



414 Nicollet Mall
Minneapolis, MN 55401

February 17, 2020

—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.

If you have any questions regarding this filing, please contact me at (612) 330-6064 or bria.e.shea@xcelenergy.com.

Sincerely,

/s/

BRIA E. SHEA
DIRECTOR, REGULATORY AND STRATEGIC ANALYSIS

Enclosures

Sen. David J. Osmek
2107 MN Senate Building
St. Paul, MN 55155

Sen. Erik Simonson
2417 MN Senate Building
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Rep. Jean Wagenius
251 State Office Building
St. Paul, MN 55155

Rep. Chris Swedzinski
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Legislative Reference Library
Attn: Chris Steller
645 State Office Bldg
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Xcel Energy
Renewable Development Fund (RDF)

Annual Report to the Minnesota State Legislature

February 17, 2020

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. The annual amount set aside for RDF funding has increased throughout the years as the Company has placed in service more dry cask storage at its Prairie Island and Monticello nuclear generating plants. A cumulative total of \$391.95 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 the 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.

Essentially, the 2017 Legislation created two types of programs under the statute—the legacy RDF legislative mandates and grants (which continue to be referred to as the RDF) and the new RDA, which is funded by the annual transfer to the MMB.

Due to Xcel Energy’s familiarity with the projects funded previously under the legacy 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.

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 two 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.

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 2019 the RDF charge from January 1 to April 30 was \$0.001417 per kWh; and from May 1 to December 31, 2019, the RDF charge was \$0.001357 per kWh.

Since its inception, the RDF program has provided over \$350 million for renewable energy initiatives including \$93 million for Renewable Energy Production Incentive (REPI) payments, \$138 million for legislatively-mandated projects and programs, \$93 million which has been awarded over four grant cycles (see Attachment B - Financial

Statement), and \$2.3 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), \$59 million for the Minnesota Bonus Solar Rebate and Solar Energy Incentive Programs.

In 2012, \$120 million had been appropriated for the Made In Minnesota Solar Energy Production Incentive Account. The 2017 Legislation rescinded this appropriation on a going forward basis. A total of \$48 million was paid into the Made In Minnesota Solar Energy Production Incentive Account. Additional appropriations in 2018 also include \$20 million to the City of Benson and \$34 million to the Laurentian Power Authority. 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, 69 legacy RDF projects have been completed and 12 are active. All Cycle 4 projects that have been awarded RDF grants; have executed grant contracts and project activity has begun.

Table 1: Summary of Project Status

| Type | Completed | Active as of 12/31/2019 | Total |
|------------------------------|-----------|-------------------------|-------|
| Energy Production | 24 | 2 | 26 |
| Research | 45 | 7 | 52 |
| Higher Education Block Grant | 0 | 3 | 3 |
| Total | 69 | 12 | 81 |

Xcel Energy has responsibility for the day-to-day administration of the legacy 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.

The 2017 Legislation struck a provision that referenced the Company’s management of the RDF. Under the 2017 Legislation, there is no entity that “manages” the RDA, but the MMB does “administer” the RDA. The 2017 Legislation also seems to contemplate a new RDA advisory group, potentially with different composition than the legacy RDF advisory group, with more responsibility for preparing the requests for proposals and making funding recommendations to the Company. Because of the lack of clarity, no one has been appointed to the RDA advisory group thus far.

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. The Minnesota Department of Commerce administers this program. REPI payments since program inception have totaled approximately \$93 million.

a. RDF Solar Rebates (Minnesota Bonus)

In 2010, the Minnesota Legislature approved a measure to utilize \$21 million from the RDF program for solar rebates called Minnesota Bonus. This program was available to customers for incentives awarded from 2011 to 2013. The legislation specifies that Xcel Energy would administer the RDF rebates for solar photovoltaic (PV) systems less than 40 kW installed by customers in the Company's Minnesota service territory. The RDF solar rebates were only available for systems that use solar modules manufactured or assembled in Minnesota. Minnesota Bonus rebates were first disbursed in 2011. No additional capacity was awarded since the program closed in 2014. Most of the projects were installed during 2014 and 2015, however a very small number of additional projects continued to be completed. Payments have continued for a total reimbursement of over \$20 million for the program thus far. The Minnesota Bonus provided roughly 6.4 MW of installed capacity from 138 projects.

b. Made in Minnesota (MiM) Solar Incentive Account

Minnesota legislation, Minn. Stat. §216C.417, established a "Made in Minnesota" solar energy production incentive account as a separate account in the special revenue fund in the state treasury in 2013. Beginning January 1, 2014 and each January 1 thereafter, through 2023, for a total of ten years each electric public utility subject to Conservation Improvement Program (CIP) requirements must annually pay to the Commissioner of Commerce five percent of the minimum amount it is required to spend on CIP. Affected utilities are Xcel Energy, Minnesota Power and Ottertail Power. Funds from the RDF, when added to the total amount paid to by the three affected utilities, totals a combined annual payment of \$15.0 million. In 2017, the annual payment obligation under Minn. Stat. §216C.417 was terminated on a going forward basis. The Made in Minnesota program led to an installation of roughly 18 MW of solar capacity from more than 1,300 projects.

In 2013, Minn. Stat. §116C.7792 approved a measure to establish a solar energy incentive program to be operated for five consecutive calendar years beginning in 2014

with no specifications around where panels are manufactured. There have been several changes to this legislation over the years; we have summarized these below:

- Minn. Stat. §116C.7792, as revised by S.F. 1456 in 2017, extended the program through 2021.
- In 2018, H.F. 3232 further revised this statute and increased allowable name plate capacity from 20 kWdc to 40 kWdc . This revision also allows for more than one solar system per premise to be eligible for this incentive program, subject to an aggregate cap of no more than 40 kWdc. Further, the solar system eligible for incentive must be sized to less than 120 percent of the customer’s on-site annual energy consumption when combined with other distributed generation resources.
- In 2019, 1st Special Session, Chapter 7, H.F. No. 2 revised the statute to allow for up to 40 kWac rather than 40 kWdc which essentially increased the nameplate capacity of eligible systems.

Since this program’s inception using RDF/RDA funding in 2014, 14.4 MW of solar have been installed (roughly 2,579 systems).

Grant-Funded RDF Projects

Energy Production: As shown in Table 2, the 31 electric production projects that received RDF grants have resulted in the installation of more than 30.7 MW of renewable energy nameplate capacity and have overall generated a total of 679,189 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 | 3 | 0.30 | 2,868 |
| Hydro | \$44,145,119 | 2 | 9.18 | 305,797 |
| Solar | \$47,489,743 | 22 | 11.26 | 70,193 |
| Wind | \$13,075,483 | 5 | 9.96 | 300,331 |
| Total | \$132,598,321 | 31 | 30.7 | 679,189 |

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. RDF projects have generated RECS which can be used to meet

Xcel Energy’s renewable energy goals and requirements to the benefit of its electric customers.

Research and Development: As shown in Table 3, research and development projects contributed to the development of articles, workshops, and patent applications.

Table 3: Research and Development Projects

| Technology | Total Investment | Published Articles | Presentations/ Workshops | Patent Applications |
|---------------|------------------|--------------------|--------------------------|---------------------|
| Biomass | \$35,424,845 | 23 | 62 | 3 |
| Solar | \$8,357,259 | 10 | 27 | 1 |
| Wind | \$9,833,845 | 12 | 49 | 1 |
| Multiple Tech | \$21,898,047 | 14 | 58 | 3 |
| Total | \$75,513,995 | 59 | 196 | 8 |

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

| Grantee | MN Host | Host Location | Host Activity |
|-----------------------|------------------|------------------------|---|
| Coaltec Energy USA | P & K Farms | Northfield, Minnesota | Pilot demonstration of biomass gasifier |
| University of Florida | Pending Research | West Central Minnesota | Pilot demonstration of anaerobic digester |

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 2019.

| Project Name | Contract | Project Site | | Project End Date | Status | Type | Cycle | Resource | Project Description | RDF Award | Grant Funds Disbursed | Funding | | | | Power Development | | REC's | Externalities | | | Intellectual Property | | | |
|--|----------|--------------------------------------|-------------|------------------|------------|------|-------|------------|---|---------------------|-----------------------|---------------------|---------------------|-----------------------|--------------------|-------------------|------------------|------------------|----------------|--------------------|--------------------|-----------------------|---------------|-------------|--|
| | | City | Zone | | | | | | | | | Leverage Funds | Total Costs | Current Grant Balance | Deobligated Funds | Capacity (kW) | Generation (MWh) | | Enviro | Avoided Capacity | Avoided Energy | Articles | Presentations | Patent Apps | |
| CENTRAL REGION | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Minnesota (Dairy) | RD4-2 | Morris | Central | 2/28/20 | 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 | \$683,970 | \$218,815 | \$902,785 | \$298,438 | \$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 | 1,540 | \$474 | \$24 | \$64,948 | \$34,228 | | 2 | | |
| Best Power Int'l (St. John's Expansion) | EP4-6 | Collegeville | 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 | 1,195 | \$567 | \$16 | \$37,675 | \$34,965 | | | | |
| Best Power Int'l (St. John's) | EP3-3 | Collegeville | 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 | 5,930 | \$3,417 | \$51 | \$169,624 | \$174,045 | | | | |
| 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 | \$7,354,993 | \$4,673,759 | \$12,028,752 | \$304,562 | \$270,155 | 981 | 8,665 | \$4,458 | \$91 | \$272,247 | \$243,238 | 6 | 32 | 0 | |
| NORTH REGION | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Minnesota (Torrefaction) | RD4-11 | Coleraine | North | 6/3/2020 | current | RD | 4 | Biomass | Demonstrate a prototypic torrefaction bioconversion process and distributed electric generation. | \$1,899,449 | \$1,524,280 | \$446,053 | \$1,970,333 | \$375,169 | \$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 (Ligufication) | 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 | | |
| Region 5 Development Commissin | EP4-44 | Staples | North | 7/9/19 | complete | EP | 4 | Solar | Install 100 kW solar capacity at two public schools and multiple community college campuses in Crow Wing and Todd Counties. It will include roof and ground mount systems. | \$1,993,650 | \$1,993,660 | \$1,353,891 | \$3,347,551 | \$0 | \$0 | | | | | | | | | | |
| Economic Benefits for Northeast Region | | | | | | | | | | \$18,891,028 | \$16,912,372 | \$19,723,884 | \$36,636,256 | \$375,169 | \$1,603,488 | 0 | 0 | \$0 | \$0 | \$0 | \$0 | 3 | 3 | 1 | |
| STATEWIDE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bergey Windpower Company | EP4-24 | St. Cloud/ Marshall areas | Statewide | 11/24/20 | current | EP | 4 | Wind | 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 | \$328 | \$602 | | | | |
| Minnesota State Colleges & Universities | HE4-1 | St. Paul - hdqtr | Statewide | 5/31/20 | current | HE | 4 | All | Created a research program to stimulate the development of renewable energy technologies withi Minnesota. | \$5,500,000 | \$5,500,000 | \$0 | \$5,500,000 | \$0 | \$0 | | | | | | | | | | |
| MN DNR | EP3 - 13 | Afon, 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 | 1022 | \$699 | \$9 | \$39,933 | \$29,165 | | | | |
| Economic Benefits for Statewide Projects | | | | | | | | | | \$7,500,600 | \$6,378,966 | \$2,124,457 | \$8,503,423 | \$1,106,600 | \$15,034 | 124 | 1,045 | \$699 | \$9 | \$40,261 | \$29,766 | 0 | 0 | 0 | |
| SOUTHEAST REGION | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coaltec Energy USA | RD3-77 | Northfield | Southeast | 4/22/18 | complete | 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 | complete | EP | 4 | Solar | Install a fixed-tilt 997.5 kW solar array within the footprint of several existing wind farms. | \$1,650,000 | \$1,650,000 | \$607,191 | \$2,257,191 | \$0 | \$0 | 998 | 948 | \$0 | \$21 | \$99,176 | \$27,715 | | | | |
| 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 | \$2,640 | \$980 | \$38,962 | \$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 | \$4,536,530 | \$13,167,836 | \$17,704,366 | \$2,149,500 | \$200,000 | 1,298 | 3,818 | \$2,640 | \$1,001 | \$138,138 | \$101,040 | 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 | 4,380 | \$1,426 | \$72 | \$163,349 | \$128,045 | | | | |
| 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 | 16,575 | \$10,699 | \$175 | \$549,221 | \$501,089 | | | | |
| 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 | 37,057 | \$18,660 | \$270 | \$213,458 | \$988,872 | | | | |
| 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 | 28,921 | \$17,100 | \$130 | \$208,201 | \$875,604 | | | | |
| 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 "firm" 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 | 204,766 | \$116,170 | \$1,134 | \$860,881 | \$5,729,260 | | | | |
| 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 | 33,100 | \$0 | \$244 | \$203,313 | \$1,053,581 | | | | |
| Economic Benefits for Southwest Region | | | | | | | | | | \$9,331,635 | \$9,331,635 | \$15,896,906 | \$25,228,541 | \$0 | \$0 | 12,799 | 324,798 | \$164,055 | \$2,025 | \$2,198,423 | \$9,276,451 | 1 | 31 | 1 | |
| METRO REGION | | | | | | | | | | | | | | | | | | | | | | | | | |
| Crown Hydro | AH-01 | Minneapolis | Twin Cities | 9/1/18 | Terminated | 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 | 0 | \$3,561,409 | | | | | | | | | | |
| Innovative Power Systems | EP4-11 | St. Paul | Twin Cities | 4/12/18 | complete | 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 | 5,121 | \$0 | \$111 | \$78,787 | \$149,704 | | | | |
| 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 | 2,851 | \$7 | \$34 | \$233,495 | \$83,334 | | | | |
| Minnesota Renewable Energy Society | EP4-15 | Minneapolis | Twin Cities | 3/1/20 | 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 | \$111,229 | \$847,867 | \$1,359,096 | \$2,150,091 | \$0 | | | | | | | | | | |
| Target Corporation | EP4-20 | St. Paul | Twin Cities | 10/1/17 | complete | 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 | 1,940 | \$202 | \$32 | \$53,669 | \$56,729 | | | | |
| Minneapolis Park & Rec. Board | EP4-22 | Minneapolis | Twin Cities | 7/15/18 | complete | 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 | \$969,741 | \$727,305 | \$1,697,046 | \$0 | \$0 | 178 | 1,414 | \$128 | \$28 | \$22,797 | \$41,349 | | | | |
| City of St. Paul | EP4-34 | St. Paul | Twin Cities | 10/27/17 | complete | 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 | 351 | \$18 | \$7 | \$6,841 | \$10,259 | | | | |
| University of Minnesota (Gasification) | RD4-1 | Minneapolis | Twin Cities | 5/4/20 | 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 | \$758,690 | \$0 | \$758,690 | \$241,309 | \$0 | | | | | | | | | 3 | |
| University of Minnesota (Noise) | RD4-12 | Minneapolis | Twin Cities | 11/5/19 | complete | RD | 4 | Wind | Research the sources and quality of wind turbine sound and the thresholds of potential health impacts on humans. | \$62 | | | | | | | | | | | | | | | |

RENEWABLE DEVELOPMENT FUND FINANCIAL STATEMENT
As of December 31, 2019

| | 2001 - 2018 | 2019 | Since RDF Inception (2001-2019) |
|-----------------------------------|----------------------|---------------------|------------------------------------|
| Total RDF Credits * | \$359,450,000 | \$32,500,000 | \$391,950,000 |
| | | | |
| Excelsior | \$10,000,000 | \$0 | \$10,000,000 |
| Energy Production Grants | \$32,337,417 | \$3,662,133 | \$35,999,550 |
| Research Grants | \$44,016,174 | \$2,668,717 | \$46,684,891 |
| Total RDF Grant Payments | \$86,353,591 | \$6,330,850 | \$92,684,441 |
| Administrative Costs | \$2,299,756 | \$0 | \$2,299,756 |
| University of Minnesota | \$25,000,000 | \$0 | \$25,000,000 |
| REPI | \$92,640,169 | \$516,297 | \$93,156,466 |
| Solar Rebates | \$57,125,947 | \$2,856,688 | \$59,982,635 |
| Other Legislative Mandates | \$52,946,817 | \$25,895,720 | \$78,842,537 |
| Total RDF Costs | \$316,366,280 | \$35,599,555 | \$351,965,835 |

SUMMARY OF RDF PROGRAM FUNDS

| | |
|--|-----------------------------|
| Total Amount Credited to RDF | \$391,950,000 |
| Total RDF Payments | \$351,965,835 |
| Total Amount of Grant Awards | \$100,670,278 |
| Amount of Grant Awards Paid | \$92,684,441 |
| Cumulative Cask Credits Uncollected and Unexpended | \$31,998,328 ⁽¹⁾ |
| Balance of RDF | - 0 - |

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

\$31,998,328

RDF advisory group

- Lise Trudeau, engineer
Minnesota Division of Energy Resources
Representing residential customers
- Samuel Harper¹, regional energy manager
Gerda
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
- Mike Bull, Director of Policy and Communications
MN Center for Energy and Environment

RDF Administration

- Bria Shea, program manager
- Pamela Gibbs, grant administrator

¹ In February 2017 Mr. Harper was selected to fill the vacancy created when Cam Winton resigned in December 2016.