

## MEMORANDUM

**August 20, 2021**

**RE:** Internal Strategy Memo for NRP Solar Garden Initiative in Minneapolis

CONCEPT. Minneapolis Climate Action (MCA) and Renewable Energy Partners (REP) propose to work with willing neighborhood associations in Minneapolis to invest NRP fund balances and build new solar energy facilities in the city, developed as community solar gardens to benefit primarily low- and moderate-income households.

The strategy is to initially develop model projects at Sabathani with Central, and a parallel project in North Minneapolis with Harrison. These projects will provide the template for other neighborhoods and demonstrate the viability of the proposed model.

To offer the greatest amount of energy savings and benefits to subscribers, NRP funds will be loaned to the solar projects at an interest-only rate of 4.0% for the first five years, with additional financing for projects coming from third-party tax equity investors such as US Bank. After five years, the tax equity investors will divest their interest in the solar projects and project ownership will flip to the neighborhoods, with full repayment of the principal and interest of the NRP loans over the next 20 years.

REP will be responsible for development and construction of the solar energy projects, with links to solar training at the Regional Apprenticeship Training Center (RATC) to maximize the job opportunities installing solar for Minneapolis residents. MCA will serve as the liaison to neighborhood organizations during the development process and will be the administrator of solar gardens once completed.

Rapid implementation of this strategy is necessary in order to capture the 1.5-cent residential adder for the solar garden bill credit that is currently scheduled to expire at the end of 2022. To capture as much of this additional bill credit for subscribers as possible, community solar garden applications will need to be “deemed complete” by Xcel before December 31 next year. The goal is to develop 30.0 MWs of solar, with 24,000 kW of the subscriptions (80%) for neighborhood residents.

Other elements that could be added to the program include back-up subscribers from high-credit partners such as St. Mark’s Episcopal, and bundling of energy efficiency retrofits to reduce overall energy costs and offset an even greater percentage of subscribers’ total energy costs with solar garden bill credits.

The summary of this project’s benefits include:

- Unspent NRP fund balances are put to use, and will generate income that can be used for general neighborhood association expenses.
- Solar garden subscribers will save money on utility bills every month, money that will circulate with local businesses.
- High levels of equity with a certified MBE leading development, and training for solar jobs that targets low-income and BIPOC residents.

- Long-term community ownership of solar energy facilities.
- New solar energy capacity that contributions to meeting the City’s overall goals for use of renewable energy and emissions reductions.
- Community engagement and public education about energy and climate issues.

The following summarizes the capital sources and uses for construction of the projects, and a project operating budget that shows the net benefits to a residential subscriber:

**CAPITAL SOURCES and USES (Nominal 1.0 MW-dc system)**

**Sources**

1,000 kW designed and constructed at \$1.68/watt-dc \$1,680,000.

**Uses**

|  |            |              |
|--|------------|--------------|
| Tax equity (\$1.20 for each \$1.00 of ITC) | \$524,000. |              |
| Debt financed by NRP                       | 1,156,000. | \$1,680,000. |

**OPERATING SUMMARY**

**Revenue**

|                        |            |            |
|------------------------|------------|------------|
| 1,340 MWhs @ \$115/MWh | \$154,100. | \$154,100. |
|------------------------|------------|------------|

**Expenses**

|   |                   |                   |
|---|-------------------|-------------------|
| Bill credits retained 0.0450/kWh        | \$60,300.         |                   |
| Cashflow to tax equity partner (0.0175) | 23,450.           |                   |
| O&M (0.0075)                            | 10,050.           |                   |
| Admin expenses (0.0085)                 | 11,390.           |                   |
| Interest on NRP loan (.0345)            | 46,240.           |                   |
| <b>TOTAL:</b>                           | <b>\$151,430.</b> | <b>\$151,430.</b> |

Net Operating Margin: \$2,670.

**Summary of Benefits:**

Estimated annual benefit for 6.0 kW subscriber: \$360/\$30 per month

Total annual net benefit for 4,000 subscribers (24.0 MWs): \$1,440,000.

Total net benefit over 25 years: \$40,000,000

GHG emissions reduction: 39,600 tons per year, 890,000 tons over 25 years  
 Equivalent to reducing gasoline consumption by 4,500,000 gallons per year  
 Equivalent to planting 100,000 trees per year