



CITY OF DETROIT

COLEMAN A. YOUNG MUNICIPAL CENTER
2 WOODWARD AVE.,
DETROIT, MICHIGAN 48226
WWW.DETROITMI.GOV

Date: July 5, 2024

TO: Hon. Scott Benson, City Council Member, District 3
CC: Hon. Gabriela Santiago Romero, Chair, Public Health & Safety Standing Committee

FROM: Trisha Stein, Chief Strategy Officer
Denise Fair Razzo, Director, Detroit Health Department
Jay Rising, Chief Financial Officer
Conrad Mallett, Corporation Counsel
Antoine Bryant, Director, Planning and Development Department

RE: REQUESTS RELATED TO SOLAR FARMS IN DETROIT

- **Draft Language for Solar Overlay Districts (CPC):** Prepare draft language for establishing solar overlay districts to be submitted to the City Planning Commission for their recommendation to City Council. This should be done on a parallel, but separate, and independent path to the solar farm project. I plan for this language to be ready for future solar farms. The draft should include:
 - **Design Guidelines:** Provide guidelines for design, screening and placement.

The City anticipates that Phase 1 of the City’s Solar Neighborhood project would proceed under the governmental function exemption as previously set forth by the City’s Law Department. The Administration is, however, committed to working with the CPC, City Council and other applicable entities to facilitate implementation of a comprehensive Solar Overlay District on a parallel, but separate, and independent path from the City’s Solar Neighborhood project. The Solar Overlay District would address design, screening, location and other zoning elements and contain a provision that enables the City to voluntarily comply with the terms of the Overlay District for future phasing, upon a vote by the City Council. Otherwise, the City would remain exempt as a governmental function in accordance with current Michigan law. Regardless, the Administration is committed to working with planning staff to ensure the City’s solar project is constructed in a manner that serves the residents and City. In addition, prior to adoption of the Solar Overlay District, the Law Department will propose a minor amendment to the essential service provisions of the City Code, codifying the governmental function exemption in Chapter 50 for solar projects created pursuant to the authority under Article 7, Chapter 9, Public Lighting of the Charter of the City of Detroit, January 1, 2012. This process will allow the City’s solar project Phase 1 to move forward expeditiously, while at the same time ensuring the City has a comprehensive overlay process in place for long range planning.

- **Air Quality and Health Outcomes Study (DHD):** Conduct comprehensive studies on air quality and health outcomes associated with solar farm installation. The studies should include:
 - **Air Quality Assessment:** Evaluate changes in air quality around solar farms and the City of Detroit. No sooner than one year after a solar farm begins to generate energy.
 - **Health Outcomes Analysis:** Assess the health impacts on residents within 1,000 feet of solar farms. No sooner than one year after a solar farm begins to generate energy.
 - **Comparative Analysis:** Compare areas with and without solar farms.



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- **Recommendations:** Provide strategies to maximize health benefits and mitigate any adverse effects.
- **Quantify the Benefits (DHD and Finance):** Collaborate to quantify the value of improved air quality and health.
- **Cost-Benefit Analysis:** Include a cost-benefit analysis of the annual costs of solar farms to Detroit’s general fund vs improved air quality and health benefits.

In terms of quantifying health benefits, the City closed dirty energy production facilities—the Mistersky Power Station was closed in 2010 and the Detroit incinerator stopped operations in 2019 and was demolished in 2022-23—and will now produce clean, renewable energy through the Solar Neighborhood project. The City’s Health Department (DHD) and Office of Sustainability (OOS) will partner with the University of Michigan School for Environment and Sustainability (SEAS) to conduct an air quality assessment of the three phase 1 solar neighborhoods preconstruction and 12 months after the energy generation begins to provide an analysis to City Council. Additionally, DHD shall provide a comparative analysis of health outcomes in solar neighborhoods and non-solar neighborhoods with recommendations one year after energy generation begins.

However, one tool that can be used now is the [EPA’s COBRA tool](#), which we have used for a preliminary analysis. The online tool is available for others to use as well for their own knowledge development. The CO-Benefits Risk Assessment (COBRA) is a screening tool that enables state, local, and tribal government staff and others interested in the effects of air pollution to estimate the air quality and health benefits of different emissions scenarios. The City projects that the solar project will reduce the municipal emissions by 13.6% in Phase 1 and 9.4% in Phase 2. Applying this to the COBRA tool in comparison to coal, Detroit’s solar project will have \$14-24 million of health benefits (reduction in health incidents such as asthma, hay fever, lung cancer; reduction to missed workdays and school days; improved health outcomes).

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	Monetary Value
Total Mortality	
Mortality, All Cause (PM)	
Mortality, O3 Short-term Exposure (O3)	\$220,856.04
Mortality, O3 Long-term Exposure (O3)	\$4,899,598.92
Nonfatal Heart Attacks (PM)	\$39,012.12
Infant Mortality (PM)	\$106,450.92
Total Hospital Admits, All Respiratory	\$2,903.76
Hospital Admits, All Respiratory (PM)	\$2,036.88
Hospital Admits, All Respiratory (O3)	\$866.52
Total Emergency Room Visits, Respiratory	\$2,299.68
Emergency Room Visits, Respiratory (PM)	\$668.88
Emergency Room Visits, Respiratory (O3)	\$1,630.44
Total Asthma Onset	\$299,063.88
Asthma Onset (PM)	\$106,762.32



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Asthma Onset (O3)	\$192,301.56
Total Asthma Symptoms	\$155,694.96
Asthma Symptoms, Albuterol Use (PM)	\$169.92
Asthma Symptoms, Chest Tightness (O3)	\$42,842.16
Asthma Symptoms, Cough (O3)	\$50,547.60
Asthma Symptoms, Shortness of Breath (O3)	\$21,625.92
Asthma Symptoms, Wheeze (O3)	\$40,509.36
Emergency Room Visits, Asthma (O3)	\$4.32
Lung Cancer (PM)	\$1,536.48
Hospital Admits, Cardio-Cerebro/Peripheral Vascular Disease (PM)	\$2,618.64
Hospital Admits, Alzheimers Disease (PM)	\$5,411.88
Hospital Admits, Parkinsons Disease (PM)	\$815.40
Stroke (PM)	\$1,849.68
Total Hay Fever/Rhinitis	\$28,652.40
Hay Fever/Rhinitis (PM)	\$10,136.16
Hay Fever/Rhinitis (O3)	\$18,516.24
Cardiac Arrest, Out of Hospital (PM)	\$444.60
Emergency Room Visits, All Cardiac (PM)	\$354.60
Minor Restricted Activity Days (PM)	\$48,794.76
School Loss Days (O3)	\$418,368.96
Work Loss Days (PM)	\$20,728.08
Total PM Health Effects	
Total O3 Health Effects	\$5,907,668.40
Total Health Benefits-LOW	\$14,147,530.92
Total Health Benefits-HIGH	\$24,768,997.56

- **Letter of Agreement (Law Department):** Draft a letter of agreement between the Planning and Development Department (PDD) and the City Planning Commission (CPC) to formalize collaboration during the solar farm design process.

Please see attached for the draft letter agreement to be finalized and executed between PDD and CPC.

- **Contract Termination Clauses (Law Department):** Walk through the contract termination clause with Councilmember Benson’s office by close of business (COB) July 8, 2024.

This meeting occurred on Friday, July 5, below is a summary of termination clauses per each contract.



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Lightstar Termination Summary:

Cost	Event
Greater of Termination Payment or Fair Market Value as of the year of termination	Termination for Convenience beginning 7 years after start of commercial operations if Solar Project is decommissioned Termination for Convenience of the lease after expiration of VPPA Option of purchase during year 10, 15, 20 or 25

150% of the greater of Termination Payment or Fair Market Value as of the year of termination	Termination for Convenience beginning 7 years after start of commercial operations if Solar Project is not decommissioned if termination is not exercised in year in which City has a right to purchase Termination for Convenience of the lease of the lease after expiration of VPPA
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DTE Termination Summary:

Cost	Event
Termination Fee Schedule (to be reviewed by the MPSC)	City terminates the Agreement for convenience after the Commencement Date The Lease shall terminate upon payment of the Termination Fee

- **What are RECs?**

According to the U.S. [Environmental Protection Agency](#) (EPA), “A renewable energy certificate, or REC, is a market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource.” The EPA also explains that, “Because the physical electricity we receive through the utility grid says nothing of its origin or how it was generated, RECs play an important role in accounting, tracking, and assigning ownership to renewable electricity generation and use. On a shared grid—whether the electricity comes from on-site or off-site resources—RECs are the instrument that electricity consumers must use to substantiate renewable



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electricity use claims.” RECs generated in Michigan are registered in the MiRECs system that is overseen by the Public Service Commission.

Essentially, RECs will be created as the solar project produces electricity and puts green energy into the grid. The City will receive all the RECs from the solar project, which will allow the City to claim that it has offset its electric consumption with renewable energy.

- **How many RECs can be generated by the proposed phase one of the solar farm development?**

Each MWh produced will create 1 REC. The exact number of RECs generated by the proposed solar projects will vary depending on the actual weather and sunlight; however, Phase 1 is estimated to produce 33,650 MWhs annually (and thus 33,650 RECs).

- **Are RECs monetizable?**

Yes, RECs are monetizable and can be traded as a commodity, although the prices are highly volatile and variable based on state and whether there is regulated compliance. These RECs will be either listed/traded on or registered as retired on the MiRECs system, which is privately administered but overseen by state regulators.

- **If yes, will Detroit monetize the RECs?**

The City does not intend to monetize the RECs as we will use the RECs ourselves to offset our emissions. As discussed below, RECs in Michigan currently have limited market value due to the regulatory scheme surrounding green energy generation in our State.

- **If no to question #4, why not?**

Selling the RECs could be used to allow fossil fuel generators to operate longer, which would negate any pollution-reduction benefits we hope to gain. The City does not intend to monetize the RECs as we will use the RECs ourselves to offset our emissions. Since the solar electricity we produce will be added to the grid rather than directly consumed by our buildings, we will require the RECs to meet our emissions reductions goals. Alternatively, if the solar energy were directly consumed by City facilities rather than added to the grid, then no RECs would be created. Lastly, the City does not expect to receive RECs until the proposed solar projects are operational (estimated timing in Fiscal Year 2025). If a sale of RECs was contemplated at that time or in the future, the administration would need Council approval to sell.

- **What is the current market price for RECs?**

In prior years the costs of Mi RECs have been pretty small (approximately \$1) with some variation. With the new laws requiring utilities to have much higher obligations that are met with RECs, as well as more private companies trying to meet climate goals, the prices will likely rise, but it is unlikely that the RECs will become highly valuable.