



## SHAKER HEIGHTS

### **Sustainability Committee Meeting Agenda Via Zoom Pursuant to Ordinance No. 21-103 and Resolution No. 21-104, enacted September 27, 2021. Thursday, January 13, 2022 at 7:45 a.m.**

Join the Zoom meeting online as a viewer or listener from a PC, Mac, iPad, iPhone or Android device at <https://zoom.us/j/95689437182?>

pwd=SUkyVjMvTWxBNDd6cWdKcG1QVi9VUT09, Password: 33553400:

Description: Sustainability Committee; or join by phone at 833-548-0282 (toll free); Webinar ID: 956 8943 7182, Password: 33553400. International numbers available at <https://zoom.us/u/ahwKbeuA>.

1. Presentation from Shaker Youth LEEDs – the Committee's High School Advisory Subcommittee.
2. Approval of the December 9, 2021 meeting minutes.

Documents:

[SUSTAINABILITY MIN 202101209.PDF](#)

3. Requested Approval of NOACA EV Charging Grant.

Documents:

[220113 EV MEMO SUS.PDF](#)

4. Sustainability Committee Goals and Priorities for 2022.
5. Review of Existing Roadmap/Objectives.
  - a. Subcommittees Update on Progress
    - i. Stormwater and Greenspace
    - ii. Renewable Energy (Norman Robbins)
    - iii. High School Advisory Group (Shanna Keown)

6. Old Business/New Business.

Drive Electric Earth Day - April 23, 2022.

*To request an accommodation for a person with a disability, call the City's ADA Coordinator at 216-491-1440, or Ohio Relay Service at 711 for TTY users.*





**Sustainability Committee Minutes  
Thursday, December 9, 2021  
8:00 A.M.**

**Via Zoom Conference Pursuant to Ordinance No. 21-76  
And Resolution No. 21-77, Enacted August 23, 2021**

Members Present: Anne Williams, Committee Chair, Council Member  
Sean P. Malone, Council Member  
Nancy Moore, Council Member  
Shanna Keown, Citizen Member  
Carmen Franks, Citizen Member

Others Present: David Weiss, Mayor  
Jeri Chaikin, Chief Administrative Officer  
Mike Foley, Cuyahoga County Director, Department of Sustainability  
Michael Peters, Sustainability Coordinator  
Barbara Bradley, League of Women Voters

The meeting was called to order by Committee Chair Anne Williams at 8:00 A.M.

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**Approval of the November 11, 2021 Meeting Minutes**

It was moved by Sean Malone and seconded by Nancy Moore that the minutes of the November 11, 2021 meeting be approved as recorded; unanimously passed.

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**Cuyahoga County Sustainability Initiatives Update**

The Director of the Cuyahoga County Department of Sustainability, Mike Foley, presented an overview of his department's initiatives going into 2022. These include:

- Residential Solar Co-op: For the past several years the County has hired Solar United Neighbors, a national non-profit, to administer a residential solar co-operative program. This effort increases awareness of the benefits of residential rooftop solar for County residents and invites households to express interest (without commitment or obligation). Solar United Neighbors works with the resulting group to solicit bids from solar installation companies and negotiates the contract and pricing. The Renewable Energy Subcommittee has worked with the co-op to increase awareness among Shaker Heights residents.
- County Solar Projects: The County has installed rooftop solar on three of its buildings with plans to add it to the Service Garage in 2022. This is in addition to the Brooklyn former landfill site that contains over 30,000 solar panels. This has been done through a Power Purchase Agreement model that results in no initial costs to the County and lowers overall costs as the

**CITY OF SHAKER HEIGHTS**

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developer can take advantage of the federal tax credits for solar that the County can't. These systems are meeting between 8 and 30 to 35 percent of each building's electricity needs. Battery backup is also being considered for resiliency.

- Tree Canopy Projects: The County has tree canopy coverage of about 34 percent county-wide as of 2017, which was down about six percent from 2011. The goal is 40 percent coverage and the County has committed \$1 million per year for increasing tree canopy.
- Microgrids/County Utility: In September the County created its own utility, providing it the authority to develop transmission and distribution capabilities. The legal and engineering consultants are in the process of being hired with plans to issue an RFP to developers for five to six initial projects. The County sees this as an economic development tool, and it may be the first in the nation to have its own utility.
- Climate Change Action Plan: Originally released several years ago, the plan is currently being refreshed. The County has a net zero goal by 2050, with a 45 percent reduction in greenhouse gasses by 2030.
- Micromobility: The City of Cleveland and four suburban communities (Cleveland Heights, East Cleveland, South Euclid, and University Heights) allow for the operation of micromobility devices – primarily electric scooters and bikes.
- Electric Vehicle Charging: The County is coordinating efforts with NOACA, which is in the process of installing chargers at numerous sites throughout the region.
- The department is small, only three staffers. The former Sustainability Coordinator departed recently and a Shaker Heights resident (and member of the Renewable Energy Subcommittee) was recently hired for that role. She starts in January.
- Questions and Follow-Up:
  - Nancy Moore commented that the tree canopy work is much appreciated; thank you for the leadership and fiscal support. The City is having issues with FirstEnergy and connecting one of our EV chargers – could the County be helpful? Director Foley responded that the County utility may be able to play a future role in EV charging and potentially other areas such as streetlights.
  - Sean Malone asked where the County utility will be operating and how will it be selling power? Director Foley indicated the initial sites would likely be the Aerozone (adjacent to Cleveland Hopkins International Airport), Brecksville (to support the new Sherwin Williams research facility), Nestle in Solon, the former American Greetings site in Brooklyn, and in Euclid along the industrial corridor where power reliability has been an issue. They are all sites where highly resilient electricity is needed, there is interest from off-takers to buy the power, there is the potential for renewable generation, and there is a substation nearby. The utility will only be serving commercial off-takers for now.
  - Sean Malone responded in part by mentioning the City's electric aggregation program and how these initiatives may be supportive. Director Foley indicated that he would like to see more renewable power, and that residents want it. There is a general sense that we must address climate change and this is a potential way to do that.
  - Mayor Weiss asked about the economics of the County's solar projects. Director Foley said that most projects are paying less per kilowatt hour and that there was no out-of-pocket costs to the County, but that the actual savings have not yet been calculated. The Service Garage will also be getting a new roof as part of the process and as a large user the rate will be not as beneficial, but he expects the savings to average out. They are also considering adding batteries at some point, which could shave demand charges

and increase the savings. The Mayor followed up with a question about investor interest, and Director Foley indicated that the rooftop projects were sold to AEP Renewables, while IGS owns the Brooklyn project.

- Anne Williams inquired about the landfill solar project and prospects for additional similar projects. Director Foley responded that the Brooklyn project, which is about 4 megawatts plus transmission lines installed by Cleveland Public Power, has worked well. The performance has met expectations – solar works in Ohio.
- Anne Williams also asked about how the scooter programs were faring. Director Foley said the results are mixed, with Cleveland doing fine but Euclid pulled out due to rebalancing issues. South Euclid is seeing strong use, Cleveland Heights seems fine, University Heights just passed the legislation for a spring launch. Each community receives \$0.15 per ride that originates in the city. CAO Chaikin indicated the City had received two complaints about scooters being left on tree lawns but they were picked up by the companies without incident. Director Foley said four companies are currently licensed to provide the services.

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### **Subcommittee Updates**

Renewable Energy (Norman Robbins)

- No report this month (Mr. Robbins was absent)

Shaker Youth LEEDs / High School Advisory Group (Shanna Keown)

- The group is working on an infographic about the Horseshoe Lake dam and will present to the Committee next month.
- On April 30<sup>th</sup> the group will volunteer for the planting at the Grow Not Mow site at Courland and South Park Boulevards.

Stormwater & Greenspace (Carmen Franks)

- The Grow Not Mow site planting day is April 30<sup>th</sup> and all are invited.
- Looking at funding sources for planting at additional sites.
- Discussing a pilot for a residential site with native plants and methods that can be showcased.
- Discussing a potential garden walk in 2022 to highlight alternative practices to traditional yard maintenance.
- Nancy Moore mentioned that design help is required for the Grow Not Mow sites and potentially Holden Forests and Gardens or Kent State could be a collaborator.
- A question was also asked about the updates to the stormwater code – CAO Chaikin will provide a future update.

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### **Update on Electric Vehicle Charging**

- NOACA has asked the City to review an agreement to install DC Fast Charging on Tuttle Road; currently in review.
- Tesla has indicated interest in a Supercharger site; in review among various City departments.

- FirstEnergy is scheduling the connection of the charger at Larchmere Boulevard and Kendall Road.

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There being no further business, the meeting was adjourned at 8:57 A.M. The next meeting is scheduled for January 13, 2022 at 7:45am.



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Michael Peters  
Sustainability Coordinator



# SHAKER HEIGHTS

## MEMORANDUM

**TO:** Sustainability Committee

**FROM:** Michael Peters, Sustainability Coordinator

**CC:** Mayor David E. Weiss  
Jeri E. Chaikin, Chief Administrative Officer

**DATE:** January 4, 2022

**RE:** **NOACA Electric Vehicle Charging Grant**

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The City was selected by the Northeast Ohio Areawide Coordinating Agency (NOACA) as one of several locations for the installation of additional electric vehicle charging. The Sustainability Committee is requested to approve the acceptance of this equipment and the obligation to operate and maintain it for five (5) years.

### **NOACA Program Background**

NOACA has allocated \$3 million in Congestion Mitigation and Air Quality (CMAQ) funding it receives from the federal government to expand accessibility and availability of electric vehicle charging in its service area. Locations were selected based on NOACA's internal data analysis and the City was invited to accept the installed equipment. This is not a traditional grant as NOACA will design, source and install (with its consultants) the equipment and then transfer ownership of the equipment to the City upon completion. The City will not be responsible for any costs of this installation but will agree to operate and maintain the equipment for 5 years. NOACA will provide a 5-year manufacturer warranty.

### **Equipment Being Granted**

The proposed equipment is referred to as "DC Fast Charge" or DCFC. This is different from the previous EV chargers the City has installed, which are AC Level 2. These AC Level 2 chargers, which cost on average \$5,000 per charger for the equipment and installation, provide a typical electric vehicle (EV) approximately 25 miles of range for every hour the EV is plugged in. They do this by supplying the EV with approximately 7 kilowatts (kW) of power.

DCFC provides a much faster charge as it typically supplies between 50 kW and 350 kW depending on the charger. This will recharge many EVs from 20% to an 80% charge (equivalent to 100 miles or more) in roughly 30 to 45 minutes (depending on the EV). This is ideal for locations such as The Van Aken District where an EV driver who does not have access to charging at home can recharge quickly while shopping or dining. Estimated cost for the equipment and installation is \$50,000 or more (depending on the equipment and power requirements).

### **Demand Charges – City Responsibility**

The much faster charging times are the result of much higher electricity capacity (these chargers require a commercial connection and operate at 480 volts and often 200 amps or more – double what an AC

Level 2 charger requires). One result of this high electric capacity is that the charger will incur “demand charges” from FirstEnergy.

The NOACA program requires the City to assume the operating costs of the chargers once installed. This includes both the electricity consumed by the cars and the costs of getting that electricity to the chargers. These latter costs include these “demand charges” that are unique to commercial electricity accounts (residential accounts are not subject to demand charges). These charges are imposed by the utility when a large amount of power (over 5kW) is drawn at any time during the billing month. The rationale is that the grid likes constant and stable consumption, but when a DCFC quickly asks the grid for 100kW the utility incurs additional costs.

There is little existing data to determine what these demand charges might be. The City’s Sustainability Coordinator consulted with FirstEnergy personnel to approximate total charges based on a theoretical charger (100 kW) that draws maximum power. The resulting total monthly costs were estimated to be between \$1,800 and \$1,900.

### **Cost Estimates**

The City is permitted, and is expected, to collect fees from the drivers using the chargers as we do with the AC Level 2 chargers to offset some of the costs of operating the equipment.

Under the agreement with NOACA, and due to the source of funds being the federal government, the City cannot profit from the chargers but can cover its costs. Given the expected demand charges and initial relatively low levels of utilization (as EV ownership increases we would expect utilization to also increase), there will be a net cost to the City.

Current commercial DCFC rates in the region vary, from \$0.30 per minute (EVgo – W. 29th Street) to \$0.43 per kWh (Electrify America – Sheetz in Mentor). The City currently has a price of \$0.20 per kWh for the AC Level 2 chargers and would work with NOACA on setting the price for the DCFC stations. This would cover a portion of the operating costs, but not the full costs in the near to medium term.

There is a mismatch between what the City can reasonably set as fees and the costs from the utility. As the table below demonstrates, if there is only one charging session per month the estimated cost is roughly the same as having multiple charging sessions. This is due to the demand charge being billed based on the highest power draw in a month – whether it occurs once or multiple times. There would only be one demand charge per meter, with the NOACA chargers (two are proposed) being on the same meter and thus incurring one demand charge.

Initial use will likely be low as most EVs continue to be owned by drivers who have access to charging at home. As more public chargers become available, more drivers who live in apartments, condos, and other places without access to charging will be able to benefit from the operating and maintenance costs savings of driving an EV. This is an important equity consideration and will allow any resident the ability to access EVs, for which the City will benefit through improved air quality, reduced environmental contamination, and higher resiliency.

Assuming an average charging session of 25kWh (roughly half the capacity of many current EV batteries) and 1 session per day (at \$0.40 per kWh) results in a net cost to the City of approximately \$1,500 per month (or \$18,000 per year). As the use of the chargers increases over time the costs reduce, but it is unlikely the use would ever achieve breakeven. While this type of charger along a freeway could conceivably break even or possibly generate a small amount of revenue, until the utility modifies how demand charges are calculated (or alternative strategies such as battery storage are more widely available) the investment in providing fast charging results predominantly in non-monetary benefits.



KWHrs	KW	Load						
Monthly usage	Peak Demand	Factor	Total	Sessions	per Day	per kWh	Revenue	Net Cost
1	100		\$ 1,887.47	1	0.03	\$ 1,887.47	\$ 0.40	\$ 1,887.07
2,100	100	2.92%	\$ 2,007.52	84	2.80	\$ 0.96	\$ 840.00	\$ 1,167.52
4,200	100	5.83%	\$ 2,136.05	168	5.60	\$ 0.51	\$ 1,680.00	\$ 456.05
6,300	100	8.75%	\$ 2,264.57	252	8.40	\$ 0.36	\$ 2,520.00	\$ (255.43)

### **Agreement with NOACA**

The equipment and operational requirements are contained in a Partner Agreement between NOACA and the City. The City's Law Director and Planning Department have reviewed this agreement.

There is no specific allocation for these new electric vehicle charging costs in the current budget, but they can be separately tracked.

### **Request**

The Sustainability Committee is requested to recommend the Mayor complete the partnership agreement with NOACA, which requires approval to continue the engineering work and acquire the equipment. This matter will then be referred to the Finance Committee and City Council.