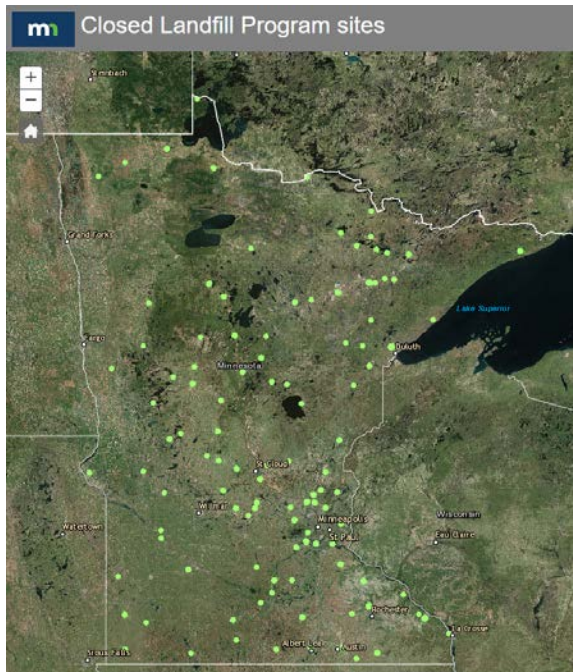


## Minnesota Brightfields Initiative – Solar Development on Closed Landfills

The Metropolitan Council, the SolSmart Program, and their organizational partners have aggregated a state-wide, regional, and national team of public, industry association, and non-profit solar and energy professionals to support an initiative termed the “MN Brightfields Initiative”.



(MPCA – Closed Landfill Program Sites)

<http://mPCA.maps.arcgis.com/apps/Solutions/s2.html?appid=6470bb44bd83497993da5836333d1cb3>

The Minnesota Brightfields Initiative offers cost-free professional, technical, financial, and regulatory expertise, analysis, and aggregation to assist local Minnesota governments and Minnesota state agencies develop solar energy projects on closed landfills enrolled in the Minnesota Pollution Control Agency’s (MPCA) “Closed Landfill Program”. The desired outcomes of this initiative are:

1. Streamlining and increasing development of solar energy production at the 110+ Closed Landfill Program sites through a unified, state-wide, permitting pathway;
2. Creating a replicable framework that can be applied to various situations where there is interest by state or other entities in developing solar energy production projects on such sites; and
3. Mitigating greenhouse gas emissions from such sites, with a specific consideration for mitigating impacts on low income and environmental justice areas, fulfilling the Minnesota Pollution Control Agency’s (PCA) mission to protect human health & the environment.

## Overview of the Barriers to Developing Solar Energy on MN Landfills and Mitigating GHG Emissions

According to a PCA study, its Closed Landfill Program (CLP) sites’ methane and other greenhouse gas emissions constitute 18% of all State agencies’ collective emissions of greenhouse gases. CLP sites are often sited near low income and environmental justice communities, whom bear disproportionate exposure rates. Since October 6, 2017, the MN Brightfields Initiative has been working with the PCA and other state agencies to identify a pathway forward to mitigate the issues found at closed landfills and realize their mutually shared goals. The first step was identifying the major existing barriers:

1. To date, there is no clear and uniformly identified "brightfield" development pathway for either (a) all sites in the closed landfill program, or (b) for each individual site in the closed landfill program. This lack of clarity inhibits greenhouse gas emission progress and business certainty for would-be markets to develop in the state. Investment risks are high for industry participants that try to develop brightfields on a case-by-case basis

2. Similarly, MMB does not have well-versed solar energy experts on their staff, which makes them hesitant to recommend solutions to the complexities of approval for solar projects on CLP sites with General Obligation bonding restrictions
3. Minnesota is the only state that does General Obligation bonding for closed landfills, which may threaten the bonding status of the site if used for a separate, private purpose, such as solar development. New England, on the other hand, is developing large closed landfills with solar and serving the load of adjacent towns and cities with streamlined permitting and other approval processes, with access to private Superfund PRP funding
5. With the entry of Freeway Landfill into the Closed Landfill Program there are now 113 closed landfills in the program. There is 1 more facility that is eligible but has not yet entered the program, enhancing a significant market opportunity in Minnesota for renewable reuse
6. Only about half of the 110 landfills are constrained by the use of state General Obligation bonds, but data is lacking on which portion of each site is GO bond restricted, and what percentage of the land coverage of each site is GO bonded

### **Overview of the New Opportunity: “MN Solar on Closed Landfills Study”**

On May 31, 2019, Governor Tim Walz signed Minnesota’s two-year budget into state law to take the necessary second step: financing a study to overcome the identified barriers. As a part of the Environment and Natural Resources Appropriations portion of the budget ([Sect. 2, Subd. 9](#)), the Minnesota Environmental Quality Board (EQB) was given a one-time appropriation of \$300,000 from the PCA’s remediation fund to “...conduct a study of the potential to deploy solar photovoltaic devices on closed landfill program sites.” By December 1, 2020, the EQB and PCA must consult with the state’s Administration, Commerce, and Management & Budget agencies to provide a “report on the use of properties in the state’s closed landfill program for solar energy production. The report must include:

1. identification and assessment of properties in the closed landfill program with the highest potential for solar energy production;
2. identification of potential barriers to solar energy production and potential ways to address those barriers; and
3. policy recommendations that would facilitate solar energy production on closed landfill program sites in a manner that would contribute to state and local government sustainability goals.”

These three components are straightforward, but there are many potential barriers to realizing them. The third, and final step, to realize Minnesota’s brightfield goals requires three primary, interrelated functions to be performed as a part of the Study (See appendix 1 for expanded details):

1. **DATA COLLECTION & ANALYSIS**
2. **LEGAL REVIEW & ANALYSIS**
3. **PERMITTING PATHWAY PROGRAM DEVELOPMENT**



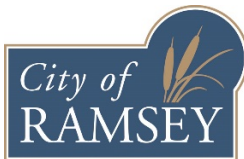
Workers install the last panels as the sun rises over the City of Hutchinson's new solar PV project, the largest on a landfill in Minnesota, and the first ballast-mounted on a brownfield. (<https://www.ci.hutchinson.mn.us/december-2-grand-opening-ceremony-landfill-mounted-solar-pv-system/>)

The Minnesota Solar on Closed Landfill Study is the culmination of 1.5 years of collaboration across the state and nation. \$300,000 is a necessary starting point, but just that, a starting point. The state has until December 1, 2020, to maximize that \$300,000 by identifying and bringing in the right partners, experts, and perspectives to execute this Study and inform development. Contact Cameran Bailey of the Metropolitan Council and MN Brightfields Initiative if you and your organization are interested in aiding.



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**Partners**



## Appendix 1 – Primary Topical Functions Needed in Execution of Solar on Closed Landfill Study

1. **DATA COLLECTION & ANALYSIS:** new fact collection & preexisting agency data analysis, spanning across multiple agencies
  - a. POLLUTION CONTROL AGENCY: Closed Landfill Program site suitability analysis including but not limited to:
    - a. Parcel ownership and delineations
    - b. Landfill “settling policy” status
    - c. General Obligation Bond applicability to each Closed Landfill Program site and bond terms
    - d. Solar suitability assessments, including but not limited to:
      1. Solar potential and feasibility
      2. City, county and citizen education about the solar potential on their landfill sites and polling of interest in developing renewables on the unused land
      3. Local permitting processes and hurdles, if any
      4. Proximity to substations
      5. Proximity to and impact on environmental justice and low-income areas
      6. Proximity to potential public load / public sector energy off-takers
      7. Voltage line rating
      8. Potential project funding and cost savings estimates
  - b. Data collection as needed from the following agencies: MN Management & Budget (MMB), Dept. of Administration, Dept. of Commerce
  - c. Other data collection and analysis as necessary to accomplish Objective
2. **LEGAL REVIEW & ANALYSIS:** A third-party neutral consultant and/or legal counsel to:
  - a. Compile data, review, analyze and report on Closed Landfill Program sites’ legal statuses, with specific consideration of General Obligation Bonding restrictions and safe harbors
  - b. Suggest actions to overcome General Obligation Bonding, and other tax and financial hurdles, at Minnesota’s Closed Landfill Program sites, considering information gathered herein and other resources such as the Minnesota Department of Revenue, the Internal Revenue Service, and other states with existing landfills developed with solar
  - c. Other legal review and analysis as necessary to accomplish Objective
3. **PERMITTING PATHWAY PROGRAM DEVELOPMENT**
  - a. Utilize findings of data collection & analysis, and legal review & analysis, to develop a consistent set of environmental, structural, regulatory, administrative, and other criteria as necessary, by which developers of solar energy at closed landfill program sites may apply for and be granted construction permits
  - b. Coordinate with the relevant local governmental units and agencies to develop the appropriate underlying land use, zoning, and ordinance language and standards to support solar energy development at closed landfill program sites
  - c. Design the permitting program and its associated administrative functions to streamline the permitting process in a way that permit issuance and construction approval are done within a consistent and reliable timeframe
  - d. Utilize the State of Massachusetts’ “SW 36, 37: Landfill Post-Closure Use Permit” program as an end-goal example