Four Cycle 4 projects that have been awarded RDF grants have not executed grant contracts, and therefore project activity has not begun.

Table 1: Summary of Project Status

| Type | Completed | Active as of 12/31/2017 | Total |
|-------------------|-----------|-------------------------|-------|
| Energy Production | 25 | 5 | 30 |
| Research | 43 | 12 | 55 |
| Total | 68 | 17 | 85 |

In 2017, Xcel Energy had responsibility for the day-to-day administration of the RDF. A seven-member advisory group, representing the interests of various stakeholder groups, assisted Xcel Energy in evaluating and making recommendations on grant project proposals to Xcel Energy and the Commission. Further details on the members of the RDF advisory group can be found in Attachment C. Day-to-day administration and composition of the newly-created RDA advisory group should be addressed in 2018.

Legislatively Directed RDF Projects

Legislation in 2003 created the Renewable Energy Production Incentive (REPI) program to provide production incentives for electricity generated by wind, biogas, and hydro. In 2017, \$1.5 million in RDF funds were disbursed for REPI payments. The Minnesota Department of Commerce administers this program.

The Solar*Rewards program was created in 2010 legislation to provide rebates to an owner of a qualified property for installing solar photovoltaic modules. In 2017, \$2.2 million in RDF funds were disbursed for Solar*Rewards rebates. Xcel Energy administers this program.

In 2013, legislation created two new programs to receive funds from the RDF. The first program is a "Made in Minnesota" solar energy production incentive account to provide production incentives for residential and commercial installations that were manufactured in the state. In 2017, \$11.9 million in RDF funds were disbursed to fund this account. The second program is a solar energy incentive program to replace the existing Solar*Rewards program, which focuses on small facilities of up to 20 kW. In 2017, \$0.64 million in RDF funds were disbursed to fund the new Solar*Rewards program. The Minnesota Department of Commerce administers this program.

According to Minn. Stat. § 116C.779 subdiv (1)(c), (d) and (e), Xcel Energy must annually transfer funds to the RDA, but the Company can withhold from that transfer RDF payments for ongoing legislative programs previously enacted and the three additional expenditures approved by the legislature in the 2017 Legislation. First, an appropriation of \$34,000,000 over a five year period (fiscal years 2018-2022) to the Laurentian Energy Authority, LLC to assist the transition required by the termination of a PPA. Second, an appropriation of \$20,000,000 over a four year period (fiscal years 2018-2021) to the City of Benson for purposes of economic development. Finally, an appropriation of \$1,000,000 during fiscal year 2018 to the DEED 21st Century Minerals Fund. In 2017, no RDF funds were disbursed to fund any expenditures approved in the 2017 Legislation.

Grant-Funded RDF Projects

Energy Production: As shown in Table 2, the 26 completed electric production projects that received RDF grants have resulted in the installation of more than 29.4 MW of renewable energy nameplate capacity and have overall generated a total of 561,759 MWh of energy over the life of the facilities.

Table 2: Electric Production Projects

| Type | Investment | Facilities | Installed Capacity (MW) | Energy Production (MWh) |
|--------------|----------------------|------------|-------------------------|-------------------------|
| Biomass | \$27,887,976 | 1 | 0.300 | 2,870 |
| Hydro | \$44,145,119 | 1 | 9.176 | 235,500 |
| Solar | \$38,215,530 | 19 | 10.012 | 51,510 |
| Wind | \$13,075,483 | 5 | 9.960 | 271,879 |
| Total | \$133,689,729 | 26 | 29,448 | 561,759 |

As shown in Table 3 below, the environmental benefits from these investments are recognized in marketable Renewable Energy Credits (RECs) from qualifying facilities, emission reductions, avoided costs to build conventional facilities, and avoided costs to replace the electricity generated.

Table 3: Environmental Benefits

| Value of REC's | Value of Emissions Reductions | Avoided Capacity Value | Avoided Energy Value | Total Value |
|----------------|-------------------------------|------------------------|----------------------|--------------|
| \$398,627 | \$2,800 | \$4,189,862 | \$15,517,524 | \$20,108,813 |

Research and Development: As shown in Table 4, research and development projects contributed to the development of articles, workshops, and patent applications. Research and development RDF grant dollars leveraged \$0.48 for each grant dollar invested.

Table 4: Research and Development Projects

| Technology | Total Investment | Published Articles | Presentations/ Workshops | Patent Applications |
|---------------|------------------|--------------------|--------------------------|---------------------|
| Biomass | \$33,304,281 | 23 | 61 | 3 |
| Solar | \$8,216,310 | 10 | 27 | 1 |
| Wind | \$9,292,631 | 12 | 49 | 2 |
| Multiple Tech | \$6,838,144 | 14 | 61 | 3 |
| Total | \$52,519,979 | 59 | 198 | 8 |

It should be noted that an out-of-state research project is using a Minnesota project host located in the NSP-Minnesota service area. This project association to an in-state host keeps the research relevant to Minnesota and directs additional RDF funds to businesses and organizations in the state.

Conclusion

Xcel Energy appreciates this opportunity to provide this report summarizing the projects funded by the RDA, and also providing information about the projects funded by the RDF for informational purposes, through 2017.

| Project Name | Contract | Project Site | | | Project End Date | Status | Type | Cycle | Resource | Project Description | Funding | | | | | Power Development | | REC's | Enviro | Externalities | | Intellectual Property | | | | |
|--|----------|---------------------------------------|-------------|----------|------------------|--------|------|------------|---|---------------------|---------------------|-----------------------|---------------------|--------------------|-----------------------|-------------------|----------------|------------------|----------------|--------------------|--------------------|-----------------------|-----------|---------------|-------------|--|
| | | City | Zone | Zone | | | | | | | RDF Award | Grant Funds Disbursed | Leverage Funds | Total Costs | Current Grant Balance | Deobligated Funds | Capacity (kW) | | | Generation (MWh) | Avoided Capacity | Avoided Energy | Articles | Presentations | Patent Apps | |
| CENTRAL REGION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Minnesota (Dairy) | RD4-2 | Morris | Central | 6/2/18 | current | RD | 4 | Solar/Wind | Model a "net-zero" energy dairy parlor at the West Central Research and Outreach Center by integrating 20 kW wind and 54 kW solar with storage. | \$982,408 | \$407,279 | \$218,815 | \$626,094 | \$575,129 | \$0 | | | | | | | | | | | |
| City of Hutchinson | EP4-41 | Hutchinson | Central | 6/1/16 | complete | EP | 4 | Solar | Installed 400 kW photovoltaic fixed-tilt array on a capped municipal landfill and use the power at the adjacent wastewater treatment facility. | \$958,369 | \$958,369 | \$618,403 | \$1,576,772 | \$0 | \$0 | 400 | 886 | \$401 | \$10 | \$38,563 | \$15,108 | | | 2 | | |
| Best Power Int'l (St. John's Expansion) | EP4-6 | Collegetown | Central | 3/16/15 | complete | EP | 4 | Solar | Installed a 182 kW photovoltaic fixed-tilt array at St. John's solar farm for a side-by-side comparison with the existing 400 kW single-axis tracking array. | \$172,213 | \$172,213 | \$363,613 | \$535,826 | \$0 | \$0 | 182 | 771 | \$473 | \$6 | \$25,681 | \$22,558 | | | | | |
| Best Power Int'l (St. John's) | EP3-3 | Collegetown | Central | 5/8/10 | complete | EP | 3 | Solar | Installed a 400 kW photovoltaic facility at St. John's University to demonstrate commercial viability of solar power in Minnesota. | \$1,994,480 | \$1,994,480 | \$1,188,823 | \$3,183,303 | \$0 | \$0 | 400 | 4,599 | \$3,184 | \$23 | \$143,223 | \$135,134 | | | | | |
| University of Minnesota (Biomass) | RD3-23 | Morris | Central | 8/1/11 | complete | RD | 3 | Biomass | Evaluated economic and technical issues related to biomass fuel and integrated gasification combined cycle technology. | \$819,159 | \$729,717 | \$0 | \$729,717 | \$0 | \$89,442 | | | | | | | 6 | 28 | | | |
| University of North Dakota (Digester) | RD3-68 | Princeton | Central | 4/30/12 | complete | RD | 3 | Biomass | Field demonstration of a hydrogen sulfide reduction process at the anaerobic digester on the 1,000-acre Haubenschild Dairy Farm. | \$970,558 | \$970,480 | \$0 | \$970,480 | \$0 | \$78 | | | | | | | | 1 | | | |
| Minnesota Valley Alfalfa Producers | RD3-69 | Priam | Central | 7/15/15 | complete | RD | 3 | Biomass | Researching application of kinetic disintegration technology to produce biomass pellets from feedstocks with varying levels of moisture. | \$1,000,000 | \$825,489 | \$286,499 | \$1,111,988 | \$0 | \$174,511 | | | | | | | | | | | |
| Energy Performance Systems | RD-50 | Graceville | Central | 2/19/13 | complete | RD | 2 | Biomass | Built and demonstrated equipment for an integrated system to supply farm grown trees as a biomass feedstock to a power plant. | \$957,929 | \$957,929 | \$1,997,606 | \$2,955,535 | \$0 | \$0 | | | | | | | | 1 | | | |
| Blattner and Sons | BW-06 | Avon | Central | 12/15/02 | complete | RD | 1 | Wind | Developed a platform that would climb the tower to eliminate that need for crane to construct very tall wind turbines. | \$68,470 | \$62,346 | \$0 | \$62,346 | \$6,124 | \$6,124 | | | | | | | | | | | |
| Economic Benefits for West Central Region | | | | | | | | | | \$7,923,586 | \$7,078,302 | \$4,673,759 | \$11,752,061 | \$581,253 | \$270,155 | 981 | 6,256 | \$4,058 | \$39 | \$207,467 | \$172,800 | 6 | 32 | 0 | | |
| NORTH REGION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Minnesota (Torrefaction) | RD4-11 | Coleraine | North | 9/3/2017 | current | RD | 4 | Biomass | Demonstrate a prototypic torrefaction bioconversion process and distributed electric generation. | \$1,899,449 | \$17,481 | \$451,458 | \$468,939 | \$1,881,968 | \$0 | | | | | | | | | | | |
| West Central Telephone Assoc. | RD3-58 | Menahga | North | 5/12/10 | complete | RD | 3 | Wind/Solar | Designed and tested configurations and specifications of a hybrid wind/solar power system for distributed generation in remote locations. | \$137,000 | \$137,000 | \$96,926 | \$233,926 | \$0 | \$0 | | | | | | | | | | | |
| University of North Dakota (Liquifaction) | RD3-66 | Duluth | North | 4/10/12 | complete | RD | 3 | Biomass | Designed and demonstrated a mobile biomass liquefaction system that can utilize high moisture wood waste. | \$999,065 | \$998,697 | \$995,800 | \$1,994,497 | \$0 | \$368 | | | | | | | | 1 | | | |
| Mesaba/Excelsior Energy | EP-43 | Taconite | North | 6/24/10 | complete | EP | 2 | Innovative | To design the basis of a base load Integrated Gasification Combined-Cycle (IGCC) power generation facility. | \$10,000,000 | \$10,000,000 | \$365,621 | \$10,365,621 | \$0 | \$0 | | | | | | | | | | | |
| CMEC | EP-44 | Little Falls | North | 3/12/11 | complete | EP | 2 | Biomass | Designed 959-kW gasification plant to utilize distillers grains and local biomass. Refractory issues prevented completion of the facility. | \$2,000,000 | \$400,000 | \$16,462,472 | \$16,862,472 | \$0 | \$1,600,000 | | | | | | | | | | | |
| University of Florida | RD-34 | Moorhead | North | 5/16/09 | complete | RD | 2 | Biomass | Demonstrated two-stage anaerobic digester at American Crystal Sugar in Moorhead, MN to generate methane for conversion to electricity. | \$999,995 | \$996,875 | \$0 | \$996,875 | \$0 | \$3,120 | | | | | | | 3 | 1 | 1 | | |
| Gas Technology Institute | RD-38 | Coleraine | North | 10/12/07 | complete | RD | 2 | Biomass | Developed a method to extract hydrogen from biomass gasification using membrane separation technologies. | \$861,860 | \$861,860 | \$3,121 | \$864,981 | \$0 | \$0 | | | | | | | | 1 | | | |
| Economic Benefits for Northeast Region | | | | | | | | | | \$16,897,369 | \$13,411,913 | \$18,375,398 | \$31,787,311 | \$1,881,968 | \$1,603,488 | 0 | 0 | \$0 | \$0 | \$0 | \$0 | 3 | 3 | 1 | | |
| STATEWIDE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bergey Windpower Company | EP4-24 | St. Cloud/ Marshall areas | Statewide | 11/24/17 | current | EP | 4 | Solar | Install 500 kW small wind capacity in the jurisdictions of Benton, Lincoln, Meeker, Murray, Nobles, Pipestone, and Stearns counties by constructing 50 distributed 10 kW microturbines. | \$1,106,600 | \$0 | \$2,085,145 | \$2,085,145 | \$1,106,600 | \$0 | 10 | 23 | \$0 | \$1 | \$16 | \$602 | | | | | |
| Minnesota State Colleges & Universities | HE4-1 | St. Paul - hdqtr | Statewide | 4/11/19 | current | HE | 4 | All | Created a research program to stimulate the development of renewable electric energy technologies within Minnesota. | \$5,500,000 | \$2,400,000 | \$0 | \$2,400,000 | \$3,100,000 | \$0 | | | | | | | | | | | |
| MN DNR | EP3 - 13 | Afton, Ft. Snelling, Lake Shetek, Lac | Statewide | 3/12/13 | complete | EP | 3 | Solar | Installed 114 kW of solar photovoltaic generation at various state parks and developed a renewable energy strategy for future DNR facilities. | \$894,000 | \$878,966 | \$39,312 | \$918,278 | \$0 | \$15,034 | 114 | 823 | \$651 | \$5 | \$32,409 | \$23,347 | | | | | |
| Economic Benefits for Statewide Projects | | | | | | | | | | \$7,500,600 | \$3,278,966 | \$2,124,457 | \$5,403,423 | \$4,206,600 | \$15,034 | 124 | 846 | \$651 | \$5 | \$32,425 | \$23,949 | 0 | 0 | 0 | | |
| SOUTHEAST REGION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coaltec Energy USA | RD3 - 77 | Northfield | Southeast | 4/22/18 | current | RD | 3 | Biomass | Demonstrated the feasibility of biomass gasification on a commercial turkey farm to generate electricity and heat. | \$1,000,000 | \$850,000 | \$274,511 | \$1,124,511 | \$150,000 | \$0 | | | | | | | | | | | |
| Dragonfly Solar | EP4-29 | Dodge Center | Southeast | 5/8/18 | current | EP | 4 | Solar | Install a fixed-tilt 997.5 kW solar array within the footprint of several existing wind farms. | \$1,650,000 | \$0 | \$132,015 | \$132,015 | \$1,650,000 | \$0 | | | | | | | | | | | |
| City of Red Wing | RD4-8 | Red Wing | Southeast | 2/6/21 | current | RD | 4 | Biomass | Research will provide operational and performance data to improve the cost effectiveness and reduce potential environmental contaminants in the processing of refuse derived fuels. | \$1,999,500 | \$0 | \$3,297,160 | \$3,297,160 | \$1,999,500 | \$0 | | | | | | | | | | | |
| Diamond K | EP-51 | Altura | Southeast | 5/18/14 | complete | EP | 2 | Biomass | Installed a 300 kW of biomass generated and anaerobic digester at the Diamond K Dairy in Winona County, Minnesota. | \$936,530 | \$936,530 | \$2,688,974 | \$3,625,504 | \$0 | \$0 | 300 | 2,870 | \$5,223 | \$13 | \$26,058 | \$73,325 | | | | | |
| AnAerobics, Inc | AB-07 | Montgomery | Southeast | 6/3/03 | complete | EP | 1 | Biomass | Was to install a 1.7 MW genset and study removal of hydrogen sulfide created during anaerobic digestion but had site control issues. | \$1,300,000 | \$1,100,000 | \$6,300,000 | \$7,400,000 | \$0 | \$200,000 | | | | | | | | | | | |
| Economic Benefits for Southeast Region | | | | | | | | | | \$6,886,030 | \$2,886,530 | \$12,692,660 | \$15,579,190 | \$3,799,500 | \$200,000 | 300 | 2,870 | \$5,223 | \$13 | \$26,058 | \$73,325 | 0 | 0 | 0 | | |
| SOUTHWEST REGION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Best Power Int'l (School Sisters) | EP4-5 | Mankato | Southwest | 10/28/15 | complete | EP | 4 | Solar | Installed a 849 kW solar facility at the Mankato campus of the Central Pacific Province of the School Sisters of Notre Dame. | \$900,000 | \$900,000 | \$681,901 | \$1,581,901 | \$0 | \$0 | 849 | 2,333 | \$995 | \$27 | \$107,305 | \$68,201 | | | | | |
| Outland Renewable Energy | EP3-10 | Slayton | Southwest | 4/1/13 | complete | EP | 3 | Solar | Installed 2 MW photovoltaic facility near Slayton, MN to demonstrate the benefits of utility scale use of photovoltaics in Minnesota. | \$2,000,000 | \$2,000,000 | \$4,972,605 | \$6,972,605 | \$0 | \$0 | 2,000 | 12,177 | \$9,732 | \$80 | \$417,216 | \$372,513 | | | | | |
| Xcel Energy | RD3-12 | Beaver Creek | Southwest | 12/19/11 | complete | RD | 3 | Wind | Installed a 1.0 MW sodium sulfur battery adjacent a wind farm to validate the value of energy storage for greater wind energy penetration. | \$1,000,000 | \$1,000,000 | \$3,247,181 | \$4,247,181 | \$0 | \$0 | | | | | | | 1 | 31 | | | |
| Hilltop | EP-26 | Edgerton | Southwest | 3/2/09 | complete | EP | 2 | Wind | Installed a 1.5 MW General Electric wind turbine in Lyon County with 100 percent of the electricity sold to Xcel Energy. | \$1,200,000 | \$1,200,000 | \$2,670,126 | \$3,870,126 | \$0 | \$0 | 2,000 | 31,363 | \$17,498 | \$147 | \$151,164 | \$841,767 | | | | | |
| St. Olaf | EP-39 | Northfield | Southeast | 4/30/07 | complete | EP | 2 | Wind | Installed a 1.65 MW Micon wind turbine on campus. | \$1,500,000 | \$1,500,000 | \$1,063,377 | \$2,563,377 | \$0 | \$0 | 1,650 | 26,913 | \$18,311 | \$86 | \$156,808 | \$823,727 | | | | | |
| Rural Advantage | RD-27 | Luverne | Southwest | 4/12/09 | complete | RD | 2 | Biomass | Demonstrated the commercial production of Miscanthus as a biomass fuel for electric generation. | \$318,800 | \$318,800 | \$348,887 | \$667,687 | \$0 | \$0 | | | | | | | | | 1 | | |
| Ag. Utilization Research Institute | RD-69 | Beaver Creek | Southwest | 9/8/08 | complete | RD | 2 | Biomass | Conducted a feasibility study to couple bio-diesel and wind generation systems to "farm" wind power. | \$760,000 | \$760,000 | \$8,829 | \$768,829 | \$0 | \$0 | | | | | | | | | | | |
| Project Resource Corp | AW-03 | Chandler | Southwest | 5/31/06 | complete | EP | 1 | Wind | Installed 5.4 MW of wind energy with a new landowner investment model that limits development risk of community shareholders. | \$900,000 | \$900,000 | \$2,700,000 | \$3,600,000 | \$0 | \$0 | 5,400 | 184,480 | \$140,281 | \$694 | \$692,686 | \$5,205,172 | | | | | |
| Pipestone Jasper School | AW-10 | Pipestone | Southwest | 12/31/04 | complete | EP | 1 | Wind | Installed a 900 kW wind turbine adjacent to the Pipestone-Jasper Public High School. | \$752,835 | \$752,835 | \$204,000 | \$956,835 | \$0 | \$0 | 900 | 29,100 | \$0 | \$157 | \$175,280 | \$950,241 | | | | | |
| Economic Benefits for Southwest Region | | | | | | | | | | \$9,331,635 | \$9,331,635 | \$15,896,906 | \$25,228,541 | \$0 | \$0 | 12,799 | 286,365 | \$186,817 | \$1,192 | \$1,700,459 | \$8,261,622 | 1 | 31 | 1 | | |
| METRO REGION | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Crown Hydro | AH-01 | Minneapolis | Twin Cities | 1/20/20 | current | EP | 1 | Hydro | Install 3.2 MW of hydroelectric capacity on the Mississippi River in downtown Minneapolis. | \$5,100,000 | \$1,538,591 | \$2,612,647 | \$4,151,238 | \$3,561,409 | \$0 | | | | | | | | | | | |
| Innovative Power Systems | EP4-11 | St. Paul | Twin Cities | 4/12/18 | current | EP | 4 | Solar | Install 967 kW of solar capacity at four sites within the Innovative Energy Corridor. | \$1,850,000 | \$1,850,000 | \$1,191,162 | \$3,041,162 | \$0 | \$0 | 968 | 681 | \$0 | \$15 | \$14,923 | \$19,901 | | | | | |
| Metropolitan Airports Commission | EP4-13 | Bloomington | Twin Cities | 6/10/16 | complete | EP | 4 | Solar | Installed a 1.471 MW fixed-tilt solar facility on the Blue parking ramp at Terminal One of MPS airport. | \$2,022,507 | \$2,022,507 | \$5,590,574 | \$7,613,081 | \$0 | \$0 | 1,471 | 2,840 | \$0 | \$33 | \$136,406 | \$83,013 | | | | | |
| Minnesota Renewable Energy Society | EP4-15 | Minneapolis | Twin Cities | 7/17/19 | current | EP | 4 | Solar | Install both a rural and urban solar garden totaling 1.0 MW of photovoltaic capacity to observe differences in subscriber interest. | \$2,661,320 | \$0 | \$138,828 | \$138,828 | \$2,661,320 | \$0 | | | | | | | | | | | |
| Target Corporation | EP4-20 | St. Paul | Twin Cities | 10/1/17 | current | EP | 4 | Solar | Install a 350 kW roof-mounted, fixed-tilt photovoltaic facility on the Target Superstore. | \$583,513 | \$583,513 | \$477,421 | \$1,060,934 | \$0 | \$0 | 428 | 1,069 | \$0 | \$13 | \$25,406 | \$31,265 | | | | | |
| Minneapolis Park & Rec. Board | EP4-22 | Minneapolis | Twin Cities | 12/28/17 | current | EP | 4 | Solar | Install 200 kW of PV capacity at seven locations within the Minneapolis park system to demonstrate the effectiveness of alternative solar designs. | \$969,741 | \$0 | \$727,305 | \$727,305 | \$969,741 | \$0 | 178 | 288 | \$0 | \$3 | \$11,055 | \$8,431 | | | | | |
| City of St. Paul | EP4-34 | St. Paul | Twin Cities | 6/9/17 | current | EP | 4 | Solar | Install a 105 kW fixed-tilt photovoltaic facility at CHS Field. | \$555,750 | \$555,750 | \$40,886 | \$596,636 | \$0 | \$0 | 104 | 167 | \$0 | \$3 | \$10 | \$4,880 | | | | | |
| University of Minnesota (Gasification) | RD4-1 | Minneapolis | Twin Cities | 1/4/20 | current | RD | 4 | Biomass | Development and fabrication of a gasification method based on microwave heating for distributed generation of electricity from biomass and at the site of biomass generation. | \$999,999 | \$139,221 | \$0 | \$139,221 | \$860,778 | \$0 | | | | | | | | 3 | | | |
| University of Minnesota (Noise) | RD4-12 | Minneapolis | Twin Cities | 9/2/18 | current | RD | 4 | Wind | Research the sources and quality of wind turbine sound and the thresholds of potential health impacts on humans. | \$625,102 | \$312,351 | \$7,322 | \$319,673 | \$312,751 | \$0 | | | | | | | | | 4 | | |
| University of Minnesota (VWS) | RD4-13 | Minneapolis | Twin Cities | 6/2/20 | current | RD | 4 | Wind | Augment the predictive capabilities of the Virtual Wind Simulator by adding an aeroelastic model and integrating advanced turbine control algorithms. | \$1,391,684 | \$500,140 | \$0 | \$500,140 | \$891,544 | \$0 | | | | | | | | | | | |

| Project Name | Contract | Project Site | | Project End Date | Status | Type | Cycle | Resource | Project Description | RDF Award | Grant Funds Disbursed | Funding | | Current Grant Balance | Deobligated Funds | Power Development | | REC's | Externalities | | | Intellectual Property | | | | | |
|---|----------|---------------------|--------------|------------------|----------|------|-------|----------|---|---------------------|-----------------------|----------------------|---------------------|-----------------------|-------------------|-------------------|------------------|----------------|--------------------|---------------------|----------------|-----------------------|---------------|-------------|---|---|---|
| | | City | Zone | | | | | | | | | Leverage Funds | Total Costs | | | Capacity (kW) | Generation (MWh) | | Enviro | Avoided Capacity | Avoided Energy | Articles | Presentations | Patent Apps | | | |
| University of Minnesota (Koda) | RD3-1 | Shakopee | Twin Cities | 1/22/15 | complete | RD | 3 | Biomass | Development of a production, pre-processing and delivery system for biomass feedstock's from prairie and grasslands. | \$992,989 | \$976,743 | \$1,391,643 | \$2,368,386 | \$0 | \$16,246 | | | | | | | 1 | 4 | | | | |
| SarTec Corporation | RD3-2 | Anoka | Twin Cities | 7/11/11 | complete | RD | 3 | Biofuel | Researched the growth of algae fed on CO2 from flue gas and extracted the algae oils for conversion into a marketable biodiesel product. | \$350,000 | \$350,000 | \$0 | \$350,000 | \$0 | \$0 | | | | | | | | | | | | |
| Bepex International | RD3-4 | Minneapolis | Twin Cities | 7/28/11 | complete | RD | 3 | Biomass | Demonstrated terra-faction and densification as processes to reduce transportation and storage costs associated with biomass feedstock. | \$924,671 | \$924,671 | \$0 | \$924,671 | \$0 | \$0 | | | | | | | | | | | | |
| University of Minnesota (Nanocrystals) | RD3-25 | Minneapolis | Twin Cities | 12/26/11 | complete | RD | 3 | Solar | Developed techniques for controlling microstructures of hydrogenated silicon and improving the grain size of microcrystalline silicon PV films. | \$732,032 | \$732,032 | \$0 | \$732,032 | \$0 | \$0 | | | | | | | 3 | 8 | | | | |
| University of Minnesota (Cropping) | RD3-28 | St. Paul | Twin Cities | 9/22/13 | complete | RD | 3 | Biomass | Developed guidelines for accurate management of biomass removal and maintenance of soil quality. | \$979,082 | \$979,048 | \$0 | \$979,048 | \$0 | \$34 | | | | | | | | 5 | 7 | | | |
| University of Minnesota (Wind) | RD3-42 | Minneapolis | Twin Cities | 8/7/13 | complete | RD | 3 | Wind | Developed and tested a Virtual Wind Simulator to provide accurate wind turbulence predictions. | \$999,999 | \$999,598 | \$286,199 | \$1,285,797 | \$0 | \$401 | | | | | | | | 10 | 13 | | | |
| Lower St. Anthony Falls | EP-34 | Minneapolis | Twin Cities | 1/31/12 | complete | EP | 2 | Hydro | Restored 9.176 MW hydroelectric generating capacity at the Lower St. Anthony Falls by using run-of-river technology. | \$2,000,000 | \$2,000,000 | \$37,993,881 | \$39,993,881 | \$0 | \$0 | 9,176 | 235,500 | \$196,363 | \$1,337 | \$1,203,854 | \$6,033,513 | | | | | | |
| University of Minnesota | RD-29 | Minneapolis | Twin Cities | 9/24/08 | complete | RD | 2 | Biomass | Researched operation of turbo-generators using biomass-derived oils. | \$299,284 | \$299,284 | \$0 | \$299,284 | \$0 | \$0 | | | | | | | | | | | | |
| University of Minnesota | RD-56 | St. Paul | Twin Cities | 4/16/08 | complete | RD | 2 | Biomass | Developed model to evaluate options to optimize combustion and electricity generation in ethanol plants. | \$858,363 | \$803,246 | \$0 | \$803,246 | \$0 | \$55,117 | | | | | | | 7 | 7 | | | | |
| Windlogics | RD-57 | St. Paul | Twin Cities | 11/11/08 | complete | RD | 2 | Wind | Defined, designed, built and demonstrated a complete wind power forecasting system. | \$997,000 | \$997,000 | \$141,437 | \$1,138,437 | \$0 | \$0 | | | | | | | | | 1 | | | |
| Center for Energy Environment | RD-94 | Minneapolis | Twin Cities | 10/12/07 | complete | RD | 2 | Biomass | Developed two web-based programs for planning and development of biomass resources in Minnesota. | \$397,500 | \$397,500 | \$42,115 | \$439,615 | \$0 | \$0 | | | | | | | | | | | | |
| MN Dept. of Commerce | AS-05 | St. Paul | Twin Cities | 9/1/08 | complete | EP | 1 | Solar | Provided rebates of up to \$8,000 for small photovoltaic installations that are wired into the electrical grid. | \$1,150,000 | \$1,150,000 | \$0 | \$1,150,000 | \$0 | \$0 | 960 | 14,115 | \$0 | \$73 | \$444,862 | \$525,254 | | | | | | |
| Science Museum | AS-06 | St. Paul | Twin Cities | 12/31/03 | complete | EP | 1 | Solar | Installed a 9 kW solar roof to demonstrate a Zero Energy Building for the Minnesota Science Museum. | \$100,000 | \$100,000 | \$63,300 | \$163,300 | \$0 | \$0 | 9 | 124 | \$0 | \$0 | \$1,930 | \$5,430 | | | | | | |
| Sebesta Blomberg | BB-03 | Roseville | Twin Cities | 9/30/03 | complete | RD | 1 | Biomass | Examined the feasibility of a gasification system using the byproducts of an ethanol facility to provide heat and power. | \$738,654 | \$738,654 | \$184,663 | \$923,317 | \$0 | \$0 | | | | | | | | | | | | |
| Energy Performance Systems | BB-06 | Rogers | Twin Cities | 12/15/02 | complete | RD | 1 | Biomass | Conversion design of the NSP Granite Falls coal-fired facility to a biomass system capable of utilizing whole trees. | \$266,508 | \$257,247 | \$85,056 | \$342,303 | \$0 | \$9,261 | | | | | | | | | | | | |
| University of Minnesota | CW-06 | Minneapolis | Twin Cities | 12/31/06 | complete | RD | 1 | Wind | Designed a flywheel battery system to enhance the ability to dispatch wind energy with inertial storage. | \$654,309 | \$654,309 | \$0 | \$654,309 | \$0 | \$0 | | | | | | | | | | 1 | | |
| Economic Benefits for Metro Region | | | | | | | | | \$40,742,225 | \$30,589,770 | \$53,574,101 | \$84,163,871 | \$10,071,396 | \$81,059 | 15,243 | 265,423 | \$201,878 | \$1,552 | \$2,223,452 | \$6,985,829 | 41 | 105 | 4 | | | | |
| OUT OF STATE | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| InterPhases Solar | RD4-7 | Moorpark, CA | Out of State | 1/12/20 | current | RD | 4 | Solar | Development commercial production process of a thin-film technology by combining all the electrodeposition processes into a single manufacturing process. | \$1,000,000 | \$131,023 | \$0 | \$131,023 | \$868,977 | \$0 | | | | | | | | | | | 2 | |
| Northern Plains Power Tech. | RD3-21 | Brookings, SD | Out of State | 11/11/12 | complete | RD | 3 | Solar | Developed a loss-of-mains detection based on harmonic signature and synchrophasor data. | \$493,608 | \$493,608 | \$240,665 | \$734,273 | \$0 | \$0 | | | | | | | | | | | 4 | 1 |
| InterPhases Solar | RD3-53 | Moorpark, CA | Out of State | 7/20/12 | complete | RD | 3 | Solar | Demonstrated a manufacturing process to produce lightweight, thin-film solar cells. | \$1,000,000 | \$1,000,000 | \$666,021 | \$1,666,021 | \$0 | \$0 | | | | | | | 1 | 5 | | | | |
| University of North Dakota | RD3-71 | Grand Forks, ND | Out of State | 3/23/12 | complete | RD | 3 | Biomass | Demonstrated a thermally integrated biomass gasification systems with a 30 kW low-Btu gas turbine. | \$999,728 | \$999,438 | \$0 | \$999,438 | \$0 | \$290 | | | | | | | 1 | 1 | | | | |
| Energy Conversion Devices | RD-22 | Rochester Hills, MI | Out of State | 10/12/07 | complete | RD | 2 | Biomass | Researched processes to reform bio-ethanol and bio-methanol into hydrogen for use in a fuel cell or gas turbine to generate electricity. | \$900,000 | \$900,000 | \$1,390,015 | \$2,290,015 | \$0 | \$0 | | | | | | | | | | | 6 | |
| Coaltec | RD-26 | Carterville, IL | Out of State | 1/12/07 | complete | RD | 2 | Biomass | Studied handling, performance and emissions to assess feasibility of poultry waste as a sustainable feedstock for a fixed-bed gasifier. | \$450,000 | \$450,000 | \$378,500 | \$828,500 | \$0 | \$0 | | | | | | | | | | | | |
| Production Specialties | RD-72 | Oklahoma City, OK | Out of State | 11/16/09 | complete | RD | 2 | Biomass | Investigated a technology to selectively remove hydrogen sulfide (H2S) from biogas without generating a waste stream. | \$228,735 | \$228,735 | \$263,767 | \$492,502 | \$0 | \$0 | | | | | | | | | | | 1 | |
| Interphases Solar | RD-78 | Moorpark, CA | Out of State | 10/14/08 | complete | RD | 2 | Solar | Developed a concept to manufacture flexible photovoltaic modules in a continuous roll-to-roll electro-deposition process. | \$1,000,000 | \$1,000,000 | \$821,700 | \$1,821,700 | \$0 | \$0 | | | | | | | | | | | 6 | |
| Global Energy Concepts | RD-87 | Lowell, MA | Out of State | 5/7/09 | complete | RD | 2 | Wind | Analyzed and developed advanced methods for reducing uncertainty in wind power estimates. | \$370,000 | \$370,000 | \$28,236 | \$398,236 | \$0 | \$0 | | | | | | | | | | | | |
| NREL - Inkjet Solar Cells | RD-93 | Golden, CO | Out of State | 11/11/08 | complete | RD | 2 | Solar | Designed and developed a thin-film solar cell that will use a direct-write inkjet printing process. | \$1,000,000 | \$949,005 | \$0 | \$949,005 | \$0 | \$50,995 | | | | | | | | | | | | |
| NREL-Low Band Gap-Solar | RD-107 | Golden, CO | Out of State | 12/9/08 | complete | RD | 2 | Solar | Overcome limitations in organic-based solar cells by developing low band gap (red light absorbing) materials. | \$1,000,000 | \$944,452 | \$0 | \$944,452 | \$0 | \$55,548 | | | | | | | | 6 | 2 | | | |
| Iowa State University | RD-110 | Ames, IA | Out of State | 7/12/07 | complete | RD | 2 | Biomass | Performance testing of a particulate filtration clean-up system for the producer gas from a biomass gasifier. | \$405,000 | \$98,343 | \$0 | \$98,343 | \$306,657 | \$306,657 | | | | | | | | | | | | |
| University of ND - Cofiring | BB-09 | Grand Forks, ND | Out of State | 3/31/05 | complete | RD | 1 | Biomass | Measured operational and component impacts of co-firing biomass with coal in an indirect fired combined-cycle pulverized-coal furnace. | \$444,478 | \$444,443 | \$296,219 | \$740,662 | \$35 | \$35 | | | | | | | | | | | | |
| Community Power Corp. | BB-10 | Littleton, CO | Out of State | 3/24/05 | complete | RD | 1 | Biomass | Designed, developed, and tested a centrifugal filter capable of removing sub micron particles and aerosols from a hot producer bio-gas stream. | \$638,635 | \$548,692 | \$133,054 | \$681,746 | \$89,943 | \$89,943 | | | | | | | | | | | | |
| University of ND - SCR Performance | BB-12 | Grand Forks, ND | Out of State | 6/30/06 | complete | RD | 1 | Biomass | Examined the rates and mechanisms of catalyst deactivation within the emissions from a biomass co-fired utility boiler. | \$60,000 | \$59,973 | \$340,000 | \$399,973 | \$27 | \$27 | | | | | | | | | | | | |
| Colorado School of Mines | CB-07 | Golden, CO | Out of State | 12/31/07 | complete | RD | 1 | Biomass | Developed a fuel cell prototype for use in ambient or high temperatures. | \$1,116,742 | \$1,116,742 | \$0 | \$1,116,742 | \$0 | \$0 | | | | | | | | | | | | |
| University of ND - SOFC | CB-08 | Grand Forks, ND | Out of State | 10/31/07 | complete | RD | 1 | Biomass | Incorporated solid oxide fuel cells (SOFCs) and gasification into one integrated system to produce electricity. | \$1,250,142 | \$1,250,142 | \$885,928 | \$2,136,070 | \$0 | \$0 | | | | | | | | | | | 1 | |
| NREL | CS-05 | Golden, CO | Out of State | 7/9/07 | complete | RD | 1 | Solar | Design and develop of solutions and techniques to use an inkjet printing process for the manufacturing of thin-film solar cells. | \$934,628 | \$924,757 | \$0 | \$924,757 | \$9,871 | \$9,871 | | | | | | | | | | | | |
| Global Energy Concepts | CW-02 | Lowell, MA | Out of State | 10/1/03 | complete | RD | 1 | Wind | Translated the effects of a turbine's rotating flexible blades into a linear model for use in wind turbine design software. | \$75,000 | \$73,239 | \$0 | \$73,239 | \$1,761 | \$1,761 | | | | | | | | | | | | |
| Economic Benefits for Out of State Area | | | | | | | | | \$13,366,696 | \$11,982,592 | \$5,444,105 | \$17,426,697 | \$1,277,271 | \$515,127 | 0 | 0 | \$0 | \$0 | \$0 | \$0 | 8 | 27 | 2 | | | | |
| TOTAL ALL PROJECTS | | | | | | | | | \$102,648,141 | \$78,559,708 | \$112,781,386 | \$191,341,094 | \$21,817,988 | \$2,684,863 | 29,448 | 561,759 | \$398,627 | \$2,800 | \$4,189,862 | \$15,517,524 | 59 | 198 | 8 | | | | |

RDF advisory group

- Joe Sullivan¹, manager strategic relations
Center for Energy and Environment
Representing the environmental community
- Jessica Tritsch², senior campaign representative
Sierra Club
Representing the environmental community
- Lise Trudeau, engineer
Minnesota Division of Energy Resources
Representing residential customers
- Samuel Harper³, regional energy manager
Gerdau
Representing commercial and industrial customers
- Heather Westra
Representing Prairie Island Indian community
- Kevin Schwain, manager emerging customer program
NSP-Minnesota
Representing NSP-Minnesota
- Tami Gunderzik, senior manager product portfolio
NSP-Minnesota
Representing NSP-Minnesota

RDF Administration

- Bria Shea, program manager
- Mark Ritter, grant administrator

¹ In October 2017 Mr. Sullivan requested a leave of absence. Mike Bull with the Center for Energy and Environment has been appointed to serve during Mr. Sullivan's absence.

² In December 2017 Ms. Tritsch was selected to fill the vacancy created when Michelle Rosier resigned in December 2016.

³ In February 2017 Mr. Harper was selected to fill the vacancy created when Cam Winton resigned in December 2016.

RENEWABLE DEVELOPMENT FUND FINANCIAL STATEMENT
As of December 31, 2017

| | 2001 - 2016 | 2017 | Since RDF Inception (2001-2017) |
|-----------------------------------|----------------------|---------------------|------------------------------------|
| Total RDF Credits * | \$301,350,000 | \$25,600,000 | \$326,950,000 |
| | | | |
| Excelsior | \$10,000,000 | \$0 | \$10,000,000 |
| Energy Production Grants | \$27,173,013 | \$2,545,280 | \$29,718,293 |
| Research Grants | \$36,921,855 | \$1,920,089 | \$38,841,944 |
| Total RDF Grant Payments | \$74,094,868 | \$4,465,369 | \$78,560,237 |
| Administrative Costs | \$2,282,705 | \$17,051 | \$2,299,756 |
| University of Minnesota | \$25,000,000 | \$0 | \$25,000,000 |
| REPI | \$90,630,457 | \$1,169,306 | \$91,799,763 |
| Solar Rebates | \$40,138,453 | \$14,610,677 | \$54,749,130 |
| Other Legislative Mandates | \$25,451,809 | \$0 | \$25,451,809 |
| Total RDF Costs | \$257,598,292 | \$20,262,403 | \$277,860,695 |

SUMMARY OF RDF PROGRAM FUNDS

| | |
|--|-----------------------------|
| Total Amount Credited to RDF | \$326,950,000 |
| Total RDF Payments | \$277,860,695 |
| Total Amount of Grant Awards | \$104,381,687 |
| Amount of Grant Awards Paid | \$78,560,237 |
| Cumulative Cask Credits Uncollected and Unexpended | \$23,267,855 ⁽¹⁾ |
| Balance of RDF | - 0 - |

⁽¹⁾ Cask credits that were not collected from customers and not obligated prior to law change

| RDF Congressional Districts (1/1/2017 - 12/31/2017) | | | | | | | | | |
|---|-------------|------|-------|--------------------|-----------|------------------------------|-----------------|---------------------------------|--|
| RDF Contract | Grant | Type | Cycle | Renewable Category | Host Site | | Project Sponsor | | |
| | | | | | District | Location | District | Organization | |
| District 1 | | | | | | | | | |
| EP4-24 | \$1,106,600 | EP | 4 | Solar | MN06 | Lincoln, Lyon, Pipestone Co. | OK | Bergey Windpower, Norman | |
| EP4-29 | \$1,650,000 | EP | 4 | Solar | MN01 | Dodge City | MN03 | Dragonfly Solar, Lakeville | |
| HE4-1 | \$5,500,000 | HE | 4 | All | MN01 | Minnesota State, Mankato | MN04 | City of St. Paul | |
| RD4-14 | \$161,081 | RD | 4 | Wind | MN01 | Grand Meadows, Nobles Co. | MN05 | Barr Engineering, Minneapolis | |
| District 2 | | | | | | | | | |
| RD3-77 | \$1,000,000 | RD | 3 | Biomass | MN02 | P & J Farms, Northfield | IL | Coaltec Energy USA, Carterville | |
| EP4-15 | \$2,661,320 | EP | 4 | Solar | MN02 | Northfield | MN05 | MRES, Minneapolis | |
| EP4-29 | \$1,650,000 | EP | 4 | Solar | MN01 | Dodge City | MN03 | Dragonfly Solar, Lakeville | |
| RD4-2 | \$982,408 | RD | 4 | Solar/Wind | MN02 | WCROTC, Morris | MN05 | U of M, Minneapolis | |
| RD4-8 | \$1,999,500 | RD | 4 | Biomass | MN02 | MSW Campus, Red Wing | MN02 | City of Red Wing | |
| District 4 | | | | | | | | | |
| EP4-11 | \$1,850,000 | EP | 4 | Solar | MN04 | EIC, St. Paul | MN05 | IPS, Minneapolis | |
| EP4-20 | \$583,513 | EP | 4 | Solar | MN04 | Midway Superstore, St. Paul | MN05 | Target, Minneapolis | |
| EP4-34 | \$555,750 | EP | 4 | Solar | MN04 | CHS Field, St. Paul | MN04 | City of St. Paul | |
| HE4-1 | \$5,500,000 | HE | 4 | All | MN05 | Century College | MN04 | MnSCU, St. Paul | |
| HE4-2 | \$2,157,215 | HE | 4 | All | MN05 | UST, St. Paul | MN05 | UST, St. Paul | |
| HE4-3 | \$3,000,000 | HE | 4 | All | MN05 | U of M, Minneapolis | MN04 | U of M, St. Paul | |
| District 5 | | | | | | | | | |
| AH-01 | \$5,100,000 | EP | 1 | Hydro | MN05 | Crown Hydro, Minneapolis | MN05 | Crown Hydro, Minneapolis | |
| EP4-11 | \$1,850,000 | EP | 4 | Solar | MN04 | EIC, St. Paul | MN05 | IPS, Minneapolis | |
| EP4-15 | \$2,661,320 | EP | 4 | Solar | MN05 | North Minneapolis | MN05 | MRES, Minneapolis | |
| EP4-20 | \$583,513 | EP | 4 | Solar | MN04 | Midway Superstore, St. Paul | MN05 | Target, Minneapolis | |
| EP4-22 | \$969,741 | EP | 4 | Solar | MN05 | MPRB, Minneapolis | MN05 | MPRB, Minneapolis | |
| RD4-1 | \$999,999 | RD | 4 | Biomass | MN05 | U of M, Minneapolis | MN05 | U of M, Minneapolis | |
| RD4-2 | \$982,408 | RD | 4 | Solar/Wind | MN02 | WCROTC, Morris | MN05 | U of M, Minneapolis | |
| RD4-7 | \$1,000,000 | RD | 4 | Solar | CA/MN05 | InterPhases/U of M | CA | InterPhases, Moorpark | |
| RD4-11 | \$1,899,449 | RD | 4 | Biomass | MN08 | NRRI, Coleraine | MN05 | U of M, Minneapolis | |
| RD4-12 | \$625,102 | RD | 4 | Wind | MN05 | U of M, Minneapolis | MN05 | U of M, Minneapolis | |
| RD4-13 | \$1,391,684 | RD | 4 | Wind | MN05 | U of M, Minneapolis | MN05 | U of M, Minneapolis | |
| RD4-14 | \$161,081 | RD | 4 | Wind | MN01 | Grand Meadows, Nobles Co. | MN05 | Barr Engineering, Minneapolis | |
| HE4-3 | \$3,000,000 | HE | 4 | All | MN05 | U of M, Minneapolis | MN04 | U of M, St. Paul | |
| District 6 | | | | | | | | | |
| EP4-24 | \$1,106,600 | EP | 4 | Solar | MN06 | Stearns, Sherburne, Meeker | OK | Bergey Windpower, Norman | |
| HE4-1 | \$5,500,000 | HE | 4 | All | MN05 | St. Cloud State, St. Cloud | MN04 | City of St. Paul | |
| District 8 | | | | | | | | | |
| RD4-11 | \$1,899,449 | RD | 4 | Biomass | MN08 | NRRI, Coleraine | MN05 | U of M, Minneapolis | |