CITY OF DETROIT

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Date: **July 12, 2024**

TO: **David Whitaker, Director Legislative Policy Division**

FROM: **Trisha Stein, Chief Strategy Officer**
Jay B. Rising, Chief Financial Officer
Conrad Mallett, Corporation Counsel
Steven Watson, Deputy CFO/Budget Director

RE: **Questions from the Legislative Policy Division (LPD) on the Solar Initiative**

Follow-up Questions from the Legislative Policy Division (LPD) on the Solar Initiative LPD thanks the Administration for responding to our first set of questions (second attachment to this email thread) on the solar initiative. However, below are follow-up questions we have on this initiative:

1. **Currently, the City's 127 municipal buildings consume 33 Megawatts (MWs) or 55,800 Megawatt Hours (MWhs)[1] of electricity annually. On average, the City pays DTE approximately $7 million annually to provide this electricity to the City's 127 municipal buildings. Since information on the Phases 1 and 2 of the solar initiative indicated that the initiative would generate 33 MWs or 55,800 MWhs of renewable energy from solar to offset electricity uses at the 127 municipal buildings, LPD assumed the cost of the solar renewable energy would reduce the City's cost of the electricity by roughly 60%[2].**

   However, Jay Rising, CFO, indicated during the Public, Health & Safety Committee meeting on Monday, July 8, 2024, that the Administration believes there is a net cost of Phase 1 of a million dollars on top of what the City pays for electricity from DTE (emphasis added). In other words, Phase 1 of the solar initiative would not reduce current electricity costs but rather add about a million dollars of cost to the City's general fund. (It is important to remind the Council that $1 million for solar projects is budgeted in appropriation 29353 Debt Repayment in department 18-Debt Service & Legacy Pension[3]. If Council were

[1] Based on the Administration's response to LPD's question number 1 (the second attachment to this email thread represents responses to LPD's initial set of questions on the solar initiative), the administration indicated "the City's core municipal operations/facilities consume annually roughly 55,800 Megawatt Hours (MWhs). MWhs are the measurement of electricity consumed or produced. When we refer to a Megawatt, we are referring to the size of an energy production facility. 1 Megawatt (MW) of solar panels will produce 1 MWh per hour in full sunlight. The actual annual production is based on the amount of sunlight each year, which is variable. The City and the Solar providers determined that it would take 33 MW of solar facilities in order to produce on average 55,800 MWhs annually."

[2] More specifically, LPD assumed that the City's annual electric bill for the 127 municipal buildings would go down from $7 million to roughly $2.6 million annually, a 63% reduction. LPD assumed the annual electric bill would reduce to $2.6 million based on the estimated net annual cost of $1.1 million of producing solar renewal energy from Phase 1 and an estimated net annual cost of $1.5 million of producing solar renewable energy from Phase 2 (which is a conservative estimate since Phase 1 would produce 21 MWs of renewable energy and Phase 2 would produce 12 MWs of renewable energy).

[3] If Council approves the Phase 1 of the solar initiative, the Administration would provide City Council a budget amendment to transfer the solar initiative funds of $1 million from the Debt Service & Legacy Pension Department to the Public Lighting Department in the FY 2025 budget since the solar initiative is a Public Lighting Department project.

to approve a Phase 2 of the solar initiative, general fund dollars would have to be found to cover the net annual renewal energy cost under Phase 2.)

Based on Mr. Risings' statement, LPD has the following questions:

a. **On the DTE electric bill for the electricity provided to the 127 municipal buildings, why wouldn't the City see a 100% offset or reduction from the Renewable Energy Credits (RECs) the City would receive from the production of solar renewable energy from Phases 1 and 2 to reduce the DTE bill, if the solar initiative is approved by City Council?**

   Because the solar panels are not directly connected to the City's facilities, the City will not directly consume the electricity and thus will continue to purchase electricity from DTE at current rates. There will be no impact to the cost the City pays for electricity consumption.

   The goal of the solar project is to meet the City's GHG ordinance to reduce its municipal emissions by 35% by 2024 in the most efficient manner. Through the solar project, the City will pay for green energy to be produced and added to the local grid. In exchange for doing so, the City will receive all Renewable Energy Credits (RECs) to officially offset its municipal emissions. RECs are evidence of the production of renewable energy. In and of themselves RECs have minimal monetary value, but the value of the renewable energy sold to the grid will be used as a credit against the costs under the contracts for the production of that energy and thereby lower the cost of that production.

b. **If there would be in fact three bills the City would pay after implementation of the solar initiative, the DTE electric bill, the Lightstar solar renewable energy bill, and the DTE solar renewable energy bill, would there be any opportunity to reduce the DTE electric bill as a result of producing solar renewal energy?**

   As indicated above, the DTE and Lightstar bills for the cost of production of the solar energy would be reduced by a credit for the value of the energy produced. The City's DTE bill for consumption of electricity at our facilities would not be affected.

c. **In the response to question 6 of LPD's initial set of questions, the Administration indicated that of the 127 municipal buildings enrolled in the DTE MiGreen program, these buildings would be eligible for certain credits due to solar production. Is there an effort to enroll all of the 127 municipal buildings in the DTE MiGreen program? How much is the credit, and would it help to reduce the DTE electric bill for these buildings?**

   The MiGreen program is only available for sites that DTE are contracted for – which in Phase 1 is only Van Dyke. The power generated from this site can be used to allocate up to 51% of subscribed facilities. For example, if Van Dyke produces 16,651 MWhs then the facilities enrolled can consume no more than 32,649 MWhs. The City will subscribe facilities to DTE's program so that the electricity generated by the Van Dyke site will represent at least 51% of

the subscribed facilities' consumption. In Phase 1, 69 buildings will be enrolled to meet the 51%.

The purpose of this enrollment is to claim, at a future date, a special credit, called the "avoided cost of compliance" credit which has not yet been authorized by the Michigan Public Service Commission for DTE to provide to certain customers who are generating a substantial portion of their energy needs from renewal sources. This credit, if and when authorized by the MPSC will likely be another credit to the solar energy production bill from DTE. It is not expected to be a credit to our retail bills.

The value of this new avoided cost of compliance credit isn't known yet.

d. Is there a way to store any "excess" solar renewable energy production from the Phase 1 and 2 solar array projects that could be used to further reduce the cost of solar renewal energy, or would the City be required to sell any excess energy to the grid, if the solar initiative is approved by Council?

The City asked for respondents to the RFP to provide the cost for battery storage and all bidders responded that batteries were cost prohibitive.

e. Is the City paying the current DTE electric bill entirely in the Public Lighting Department's budget?

No, the City pays for electricity for streetlights via the Public Lighting Department's budget. City facilities' electricity is paid through the Non-Departmental Centralized Payments account for General Fund department facilities, except for certain independent agencies, and through Non-General Fund departments' budget directly for their respective facilities.

f. Please explain why the Administration feels it's more advantageous to place solar panels on vacant property identified in the proposed solar array areas throughout the City rather than on municipal buildings.

As it will require roughly 200 acres of land to build 33 MWs, the City's rooftop space is insufficient to support the requisite amount of renewable energy to provide the emissions reduction to offset our current use and comply with the GHG Ordinance. The solar project is the best option to meet the City's ordinance requiring a 35% reduction in emissions by 2024. Furthermore, rooftop solar on city facilities would not include any investment in neighborhoods. Investments that include $15-25,000 of energy efficiency upgrades to 159 owner-occupied homes surrounding the arrays and the additional capacity to strengthen the grid in the neighborhoods that will come from upgrading the infrastructure and equipment needed to support the neighborhood solar facilities.

g. **Does the Administration currently receive any interest from developers to add residential developments (single family housing, multi-family housing, etc.) or other industrial uses to the areas slated for the solar array areas?**

No.

2. **Question 17 of LPD's initial set of questions requested for a spreadsheet or document explaining how the $2.4 million in estimated annual savings for service and cost reductions was calculated. The Administration's response was "Most of the estimated savings would occur from the Detroit Land Bank Authority ($0.9 million), the General Services Department ($0.6 million), the Detroit Water and Sewerage Department ($0.4 million), and the Department of Public Works ($0.3 million) activities in the Phase 1 footprint. The savings are driven by reduced need to clear illegal dumping, repair and maintain roads and DWSD infrastructure, maintain and secure land bank and other vacant properties, and tree planting and removal. The remainder would come from Police, Fire/EMS, BSEED, and net property tax gains." The figures represented here equal $2.2 million of the projected $2.4 million in savings for service and cost reductions. Please provide more details on the assumptions behind these services and operational savings numbers.**

Each department provided an estimate for their cost savings. They were asked to review the services they provided to each of the 3 phase 1 solar areas over the past year and to assign a monetary value to those services. The departments were provided with the exact boundaries of each solar area so that they could conduct a full review of the expenditures that would be foregone were the sites converted into solar facilities and no longer needed to be maintained and responded to at its current levels.

The projected departmental cost savings total $2.2 million annually. On top of that, we will collect an average of $200k more each year in property taxes from the solar developments, resulting in the net $2.4 million. Note that in the administration's response to LPD's question #23, we reported that the City would collect an increased $292k in the first year, but that this would decrease over time as the personal property (the solar panels) depreciate, which why we used an average of $200k in the net cost savings analysis.

Responses from July 6 below

Note: The second attachment to this email thread is the "Phase 1 Pricing" chart from the fact sheet entitled "Investing in Neighborhoods Neighborhood Solar Initiative" from the City of Detroit's website. Most questions below are based on this chart and the Solar Initiative documents (i.e., Lightstar solar energy contract for State Fair and Gratiot/Findlay solar array areas; DTE solar energy contract for Airport/Van Dyke Lynch solar array area; Resolution of Necessity; and Resolution to Create and Fund the Solar Equity Fund)

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1. **"Detroit's 127 municipal buildings consume 33 megawatts4 of electricity from traditional sources. Detroit would need to build 200 acres of solar arrays to generate 33 megawatts of renewable energy to offset the power demands of city buildings. Phase 1: The Mayor Friday submitted to City Council the proposals to proceed to build the solar fields in the first 3 neighborhoods, totaling 104 acres. This will start the process of land acquisition, neighborhood community benefits, and solar field installation. Phase 2: By early 2025, the administration will recommend to City Council 3 more neighborhoods from the 8 finalists, allowing the City to build out the entire 200 acres powering 33 megawatts of renewable energy".[5]**

   The initiative will generate renewable energy from solar to offset electricity use at 127 City buildings across Detroit that serve public functions like fire stations, recreation centers and police precincts located throughout Detroit.

   For clarification, the City's core municipal operations/facilities consume annually roughly 55,800 Megawatt Hours (MWhs). MWhs are the measurement of electricity consumed or produced. When we refer to a Megawatt, we are referring to the size of an energy production facility. 1 Megawatt (MW) of solar panels will produce 1 MWh per hour in full sunlight. The actual annual production is based on the amount of sunlight each year, which is variable.

   The City and the Solar providers determined that it would take 33 MW of solar facilities in order to produce on average 55,800 MWhs annually.

2. **Please provide what the City paid to purchase 33 megawatts of electricity from DTE from the grid over the last three years for electricity for these buildings.**

   The City has paid over $21 million to DTE for the last 3 years for electricity. In 2023, the City paid $7.8 million for electricity for the 127 buildings that make up core city operations.

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[4] Watts are a measurement of power, describing the rate at which electricity is being used at a specific moment. For example, a 15-watt LED light bulb draws 15 watts of electricity at any moment when turned on. **Watt-hours** are a measurement of energy, describing the total amount of electricity used over time. Watt-hours are a combination of how fast the electricity is used (watts) and the length of time it is used (hours). For example, a 15-watt light bulb, which draws 15 watts at any one moment, uses 15 watt-hours of electricity in the course of one hour. **Kilowatts and kilowatt-hours** are useful for measuring amounts of electricity used by large appliances and by households. Kilowatt-hours are what show up on your electricity bill, describing how much electricity you have used. One kilowatt (kW) equals 1,000 watts, and one kilowatt-hour (kWh) is one hour of using electricity at a rate of 1,000 watts. New, energy-efficient refrigerators use about 300-400 kilowatt-hours per year. The typical US home uses about 7,200 kilowatt-hours of electricity each year. **Megawatts** are used to measure the output of a power plant or the amount of electricity required by an entire city. One megawatt (MW) = 1,000 kilowatts = 1,000,000 watts. For example, a typical coal plant is about 600 MW in size. Source: Union of Concerned Scientists: How is Electricity Measured? Published July 14, 2008; updated October 22, 2013. https://www.ucsusa.org/resources/how-electricity-measured#:~:text=Megawatts%20are%20used%20to%20measure,plants%20or%20of%20many%20plants.

[5] Article "Mayor Announces First 3 Solar Neighborhoods; tells residents, "you have not been forgotten" on City of Detroit's website. https://detroitmi.gov/news/mayor-announces-first-3-solar-neighborhoods-tells-residents-you-have-not-been-forgotten#:~:text=MENU

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3. **In comparison to information in question 2, what is the estimated total cost of generating 33 megawatts of renewable electric energy from solar panels for the six solar areas under the Solar Initiative? Could solar renewable electric energy fluctuate in prices as current prices from the electric power grid often do?**

   Phase 1 will represent 21 MWs and a projected 33,650 MWhs and will have a net cost of $3.45m before accounting for the expected operational savings. This consists of $5.47m of PPA payments, assuming the base PPA pricing, the City will pay for the production of solar energy and estimated $2.02m that the City will receive from selling the energy into the grid. After projected operational cost savings of $2.39m, the net annual cost to the City is estimated to be $1.06m at the base PPA price. The Lightstar agreement recognizes that certain costs used to create the base PPA price will not be final until a later date and allows for adjustment both upwards and downwards of the initial base PPA price. The upward adjustment is subject to a cap of $8.70/MWh for State Fair and $17.40/MWh for Gratiot Findlay. Lightstar's PPA price will also adjust by 2% per year. DTE has a set price fixed at their Levelized Cost of Energy which can go down but not up.

   Electricity prices do fluctuate. Except for the 2% inflator on the Lightstar contract, PPA prices will not fluctuate per the contracts, so the City will not be at risk of an increasing purchase price of the solar energy. However, the City does enjoy the upside benefit of the price at which it will sell the solar energy, so the City could receive more than $2.02m a year as prices increase. Moreover, the City has the upside of a special credit, called the "avoided cost of compliance" credit on our retail bills. The value of that credit isn't known yet, because it was part of what changed in the newly passed energy law in late 2023, so it hasn't ever been calculated before. That is why it isn't reflected, but it means these arrays will lower the City's electric bills in the future.

   The actual costs for the full 33 MWs will depend on Phase 2, including which sites are selected and what the PPA prices are.

4. **Under the Solar Initiative, the 33 megawatts of solar renewable electricity produced by the solar panels in the six solar array areas would be supplied to DTE's electric grid. DTE would continue to provide electric power to the 127 municipal buildings. But the solar renewable electricity would be the price the City would pay for the 33 megawatts created by the solar panels. The solar renewable electricity would be treated as a "renewable energy credit" on the grid. Is this an accurate description of how the Solar Initiative works?**

   See the response to question 1 for clarification on MWs vs MWhs. The Solar Initiative will guarantee that enough solar energy is produced in Detroit to offset the City's electricity consumption across 127 municipal buildings. The City is paying for this solar power to be produced and in turn will receive the requisite number of Renewable Energy Credits (RECs). 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.

5. **Regarding redundancy or a backup system, if the solar initiative documents are approved by the City Council, would the City be able to switch back partially or fully to purchasing electricity from DTE to**

provide electrical power for the 127 municipal buildings if the solar panels malfunction partially or fully? Where is redundancy covered in the proposed DTE and Lightstar solar power contracts?

There will be no change in how the City's buildings receive electricity, and thus no additional risk of power malfunctions or redundancy. On the other hand, the solar facilities will create more energy in the grid, making the grid itself more reliable. By bringing clean energy generation into the City, this allows us to get increased reliability benefits to the grid of increasing local capacity in the neighborhood (having local generation near our demand).

6. **If the solar panels in the six solar array areas are unable to receive enough Sun rays in a given year to produce 33 megawatts of solar renewable electricity, would the City purchase the necessary electricity from DTE to provide power to the 127 municipal buildings?**

   The solar renewable electricity produced within the six solar array areas do not directly power the 127 municipal buildings, instead it goes into the grid where the energy is sold into the market. DTE will continue to provide electricity for the City buildings and the City will maintain its monthly billings for electricity. The solar produced will be claimed as an offset to the energy consumed. Additionally, the buildings enrolled in the DTE MiGreen program will be eligible for certain credits due to solar production.

7. **According to the Phase 1 Pricing chart (second attachment to this email thread), the three solar array areas under Phase 1 would generate 21 megawatts of solar renewable electricity. That means that three more solar array areas need to only produce 12 megawatts of solar renewable electricity. It seems three more solar array areas on another 100 acres could produce more than 12 megawatts of solar renewable electricity. Is this done in order to produce additional megawatts of solar renewable electricity for back up purposes?**

   The acres needed will be up to 100 acres, during the Phase 2 process an exact amount will be determined that gets the City to its goal of producing 55,800 MWhs.

8. **The OCFO indicated that $23 million is in appropriation 13969 that carried over from prior years for the Public Lighting Department (PLD)/Mistersky decommissioning. Assuming $2 million of the $23 million in appropriation 13969 is used for PLD/Mistersky decommissioning costs, there would remain $21 million in appropriation 13969 that would convert to the Utility Conversion Fund per the Resolution of Necessity. Of the $21 million, it is estimated that $14 million would be used for implementing Phase 1 of the Solar Initiative and $4.4 million for the creation of the Solar Equity Fund for Phase 2 of the Solar Initiative. Please provide an itemization of the costs making up the estimated $14 million in Phase 1 implementation costs. Does this include the potential costs of acquiring property located in the solar areas through the condemnation process?**

   The cost breakdown for Phase 1 is shown in the table below – this does include the costs of acquiring property located in the solar areas through the condemnation process

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Real Estate Services	$ 2,099,124
Legal/Advising	$ 3,075,000
Land Acquisitions	$ 4,566,500
Demolition	$ 2,750,000
Soft Costs	$ 1,280,955
Relocation Benefits	$ 271,300
Total Upfront Site Costs	**$ 14,042,879**

Note: Soft costs include board up, maintenance, water, tax escrow, investor re-establishment, environmental allowance, and deed restriction requirements.

9. **After the estimated $14 million in Phase 1 costs, and $4.4 million in Phase 2 costs are subtracted from the $21 million in appropriation 13969, $2.6 million remains in this appropriation for additional Phase 2 costs, if any. What Phase 1 and Phase 2 costs will not be duplicated if a future Phase 3 is provided?**

   The costs that will not be duplicated if a future Phase 3 is needed are the costs for all owner-occupied homes, which will be paid from the $4.4m Solar Equity Fund. Certain real estate services and legal services for Phase 3 will also have been paid upfront during Phase 1 and Phase 2.

10. **Why is it prudent to potentially use a portion of the $4.4 million in the Solar Equity Fund to purchase homes from homeowners that are in two of the five remaining potential solar areas that will not be selected as part of Phase 2 of the solar initiative? The homeowners in the two potential solar areas that will not be selected as part of Phase 2 could be a part of a Phase 3 that may or may not happen.**

    Establishing the Solar Equity Fund will enable the City to purchase homes from homeowners that reside within the remaining potential solar areas so they do not remain in a limbo period of uncertainty regarding whether their sites will be chosen for Phase 2 or a potential Phase 3. These are all individuals who have expressed support for the purchase of their home for the solar initiative and have already signed letters of intent to sell their homes. These will all be voluntary sales.

11. **Under the second column entitled "Community Benefits" per the Phase 1 Pricing chart, the $950,000 figure in community benefits is identified in the Lightstar contract, but the $612,000 figure is not. Please explain. Likewise, the $1,275,000 figure in community benefits is not in the DTE contract. Please explain.**

    The amount of community benefits is based on a formula described in the contracts and is not final until we determine the number of owner-occupied homes who will participate. The formula is described in Exhibit 4C page 1 of each contract, as well as on page 7, #4 in the Lightstar contract. The Gratiot/Findlay amount based on the contract would be $585,000; the 612,000 included in the documents was based on a preliminary analysis. However, the final numbers will be determined when we finalize the neighborhood agreement.

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12. **Under the third column entitled "Production (MWh)" per the Phase 1 Pricing chart, the projected 10,728.29 production megawatts per hour for the State Fair solar array area is not identified in the Lightstar contract. Similarly, the projected 6,269.00 MWh production for the Gratiot/Finlay solar array area is not identified in the Lightstar contract. Please explain how these production MWh production figures were derived, especially since the Lightstar contract uses kilowatts per hour as the metric for the solar renewable electricity. The 16,651.74 MWh figure for the Airport/ Van Dyke Lynch solar array area fortunately is identified in the DTE contract.**

    These figures are not identified in the contracts as they are estimates of what the solar arrays would produce. Actual production will be based on various factors such as the amount of sunlight, weather, etc. The array sizes were determined off these estimates, production will then vary by month and year. Lightstar using kilowatts per hour as the metric is simply a difference of unit - one kilowatt hour (kWh) is equivalent to 1,000-watt hours, and one megawatt hour (MWh) is equivalent to 1,000 kilowatt hours.

13. **The Lightstar contract indicates that Lightstar will pay interconnection costs for the Solar Projects that will not exceed $2,132,500 for the Gratiot/Findlay site or $1,445,000 for the State Fair site. How do the interconnection costs factor in the Lightstar pricing for providing solar renewable electricity services?**

    Interconnection costs are included in the virtual Power Purchase Agreement (vPPA) price. While the contracts list interconnection costs of $2,132,500 for Gratiot/Findlay and $1,445,000 for State Fair for purposes of establishing the initial base PPA cost, the maximum interconnection costs will be $3,198,750 and $2,167,500 respectively. Exhibit 8 of the Lightstar Contract lists how the PPA price would adjust based on changes in different upfront costs. If interconnection increases to these maximum costs, then the PPA price will increase $0.011/kwh at Gratiot/Findlay and $0.004/kwh at State Fair.

14. **Under the fourth column entitled "MW" per the Phase 1 Pricing chart, please explain the significance of these single MW figures for the three solar array areas. Please explain how they were calculated since they are not identified in the Lightstar and DTE contracts.**

    The significance of the MW figures are to define the size of the solar facilities in terms of capacity or maximum amount of energy the arrays can produce at one time. This determines how many panels are placed within the area and their efficiency. These were calculated to compare the site production to the City's annual electricity consumption.

15. **Under the fifth column entitled "PPA Price" per the Phase 1 Pricing chart, please explain how these figures were calculated since they are not identified in the Lightstar and DTE contracts. These figures are important since these figures multiplied by the production MWh figures in the fourth column produce the annual PPA figures in the sixth column entitled "Annual PPA". The approximate total of $5.5 million in the sixth column represents the estimated annual operating cost for solar renewable electricity from the solar array areas under Phase 1.**

The PPA prices were developed in conjunction with both Lightstar and DTE by site based off solar panel/ equipment costs, cost of construction, site preparation, labor, and all costs related to maintaining and monitoring the system. The price is the fixed price for Lightstar or DTE to have ownership of the solar arrays and produce/sell the electricity. Lightstar's initial fixed price is detailed in the contract under section 4 "Projected Initial Fixed and Total Cost"; they show the prices in $/kwh of $0.1489/kwh at State Fair and $0.153/kwh at Gratiot/Findlay which translates to $148.90/MWh and $153.00/MWh, respectively. In the DTE contract, the PPA price is referred to as the Levelized Cost of Energy (LCOE) and is indicated as $175/MWh under section 3 "Subscriber Requirements".

16. **The seventh column entitled "Projected Revenue" appears to represent the estimated annual renewable energy savings offset. Please explain how these figures were derived and why it is anticipated the six solar array areas can receive these savings annually over the 35-year leases with Lightstar and DTE.**

    While the contractors own the solar arrays, the City will own all the energy produced. Energy production will be sold into the market at wholesale prices which average 6-7 cents/ kWh. The sales of the energy come back to the City as revenue and will be used to offset the amount paid for generating solar renewable electricity. Note that the Lightstar contract is for 25 years, after which point the City will cease purchasing the power and will receive lease payments from Lightstar. The City will also have the option at that time to purchase the solar panels or to continue purchasing the RECs.

17. **The eighth column entitled "Projected Annual Net" represents the Annual PPA figures less the projected revenues or renewable energy savings offset figures for projected annual net operating costs of approximately $3.5 million. From this figure, $2.4 million in estimated annual savings for service and cost reductions for departments across the City is being deducted to produce the $1.1 million in net annual cost of the solar renewable electricity per Phase 1. Please provide a spreadsheet or document explaining how the $2.4 million in estimated annual savings for service and cost reductions was calculated.**

    Most of the estimated savings would occur from the Detroit Land Bank Authority ($0.9 million), the General Services Department ($0.6 million), the Detroit Water and Sewerage Department ($0.4 million), and the Department of Public Works ($0.3 million) activities in the Phase 1 footprint. The savings are driven by reduced need to clear illegal dumping, repair and maintain roads and DWSD infrastructure, maintain and secure land bank and other vacant properties, and tree planting and removal. The remainder would come from Police, Fire/EMS, BSEED, and net property tax gains.

18. **How would the $2.4 million in estimated annual savings for service and cost reductions be captured in the budget to ensure the City is paying the net $1.1 million estimated annual cost?**

    During the annual budget process, the City could utilize all or a portion of these savings to offset the cost of the PPA. This could also choose to reinvest all or a portion of the savings into the respective departments' services outside of the Phase 1 footprint. City Council will have the ability to either reduce departmental budgets or reallocate those services to other areas.

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19. **Under appropriation 29353 Debt Repayment in the FY 2025 budget per department 18 Debt Service & Legacy Pension, cost center 180140 Solar Projects Debt Service contains an annual budget of $1 million for this purpose. It is much more advantageous for the City to not do a bond sale for the Solar Initiative to save on interest costs. If Council approves the Solar Initiative documents for Phase 1, would the OCFO provide a budget amendment to reallocate the budget in cost center 180140 Solar Projects Debt Service to the Public Lighting Department and remove the debt service wording?**

    Yes, the $1 million budgeted under debt service was a placeholder while the Solar Initiative RFP process was ongoing. Actual expenses will now be recorded to the Public Lighting Department, and the OCFO will submit a budget amendment to reallocate once a new cost center is designated.

20. **What is the estimated number of jobs that could be generated if the Council approves the DTE/Lightstar solar power contracts? What are the average wages for these types of jobs? Will the contractors work with Workforce Development to ensure that Detroiters have access to these jobs?**

    Creating a solar array involves multiple phases, each requiring a specific set of skills and offering various job opportunities. Below is an outline of the anticipated workforce development opportunities, including job descriptions and estimated wages – we estimate approximately 100 jobs available for Detroiters (including training) throughout the construction process.

    - **Demolition Workers:** Responsible for tearing down existing structures, clearing debris, and preparing the site for construction.
        - **Wages:** $15 - $25 per hour
    - **Heavy Equipment Operators:** Operate machinery such as bulldozers, excavators, and loaders to clear and level the site.
        - **Wages:** $20 - $35 per hour
    - **Site Supervisors:** Oversee the site preparation process, ensuring safety and efficiency.
        - **Wages:** $25 - $40 per hour
    - **Electricians:** Install wiring systems, connect solar panels to the electrical grid, and ensure all electrical components meet safety standards.
        - **Wages:** $25 - $45 per hour
    - **Solar Rack Installers:** Assemble and install the racking systems that hold the solar panels in place.
        - **Wages:** $18 - $30 per hour
    - **Solar Installers:** Mount solar panels on racks, connect panels to the inverters, and ensure proper alignment and functioning.
        - **Wages:** $20 - $35 per hour
    - **Project Managers:** Plan, coordinate, and manage the installation process, ensuring timely completion and adherence to budget.
        - **Wages:** $35 - $60 per hour

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- **HVAC Installers:** Install and upgrade heating, ventilation, and air conditioning systems to support energy efficiency.
    - **Wages:** $20 - $35 per hour
- **Energy Auditors:** Conduct energy audits to identify inefficiencies and recommend improvements.
    - **Wages:** $25 - $40 per hour
- **Insulation Workers:** Install and replace insulation in buildings to improve energy efficiency.
    - **Wages:** $18 - $30 per hour
- **Home Repair Contractors:** Perform general repairs and upgrades to homes to enhance energy efficiency, including window replacement, sealing leaks, and installing energy-efficient appliances.
    - **Wages:** $20 - $40 per hour
- **Urban Farmers:** Manage and cultivate urban farms, focusing on sustainable practices and integrating solar energy into farming operations.
    - **Wages:** $15 - $25 per hour
- **Agricultural Technicians:** Support urban farming operations by maintaining equipment, monitoring crop health, and implementing farming technologies.
    - **Wages:** $18 - $30 per hour
- **Community Outreach Coordinators:** Work with the community to promote urban farming initiatives, provide education, and encourage participation.
    - **Wages:** $20 - $35 per hour

21. **Have the DTE/Lightstar contractors completed the City's permitting process to operate solar power operations in the City?**
    The contracts require that DTE and Lightstar obtain all necessary permits to construct and operate the solar projects. There will be a few months between approval of the contracts and the date that the City has acquired all the necessary land rights for DTE and Lightstar to begin construction. During that time DTE and Lightstar will be doing considerable design and construction preparation work, including obtaining all necessary City permits.

22. **Have environmental studies been conducted on the eight solar sites to determine if there is a sizable amount of remediation that may need to be conducted on the six sights that would be a part of Phase 1 and Phase 2 of the Solar Initiative?**

    The City has not conducted environmental studies on the solar project sites. The contracts permit DTE and Lightstar to do their own environmental testing, and the City expects that both contractors will obtain Phase I and Phase II environmental site assessments for the sites as part of their regular site diligence. If there are environmental conditions found at the solar sites then there is a process in the contracts for the City to work with DTE or Lightstar and develop an appropriate plan to either remediate the environmental contamination or design the site around any contaminated area.

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23. Is it reasonable to assume that the loss of property tax and income tax revenue is not significant after the property acquisition and condemnation take place, which will result in the six solar areas becoming City-owned property that is exempt from taxation? However, this loss of property tax and income tax revenue could be offset by the amount of property taxes the DTE/Lightstar contractors will pay on the solar panels, which are considered personal property?

Yes, the total City operating property taxes collected on the three Phase 1 sites was $12 thousand in Tax Year 2023. However, we expect to collect $292 thousand in City operating property taxes from the Phase 1 solar sites in year 1, which will decrease over time as the personal property value depreciates. The Phase 1 solar sites impact 21 PREs and 11 non-PREs, and the City will work to keep these residents in Detroit. Thus, we expect the income tax impact to be small. The net impact on tax revenue will be positive.

24. Regarding the Resolution of Necessity, under the acquisition process, will the Administration make a concerted effort to help homeowners subject to relocation buy Detroit Land Bank Authority residential properties?

The Administration will make a concerted effort to help homeowners relocate within Detroit and will provide many options for residential properties, including DLBA homes.