



**ELECTRIC VEHICLE (EV) SUBCOMMITTEE
LEBANON ENERGY ADVISORY COMMITTEE (LEAC)
JULY 13, 2023 - 3:00 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE**

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- 1. Call to Order**
 - 2. Approval of Minutes**
 - A. May 11, 2023
 - 3. Old Business**
 - A. GM Dealer Community Charging Program donation of L2 Charger.
 - B. Upper Valley collaboration on EVSE Planning & Grants
 - 4. New Business**
 - A. EV-friendly Employers Project
 - B. EV car-share program
 - C. 3:30 PM -Guest speaker Jessica Stoll of the Electrification Coalition speaks about the IRS elective pay guidance
 - D. CoL Fleet Electrification Plan (attached)
 - E. Upper Valley event for National Drive Electric Week
 - 5. Open to the Public**
 - 6. Future Agenda Items**
 - A. National Drive Electric Week, Sept. 22-Oct. 1, 2023
 - 7. Adjournment**

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

AGENDA
ELECTRIC VEHICLE SUBCOMMITTEE OF THE
LEBANON ENERGY ADVISORY COMMITTEE
July 13, 2023

AGENDA ITEM 2
APPROVAL OF MINUTES:

May 11, 2023



**LEBANON ENERGY ADVISORY COMMITTEE
ELECTRIC VEHICLE SUBCOMMITTEE**

MEETING MINUTES - Draft
City Hall, Meeting Room #1
May 11th, 2023
3:00 PM

MEMBERS PRESENT: Sherry Boschert (Chair), Greg Ames, Clifton Below

MEMBERS ABSENT: Meghan Butts (alternate)

STAFF PRESENT: Tad Montgomery – Energy & Facilities Manager (EFM)

GUESTS PRESENT: none

CALL TO ORDER: Meeting was called to order by Sherry Boschert at 3:10 PM.

ACCEPTANCE OF MINUTES

Clifton Below moved to accept the February LEAC EV minutes; Greg Ames seconded. The minutes were approved unanimously.

OLD BUSINESS

GM Level 2 Charger

Tad Montgomery said that he had reached out to Key Chevrolet about their free EV charger program but had not heard back. We are waiting for a proposal from GM. Tad also said that he had asked Key Chevrolet about the capability of their pickup trucks to carry a plow, and how long the truck's battery would last while plowing, but had not heard back about that, either.

NEW BUSINESS

CFI Grant Application

Sherry Boschert described work to date on the Charging and Fueling Infrastructure federal grant. She described each of the proposed sites and got feedback from LEAC members. Tad Montgomery will reach out to Liberty Utilities to see if the Village Market building and Fire Station #1 are on the constrained circuit.

FUTURE AGENDA ITEMS

None were captured.

NEXT MEETING

The LEAC EV Subcommittee generally meets the 2nd Thursday of the month, 3-4 PM, in the Council Chambers of City Hall. An online option is available. The next meeting is scheduled for Thursday, June 8th at 3 PM. See the calendar on the City's home page to confirm time and place: <https://lebanonnh.gov/>. For online options visit: <https://lebanonnh.gov/live>.

ADJOURNMENT

The meeting was adjourned at 4:06 PM.

Respectfully submitted,

Tad Montgomery



CoL Fleet Electrification Plan

6/20/2023 draft

The most updated version of this Plan can be found at the link above

Sections/Topics:

- City Policy – Goals & Objectives
- City Vehicles Appropriate for Conversion
- Technical Considerations
- Charging Infrastructure
- Financing EV's and EVSE
- Resources

Introduction

The future of the automobile is looking increasingly electric, and automakers are acting accordingly: General Motors, Stellantis, and Ford have announced a shared goal of achieving “sales of 40–50% of annual U.S. volumes of electric vehicles (battery electric, fuel cell and plug-in hybrid vehicles) by 2030.” In addition to corporate commitments, other factors are accelerating electrification, including a recent report which found that, since 2014, investment in the electrified transport sector has risen by a compound annual growth rate of around 48%¹. The City of Lebanon has made a commitment to electrify it's fleet in order to meet its environmental and other goals. It should also reduce operating costs in the long-run.

City Policy

Elements needed:

- Overall policy on conversion of City fleet to electric
- When EV's should be purchased by departments/divisions
- How departments will cover the additional cost of EV's
- EV vs. hybrid
- Integration with CoL Procurement Policy

Goals & Objectives: To be developed/decided by Management

Stakeholder Engagement: Successful rollout of an Electrification Plan will require getting all of the right people in the room and building solid relationships with them. This includes the following individuals and groups: CoL Management, City Council, Fleet Manager, Maintenance Manager, EFM, Drivers, Grant Writer, Planning Office, LEAC – esp. the EV Subcommittee, Finance, EVSE installers & service providers, funders (NH-DES, national agencies, CoL), Liberty Utilities, Granite State Clean Cities Coalition, dealerships, DPW Road Crew, UVLSRPC, Sustainable Lebanon. Determine the goals, concerns, and needs of each stakeholder with regard to EV's.

Note Regarding Stakeholder Engagement: Grant funding usually requires the demonstration of substantial community engagement, especially as it relates to low-income groups and social equity. Waiting to undertake community engagement until a grant is being applied for could lead to failure. Community engagement should be seen as critical not only to obtaining funding, but also to the overall success of the

City's conversion to electric transportation because it will incorporate important perspectives that might otherwise be overlooked.

Futureproofing: Facility renovations should include infrastructure for future EVSE wherever possible, such as was done with the PD parking lot renovation. This will substantially reduce future costs and work. EVSE installed by the City should meet not only current needs but anticipate future needs as well.

Policy Questions:

- To what extent does the City want to further other environmental goals through EVSE deployment? Options include solar or Landfill Gas power supplied to EVSE; incorporate energy storage into EVSE to reduce electric demand; Time-Of-Use rates for EV charging; vehicle-to-grid energy flow during system peaks; etc.
- When are outside consultants and experts needed to assist the City in implementing this plan to avoid costly mistakes?
- How are utility demand charges managed? Does the City want to control charging rates of EVSE to limit demand charges?
- May CoL Staff use City EV charges, for a fee or not, as a means of promoting EV adoption, pollution reduction, and helping the City to meet its goals?
- How can EV procurement policy employ life-cycle costs for EV's instead of basing decisions primarily on capital costs?

Vehicles for Conversion

The current spreadsheet that lists City vehicles can be found at this link:

<C:\Users\montgomery\OneDrive - City of Lebanon\DPW Shared\FLEET\2023 VEHICLE-EQUIPMENT LIST For EV Conversion.xlsx> (please don't edit this spreadsheet – download a copy to work on if needed)

The 6th tab identifies vehicles that have been flagged for replacement with EV's. The table below shows the list as of 6/20/2023, sorted by dept./division and year of replacement:

DEPT	YEAR	MAKE/MODEL	REPLACE WITH	YEAR TO BE REPLACED	FUEL USED PER YEAR - GAL.	GHG REDUCED MTCO2
AIR	2012	CHEVY SILVERADO 2500	SIMILAR MAKE/MODEL	2026	270	2.4
AIR	2001	CASE 821 FRONT END LOADER - diesel	SIMILAR MAKE/MODEL	2027	1,143	11.7
AIR	2009	CHEVY SILVERADO 3500	SIMILAR MAKE/MODEL	2029	270	2.4
AIR	2009	NEW HOLLAND TRACTOR - TV6070 - diesel	SIMILAR MAKE/MODEL	2030	1,182	12.1
AIR	2011	FORD F350	SIMILAR MAKE/MODEL	2032	270	2.4
DPW	2013	FORD F250 PICKUP TRUCK	3/4 TON PICKUP W/PLOW	2023	718	6.4
DPW	2009	FORD TAURUS	PASSENGER	2024	129	1.1
DPW	2014	FORD FUSION	PASSENGER	2024	93	0.8
DPW	2014	FORD F-250	QUAD CAB F250 3/4 TON PICKUP W/PLOW	2025	572	5.1
DPW	2017	FORD F-150 CREW CAB	F250 4WD CREW CAB PICKUP W/ PLOW	2027	606	5.4
DPW	2019	SKID STEER/LOADER - Diesel	SKID STEER W/ATTACHMENTS	2028	3,380	34.5
DPW	2018	FORD F-150 EXTENDED CAB	F250 QUAD CAB WITH PLOW	2029	251	2.2
DPW	2019	TOYOTA HIGHLANDER	FULL SIZE CAR	2029	1,000	8.9
FIRE	2015	FORD EXPLORER: FD CAR 2	EQUIVALENT EV	2025	561	5.0
FIRE	2016	FORD EXPLORER: FD CAR 3	EQUIVALENT EV	2026	219	1.9
FIRE	2017	FORD EXPLORER: FD MIH	EQUIVALENT EV	2027	317	2.8
PD	2016	RAM 1500: PD -21	EQUIVALENT EV		183	1.6
PD	2017	FORD EXPLORER POLICE INTERCEPTOR: PD-25	EQUIVALENT EV		897	8.0
PD	2014	FORD TAURUS POLICE INTERCEPTOR: PD-26	EQUIVALENT EV		254	2.3
PD	2016	FORD EXPLORER: PD-27	EQUIVALENT EV		415	3.7
REC	2011	FORD F250	1 TON DUMP WITH PLOW	2025	200	1.8
REC	2011	FORD RANGER	F150 LIGHTNING OR EQUIVALENT	2026	600	5.3

Vehicle Identification Process: DPW Fleet and Maintenance Staff identified vehicles for possible conversion by evaluating what we currently have for vehicles, what is available to convert to electric dependent on the vehicle's task and distance of travel, hours of use, and availability of current charging capabilities. Staff will work with Dept./Div. heads and the EFM to continue the process of vetting possible EV conversions to meet the City's needs.

DRVE is a spreadsheet tool that provides a user-friendly platform to analyze fleet electrification by evaluating a variety of vehicle types, procurement ownership structures, and EV charging configurations. City Staff can get a customized, detailed assessment of fleet electrification opportunities by simply uploading basic fleet information collected through the fleet inventory and customizing several key inputs. PG&E has developed a similar tool, but it uses PG&E electricity rates. See the Resources section for more info.

Technical Considerations

There is a need for ongoing education and research because of the rapidly changing nature of EV and EVSE development. Below is a list of specific areas needing technical assessment.

Issue – Increased Complexity of Maintenance: The City Fleet Manager prefers to limit new vehicles to a small number of manufacturers in order to simplify maintenance training and equipment. Concern has been expressed about the increased complexity of having to maintain EV's of different makes because it increases the number of tools that DPW must purchase and the additional training that each vehicle make requires. This is an issue because different manufacturers are rolling out specialized EV equipment at different times and with different characteristics.

Issue – EV Maintenance: In addition, there is additional training that is required to maintain EV's in general. City Management should understand these additional needs and help staff to minimize them and/or allocate more staff time to meeting them.

Issue – EVSE Installation: When EV's are planned, EVSE needs to be planned as well. Because this is a rapidly evolving technology, there should be continuous review of developments and lessons learned. See the Charging Infrastructure section for more info on this.

Issue – Networked EVSE: To what degree does the City wish to monitor EV charging, control charging rates to limit costs, allow for remote maintenance of EVSE, and/or be able to charge a fee for non-City use of EVSE? Networked EVSE could also allow for charging in off-peak times of the day to reduce costs.

Issue – EV Charging Demand Costs: Liberty's G-1 and G-2 electricity tariffs for large users have a 'demand charge' in addition to a charge for each kWh that is used. This charge is based on the peak electricity use in any given month and could be as much as \$5,000 for a single use of electricity at an EVSE in any given month. Level 3 EVSE should be planned with this cost in mind, as well as ways to diminish this cost. Relevant Liberty tariffs, pending legislation, and NH PUC rules should be constantly monitored and the City should join with other municipalities and stakeholders to affect policy and rules.

Issue – Adequate EV Features: Does the vehicle being considered have all the required features that the Dept./Div. needs? For example - the first line of EV pickup trucks does not have the ability to attach a plow, and its towing range under load is very short.

Charging Infrastructure (aka electric vehicle service equipment or EVSE)

Regular Charging: When a vehicle is identified by a Dept./Div. for EV conversion, plans should be made to install EVSE adequate to meet the daily/weekly charging needs of that equipment in coordination with the purchase of that vehicle.

Emergency Backup: The City needs to develop a plan for emergency charging of EV's in the case of power outages. This is especially important for emergency vehicles and vehicles that supply time-sensitive services that are replaced with EV's: police, fire, snow plowing, etc. Options include back-up generators dedicated to supplying EVSE, EVSE at the landfill that can run off of the landfill gas electricity, and a micro-grid powered by the landfill gas generator with EVSE in different locations.

EVSE Planning: When EV's are planned, EVSE needs to be planned as well. When developing a cost estimate and plan for EVSE installation, Staff should consult with the City Electrician, EFM, DPW Fleet and Road Crew, and Liberty Utilities, especially if a DC Fast Charger (Level 3) is being installed. Ongoing review of developments in the field of EVSE should be undertaken continuously. If the City has already chosen to work with one or more designated EVSE installers, they should be consulted regularly. EVSE should be sited to avoid accidents and hazards, maximize convenience, and minimize the cost of installation. Is electrical capacity at the site an issue? Will the EVSE negatively affect traffic patterns? What major site constraints need to be overcome?

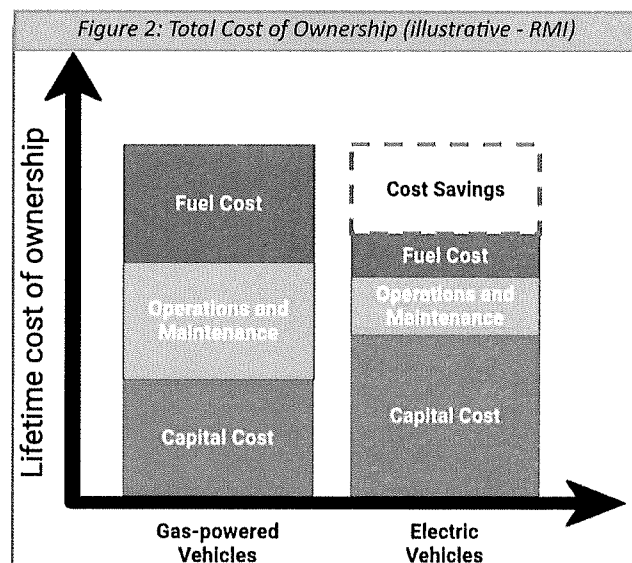
Note: Liberty should be consulted early in the development of Level 3 chargers because procurement and installation of electrical infrastructure for DC fast chargers can require a long lead time. Staff should assume a two to three year planning timeline for DCFC installation.

Financing

EV's cost more to purchase than gas or diesel (ICE) vehicles, but a 2020 Consumer Reports estimated that most EVs cost up to 50% less to fuel and maintain over their lifetime than their gas/diesel counterparts. Even greater savings will be possible in Lebanon if the Landfill Gas and/or solar projects are used to supply cheaper power to City EVSE. Total Cost of Ownership (TCO) should weigh more heavily than capital costs in the decision to purchase an EV. The DRVE tool can be used for calculating TCO.

Financing needs include not only EV's, but also charging infrastructure. CIP budgets should include EVSE installation in coordination with the purchase of EV's at each Dept./Div. when EV purchases are planned.

Departments are encouraged to track O&M costs for EV's once purchased, compare those to comparable ICE vehicles, and publicize the savings.



Options to cover the additional cost of EV's: CIP, grant writing, and the operating budget. For grants, consult the FFOLD tool to identify the most appropriate grant sources for a particular vehicle (see the

Resources section). Below are several best practices for both internal and external coordination on funding applicationsⁱⁱ:

- Understand the funding agency's process and solicitation; create an application checklist.
- Continue to secure buy-in from key decision makers and regularly inform them of fleet electrification progress and opportunities.
- Use fleet assessments and TCO analyses to prioritize electrification opportunities and identify potential EVSE deployment locations to inform development of a phased EV procurement plan.
- Build relationships with utility representatives, peer local governments, regional associations, state-level agencies, elected state and federal officials, and other stakeholders to partner on grant applications, receive funding, and identify policy changes to facilitate the accelerated transition to EVs.

City Staff should be aware of two specific fleet electrification incentives:

Qualified Commercial Clean Vehicles Tax Credit (Section 45W): This new tax credit provides up to \$7,500 for vehicles with a gross weight up to 14,000 pounds, and up to \$40,000 for heavier vehicles. Although final assembly of eligible vehicles must take place in North America, unlike the modified personal vehicle tax credit (Section 30D), the commercial version does not impose battery and critical mineral manufacturing and sourcing requirements, which will make it considerably easier for automakers to accommodate. The 45W tax credit value is calculated as the lesser of (a) 30% of the vehicle's cost basis (for battery electric vehicles) or (b) the incremental cost of the EV compared with a conventional alternative.

Alternative Fuel Vehicle Refueling Property Tax Credit (Section 30C): This tax credit provides an incentive for developing EV chargers, modifying and extending a previous tax credit that had expired at the end of 2021. Specifically, for EV chargers deployed in either low-income communities or outside of urban areas, a credit of 6% of project costs is available, with the potential to increase this credit to 30% for projects using prevailing wages and meeting certain apprenticeship requirements. The maximum credit value is \$100,000 per charger.

In addition to grants, Lebanon should follow the State's collective vehicle procurement offers as well as those of the Climate Mayors' Purchasing Collaborative.

One possible revenue stream to offset the additional cost of EV's is known as 'vehicle-to-grid,' where an EV's battery is used to discharge energy to the grid during periods of annual or monthly system peak. This should be explored and incorporated into the TCO calculations where possible.

Resources

- National Electric Vehicle Infrastructure (NEVI) Program - [NEVI \(ct.gov\)](https://nevi.ct.gov)
- Local Government Playbook: <https://electrificationcoalition.org/resource/local-government-playbook/>
- Dashboard for Rapid Vehicle Electrification: DRVE Tool <https://electrificationcoalition.org/resource/drve/>
- Climate mayors EV purchasing collaborative <https://electrificationcoalition.org/work/climate-mayors-ev-procurement-collaborative/>
- Transportation Electrification roadmaps <https://electrificationcoalition.org/roadmaps/>

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- Charging and Fueling Infrastructure grant program <https://www.transportation.gov/rural/grant-toolkit/charging-and-fueling-infrastructure-grant-program>
 - U.S. Department of Transportation Federal funding programs <https://www.transportation.gov/rural/ev/toolkit/ev-infrastructure-funding-and-financing/federal-funding-programs>
 - Joint office of Energy and Transportation <https://driveelectric.gov/>
 - FACT SHEET: Biden-Harris Administration Announces New Standards and Major Progress for a Made-in-America National Network of Electric Vehicle Chargers | The White House
 - Connecticut Department of Transportation EV Plan: [CTDOT-Approved-NEVI-Plan-2022-2023.pdf](#)
 - Net Zero Montpelier, VT:
<https://civicclerk.blob.core.windows.net/stream/MONTPELIERVT/701d6129-5fb5-47eb-8edf-2cd89993b5a6.pdf?sv=2021-10-04&st=2023-05-25T12%3A35%3A30Z&se=2024-05-25T12%3A40%3A30Z&sr=b&sp=r&sig=SAgM9zUD76f33xATwFfULFCh7b22Nflglo5BpZm0Om4%3D>
 - Electrification Coalition: State Plug-In Adoption Resource Kit (SPARK): <https://electrificationcoalition.org/spark/>
 - RMI's [Federal Funding Opportunities for Local Decarbonization \(FFOLD\)](#) tool helps local governments identify the most relevant funding sources for their fleet electrification process (and other decarbonization efforts) and provides key guidance on eligibility and effective grant application components.

ENDNOTES:

¹ *How Cities and Counties can Electrify Their Fleets*, Rocky Mountain Institute, January 2023.

¹¹ Ibid.