

PROPOSAL

Date: October 20, 2023

To: Director's Office (City of Columbus - Department of Public Utilities)

From: John Seryak, Mohamed Tatari, Peter Worley, Gregory Raffio (Go Sustainable Energy, LLC)

Re: Renewable Energy Procurement, Energy Efficiency, and Utility Programming Support - RFQ022065 - Scope-of-Work and Fee Proposal for Tasks 1-3 - 2024 Calendar Year

This proposal details a scope-of-work and fee for Go Sustainable Energy (Go) to provide "Renewable Energy Procurement, Energy Efficiency, and Utility Programming Support" to the continue supporting the City of Columbus (the City) in response to RFQ022065. This agreement allows Go to advise the Department of Public Utilities (DPU) on various renewable energy, energy efficiency, and other related energy matters that are of interest to DPU, the Division of Power (DOP), Finance and Management, Sustainable Columbus, and/or other City entities.

Table 1 summarizes our proposed hourly not-to-exceed budget for the 2024 calendar year, which was developed based on the prioritized tasks and the rates found in the attached "Schedule 2B Maximum Labor Rates". Our team will invoice for at least \$12,000 each month.

All tasks and subtasks in this proposal are not guaranteed to be completed due to the dynamic nature of each and the City's evolving needs. We will collaborate with our primary point(s) of contact to establish Work Orders to formally allocate the project budget between tasks and subtasks already identified below and others as identified by the City. This process will formalize our scope-of-work and actual task prioritization.

Table 1: Task and Budgetary Fee Summary

Tasks	Budget
1 Renewable Energy Procurement Support	\$95,000
2 Energy Efficiency Support	\$90,000
3 Utility Programing	\$95,000
Total	\$280,000

If DPU requires additional assistance, this proposal may be modified or extended at a future date by both parties. This proposal is valid for 30 days from the date of issuance. This budget may be authorized over multiple contracts and purchase orders by the City of Columbus as needed for their logistics.



Scope-of-Work Options by Task

DPU identified two major task areas in RFQ022065, "Task 1: Renewable Energy Procurement Support" and "Task 2: Energy Efficiency Support", each with a variety of subtasks. Based on discussions with DPU staff and our understanding of DPU priorities, we have added "Task 3: Utility Programing" as an organizational category to document subtasks that involve developing or influencing utility programs such as peak load management, building electrification, transit electrification, or related matters.

Within each task, we document subtasks that we understand as priorities. We also document potential related subtasks or steps within a subtask that are pertinent but have not been included in our current budgetary estimate. Go and the City will collectively refine prioritization during the contract period, respond to new requests, or modify the scope of work.

Task 1 - Renewable Energy Procurement Support & Task 3 - Utility Programing

These are the subtasks that we have currently estimated for inclusion in our 2024 budget, in order of our current understanding of priority. Within multiple of these subtasks, we identify the most likely steps that might be taken in order to optimize impact and budget while allowing for feedback and course-correction.

- Quarterly updates of DOP's economic model (previously developed by Go) as an input to DOP's Pro Forma.
- DOP Distribution circuit capacity analysis and mapping (with subcontractor Patrick Engineering) - Discovery and Roadmapping
 - First, as needed, build on the "Iteration 0" Capacity Spreadsheet and Contingency Analysis for all DOP substations that were completed with last year's proposal.
 - Second, analyze the Climate Action Plan (CAP) to estimate the potential impacts to DOP's system based on goal achievement (i.e. if rooftop solar, EVs, and microgrids are deployed to meet the CAP, what modifications may be needed to DOP's system or processes). Use the high-level circuit spreadsheet to flag if any of the goals would be beyond DOP's system capacity.
 - Third, generate a roadmap documenting the necessary or ideal steps for DOP to succeed in supporting the CAP. This would inform DOP's next steps on Capacity Mapping (i.e. number of circuits, locations, and level of detail), adjusting climate action plans, determining other ways to meet the climate action plan, or planning DOP system upgrades. This should also inform DOP's potential need for connectivity between the electrical engineering system model and DOP's GIS system. Additionally, this scope could compare and identify technologies and / or systems that DOP may consider.



- Fourth, if needed and if budget allows, create more detailed capacity analysis/map for a select number of circuits that would likely be needed to meet EMP goals such as community solar, microgrids, and DPU fleet EV.
- Continued Southerly solar optimization, export analysis, and community solar assistance
 - Continue to work with DOP and relevant stakeholders (such as NREL) to determine the right size solar system, right size a Battery Energy Storage System (BESS) system, right financing approach, and right timing for these systems at the Southerly WWTP.
 - Continue to work with DOP and legal counsel to analyze and address the exports at AEP delivery points that are expected as the Southerly solar system and other DOP onsite generation comes online.
 - Recommend a community solar model for the Southerly WWTP solar system.
- DPU and DOP microgrid analysis
 - First, define microgrid needs and objectives, define "microgrid" and "resiliency" for DOP, perform a resiliency study, define site prioritization metrics, review microgrid technologies, analyze regulatory constraints, and provide tariff recommendations.
 - Second, analyze and prioritize potential microgrid sites, assist in AEP Ohio engagement as needed, prototype conceptual designs, and identify barriers for deployment.
- Analyze and recommend new rate structures, such as Time of Use rates, and opportunities for customer acquisition.

Tasks Currently Not Budgeted, Could Reprioritize

Discussions with DOP have removed the following tasks from the 2024 budget. These tasks could be reprioritized by DOP during 2024 if needed:

- Collaborate on the development of a pilot residential electrification program - The City of Columbus recently participated in the "Shining A Light" project, and received deliverables and data analysis to inform City-level programming to address energy equity, economics, and emissions. As the designers and technical team behind this project, Go and DOP have access to significant quantities of data that can inform DOP on a variety of aspects of residential electrification.
 - Identify homes with identifying characteristics (i.e. does the home have air conditioning or gas heat)
 - Evaluate DOP and customer economics from various forms of electrification
 - Evaluate the potential impact of additional energy efficiency measures (i.e. smart thermostats)
- DOP large commercial and industrial (C&I) peak load management program
 - Identify top customers



- Quantify potential DOP and customer savings including impact of PLCs and NSPLs
- Review other utility programs for suggestions of program establishment and management
- Assist with DOP with understanding its Municipal EV Fleet goal across the spectrum of converting DPU-owned vehicles to electric equivalents, installing electric vehicle charging at DPU, DOP, or related sites, and how DOP would assess the costs of charging.
 - Meet with DOP and other appropriate stakeholders to understand the current municipal EV fleet "EMP" that requires converting 100% of municipal light duty passenger vehicles owned by Department of Public Utilities by 2030. The current fleet identified includes the following vehicles:
 - 156 for the Department of Sewers and Drains
 - 168 for Division of Water
 - 21 for Division of Power
 - Analyze the impact of fleet electrification to each major site and / or meter that houses fleet vehicles including potential high-level impacts on facility energy use and electrical site infrastructure.
 - Analyze DOP and "customer" economics and document preliminary tariff options for DOP's consideration (for example, DOP and its fleet customers might mutually benefit from a tariff that avoids charging during specific grid peaks.)
 - If needed, identify electric vehicle infrastructure "ownership options".

Task 2: Energy Efficiency Support

This is the primary subtask that we have currently estimated for inclusion in our 2024 budget.

- Perform in-depth energy audits to determine energy efficiency recommendations at one or both of the Parsons Road Water Treatment Plant and / or the 1250 Fairwood Avenue Wastewater Treatment plant. This would be similar to the process for the energy audits being performed by Go at the Southerly Wastewater Treatment Plant, 910 Dublin Rd. site, and Dublin Road Water Treatment plant in 2023. Please see the Appendix of this proposal for a full energy audit typical scope of work.

Tasks Currently Not Budgeted, Could Reprioritize

Discussions with DOP have removed the following tasks from the 2024 budget. These tasks could be reprioritized by DOP during 2024 or after, as needed:

- Collaborate with Finance and Management Energy Manager on implementation recommendations for the Comprehensive Energy Management Plan.
 - Ongoing touch base conversations and emails will be provided to the Energy Manger throughout the efforts.



- Conduct detailed analysis to advance implementation feasibility of recommendations found within the Jackson Pike and Hap Cremean energy audits.

Terms and Conditions

Independent Third Party

Go does not sell equipment or design services and is thus free of financial conflict of interest. As a result, we are legally and professionally obliged to provide independent and unbiased recommendations, which is part of our company ethos. As such, Go will not remove unfavorable findings from our results. That said, Go always works with the clients to best address their concerns.

Right of Service Refusal

Go maintains the right to withdraw service at any time should our employees be subjected to sexual harassment; discrimination or verbal harassment based on skin color, religious creed, sexual orientation or sex; or any other degrading, unwarranted or unprofessional treatment.

Proposed Fees and Invoicing Terms

Go proposes a total not-to-exceed budget of \$280,000 to conduct services in 2024 using the hourly rates identified in the attached "Schedule 2B Maximum Labor Rates" and summarized for Go Sustainable Energy in Table 2. This budget may be authorized over multiple contracts and purchase orders by the City of Columbus as needed for their logistics. Our team will invoice for at least a monthly minimum of \$12,000 each month in 2024.

Table 2: Hourly Rate Summary for 2024 - Go Sustainable Energy

Position Description	Hourly Rate 2024
Principal	\$234.00
Project Manager	\$213.00
Senior Project Engineer	\$192.00
Project Engineer	\$172.00

Invoices will be issued on a monthly basis, dependent on the project schedule. Payment terms will be 30-days from the invoice date. If payments are not issued before the 30-day period, additional invoices will be issued with a 5% surcharge each month.

Contractual Agreements

Go requires a purchase order (PO) or other legally valid indication from The City of Columbus to proceed with this service. Issuing of a PO or other indication to proceed from The City of Columbus indicates acceptance of these terms.

Alternately, signature of the following shall indicate an agreement to commence work within the above-stated scope of work. The signed agreement may be sent electronically or faxed to Go Sustainable Energy at (866) 623-7716.



This proposal is valid for 30 days from the date of issuance.

Representative of The City of Columbus

Print Name: Janean Weber

Signature: *Janean Weber*

Date: 10-20-23

Representative of Go Sustainable Energy

Print Name: John A Seryak

Signature: *John A. Seryak*

Date: 10/20/2023



Appendix: Typical Energy Audit Scope-of-Work

To this end, Go will conduct some or all of the following, depending on the facility's systems and staff needs:

- Utility Billing Data Analysis of electricity and natural gas, including:
 - Utility Rate Schedule Evaluation – Electricity and natural gas rate schedules may be obtained or determined from the utility bills.
 - Avoided Cost of Energy Calculation – Based on the utility rate schedules, Go may calculate an avoided cost of fuel (\$ /mmBtu), electrical energy (\$ /kWh) and electrical demand (\$ /kW). These avoided costs may be used to convert energy savings estimates to cost savings estimate.
 - Baseline Energy Use – Baseline energy use may be determined by creating a multi-variable change-point regression model (CP-MVR) for electricity and natural gas use. The baseline energy use model can be easily adjusted to account for changes in outdoor temperature for later measurement of energy savings.
- On-site Data Collection – Data collection may include personnel interviews, facility tours, and collection of sufficient data to support each recommendation's savings estimates. Go may collect the following types of data as appropriate:
 - Spot Power Measurements – Spot power measurements may be taken of key equipment. Voltage, amperage, power factor and power may be measured.
 - Amperage Measurement and Logs – Amperage may be continuously measured and logged for key equipment, for a multi-week period.
 - Temperature and Humidity Level Measurement and Logs – Spot temperature measurements may be taken, and temperature and humidity levels may be measured and logged for a sample of areas.
 - Equipment Name Plate Data – Size, efficiency, performance ratings etc.
 - Equipment Counts – Motor, fan and light counts, etc.
 - Boiler and/or Furnace Combustion Efficiency – A combustion analyzer may be used to measure the combustion efficiency of any boilers or furnaces, including CO₂ levels and excess air percentage.
 - Air Flow Measurements – Air flow measurements at air distribution inlets or outlets may be taken.
 - Plug-load Measurements – Electricity use may be measured for significant plug-loads throughout the facility by logging or taking spot readings.
 - Thermal Imaging – Thermal images may be taken of heating systems, equipment, or building envelopes.



- Quantification of Energy and Cost Savings – Go will quantify energy and cost savings, including:
 - A detailed description of baseline operating conditions and energy use,
 - The proposed retrofit, upgrade, repair or change in operational procedures to be implemented, and
 - A transparent presentation of estimated energy, cost and green-house-gas (GHG) emissions savings, and simple payback for each potential measure identified including supporting engineering equations or software simulation details.
- Estimated Implementation Costs – Go may estimate implementation costs by consulting vendors, using past quotes we’ve obtained, or by consulting industry standard pricing such as RSMeans Catalog or Grainger Catalog.

Go will incorporate the results of the study into a clear, complete and concise energy audit report. The report will be provided electronically and presented to the owners.