

Meeting of the Norwich Energy Committee
Tuesday, 3/26/24, 7 pm, via Zoom

Attending: Rob Gere (8:30), Linda Gray, Garret Heaton, Charlie Lindner, Erich Rentz (chair), Brad Wible

1. The 2/27 minutes and the 3/26 agenda were approved by consensus.

2. Upcoming events:

a. Earth Day EV Expo (4/21) – this event is in Lebanon, 12-3 pm, Shaw’s parking lot, organized by the Lebanon Energy Advisory Committee. The Town Manager was notified and acknowledged NEC cosponsoring; Erich has posted flyers around town; Linda included a blurb on the NEC home page; organizer Sherry Boschert has posted to the listserv several times. Charlie and Linda are volunteering at the event. As a cosponsor, NEC can have an info table; there was agreement that there was no need. Linda will bring the collection of NEC handouts with her.

b. VEEP Community Energy Workshops collaboration with NPL – library staff preferred to host the workshop (Transportation) on a Saturday, when the library is open; they’ve scheduled with VEEP for Saturday, 5/18, 10:30 am. Agreement that it was fine to proceed with this schedule. The library is seeking to schedule a parallel VEEP kids’ program around the same time. Linda will check with NPL staff for an update and coordinate publicity. Agreement to start publicity about 3-4 weeks in advance and review the plan at the NEC April meeting.

c. E-Bike Loans: Linda reported that Vital Communities staff has asked for the appropriate legal / insurance review of the Norwich version of the liability waiver from the insurers side. If that is okayed, Norwich could run a loan program 6/10-19 and/or 6/19-26; agreement for 6/10-19, no additional days. Erich will check with the Town Manager on the question of NEC volunteers facilitating loans in Norwich at events sponsored by Sustainable Hanover if the Norwich version of the liability waiver can’t be used. In either scenario, agreement to take a different approach to the loans – a targeted demo day, in which trial rides are offered to different groups, such as businesses on Main Street or Marion Cross parents. Linda will investigate logistics and contacts for this.

d) WindowDressers: Linda confirmed that the Community Build is scheduled for 9/28-10/2 at the parish hall of the Norwich Congregational Church. Orders for about 150 inserts are in hand, with most customers either measured or scheduled for measuring. About 75 more inserts can be handled in the 2024 Build, equivalent to about 8 more households. Linda will post again to the list serv, and Hanover and Thetford coordinators will post in their towns. As of January 2024, WindowDressers has made a cumulative total of 10,000 inserts.

e) NHS fair, 9/21: the Norwich Historical Society is planning another info fair targeted to households new to town. NHS will send invitations to every new family who has arrived since 2022 and will create a handout with organization names and contact info; they will give participating town committees / organizations space on the NHS lawn for info tables and activities. Charlie noted that NEC participated in 2022 and it was a great opportunity to talk to people about household-level action steps. Charlie will respond to NHS that we will participate again.

3. IREC (Energy Coordinator): Linda reported that Harry Falconer has continued to follow up on problems with the EV charging station at Dan & Whit’s, and Chargepoint has scheduled replacing the station head on 3/29. He is also trying to get the report on the MERP assessment of Tracy Hall from the

consultant so that Studio Nexus can use it in their recommendations for Tracy Hall. He and a colleague at TRORC surveyed town police departments on their use of hybrid vehicles; the report is attached to these minutes. Charlie suggested contacting the fleet manager for the Town of Hanover, for their feedback on hybrids. Harry is also working with all 6 IREC towns on procurement policies that ensure detailed review prior to purchases of fossil fuel equipment.

4. Other Business:

Linda noted that VECAN has scheduled another Spring Summit, for 6/1 at VT Law and Graduate School.

With 3 members of the NEC up for appointment in April, Linda has talked with two prospects, they haven't committed to applying; she and Rob confirmed they would apply for reappointment.

5. Public comments, correspondence and announcements:

Garret outlined the new venture he is working on, software to help reduce consumer problems in financing for residential solar.

Rob reported on the discussion at the meeting of the Solar Siting subcommittee (which he attended prior to joining the NEC meeting).

6. Adjourned at 8:50. The next meeting, held on the fourth Tuesday in the month, is 4/23.

submitted by Linda Gray

IREC Hybrid/EV Police Cruiser Survey March 2024

During the period of January – February 2024, TRORC contacted the local police departments in Norwich, Thetford, Bradford, Woodstock, Hartford, and Hanover (NH), as well as the Vermont State Police, to collect information on their interest in and experience with hybrid and electric police cruisers.

Questions included:

- What are your general thoughts on hybrid and electric police cruisers?
- Do you currently use any hybrid or electric cruisers?
- If so, what was the cost to purchase?
- How long did it take to procure the vehicle?
- What is your experience driving the vehicle?
- Have there been maintenance problems or unforeseen issues?
- Do you have any regrets about purchasing the vehicle?
- If you do not have a hybrid/electric vehicle in your fleet, have you considered purchasing one?
- What models have you considered purchasing?
- Any additional thoughts on hybrid/electric police cruisers you would like the IREC Steering Committee to know.

We received responses from Norwich, Thetford, Bradford, and the Vermont State Police. The Hanover, Hartford, and Woodstock police departments were each contacted twice by phone and twice by email and did not respond.

Norwich, Bradford, and the Vermont State Police all currently have hybrid police vehicles. The Vermont State Police use hybrid cruisers for unmarked vehicles only, and Bradford uses the vehicle sparingly. Norwich's hybrid police cruisers see the most use, and other towns including Thetford and Bradford have tested the Norwich cruisers. Norwich has had numerous mechanical problems with its 3-year-old hybrid vehicle, particularly after 30,000 miles. Thetford has a hybrid cruiser on order, but its delivery has been delayed. Bradford is on a waitlist for an additional hybrid vehicle. The cost of existing hybrid vehicles across departments is quoted at about \$50,000. No department surveyed uses solely electric/hybrid vehicles.

The weight of police gear combined with the energy that police technology (sirens, lights, computers, etc.) requires tends to strain the battery. For hybrids, the top concerns cited by respondents were unreliability, lurches and loud sounds when accelerating quickly, and overloading of the 12-volt battery system. For electric vehicles, they cited poor range, lack of access to charging stations, and cold weather depleting battery life.

(Misinformation may play a role in range anxiety: one police chief claimed that the range of a Ford F-150 Lightning pickup truck is only 110 miles, yet Ford lists the base model as having a range of 240 miles).

The consensus among respondents is that there is great potential for electric police cruiser use in the future, but that the technology is not yet ready to support Northern New England police forces. Summaries of email and phone conversations are provided below. Responses have been paraphrased and edited for clarity where necessary.

William B Emmons III, Chair ~ Peter G. Gregory, AICP, Executive Director
128 King Farm Rd. Woodstock, VT 05091 ~ 802-457-3188 ~ trorc.org

Barnard ~ Bethel ~ Bradford ~ Braintree ~ Bridgewater ~ Brookfield ~ Chelsea ~ Corinth ~ Fairlee ~ Granville ~ Hancock ~ Hartford
Hartland ~ Newbury ~ Norwich ~ Pittsfield ~ Plymouth ~ Pomfret ~ Randolph ~ Rochester ~ Royalton ~ Sharon ~ Stockbridge ~ Strafford
Thetford ~ Topsham ~ Tunbridge ~ Vershire ~ West Fairlee ~ Woodstock

**Appendix A:
Transcript Responses**

Norwich Police Dept:

What are your general thoughts on hybrid and electric police cruisers?

Electric vehicles are great for snow because they control each tire and would be perfect if they had the range to go further, but they do not. For example, the Ford Lightning pickup truck only has a 110 mile range.

Another EV feature is noise for pedestrian safety. Police officers might want to turn off that feature so they can drive quietly.

In conversations with representatives from Ford and General Motors, Chief Romei was told that Northern New England is not ready for hybrid or electric police vehicles due to battery life issues. Norwich Police Department does not have the infrastructure to charge vehicles. Would police officers be expected to charge electric vehicles at their own home / on their own bill?

Do you currently use any hybrid cruisers?

Norwich has two hybrid interceptors and a hybrid Toyota RAV-4.

What is your experience driving the vehicle?

The 12-volt batteries are too small. They are designed to crank the engine but not to support heavy loads. Police gear makes vehicles very heavy.

If you are driving the vehicle, there is a lurch that happens when the battery corrects for the vehicle's load, and that is dangerous for snow and high-speed conditions.

Have there been maintenance problems or unforeseen issues?

The three-year-old Interceptor has been in the shop more than it's been in use. It began having issues after 30,000 miles. Vehicles are difficult to service because they cannot go to a regular auto shop.

New EVs/hybrids do not have cages, consoles, or proper high voltage wiring and face electric issues.

Any additional thoughts on hybrid police cruisers you would like the IREC Steering Committee to know.

Vermont state police is the only section of state government that is exempt from having to purchase Hybrid / EV vehicles because of the above issues.

Thetford Police Dept:

What are your general thoughts on hybrid and electric police cruisers?

I believe we are reaching a point where they are an option for some agencies or specific areas of those agencies. I am concerned about the Ford PIU Hybrid. We have tried to order one for the past three

cycles and Ford was unable to fill the order during the first two. During this cycle, we reached a point where we have two cruisers permanently offline and need to have a cruiser sooner than Ford can deliver.

Do you currently use any hybrid cruisers?

We do not have any hybrid cruisers. As mentioned above we tried to purchase one, but the manufacturer cannot/will not fill the orders.

What was the cost to purchase?

The estimate was approximately \$46,725. In some cases, depending on the model, the upfit costs are higher.

How long did it take to procure the vehicle?

Unable to obtain through 2.5 cycles of ordering (since Nov. 2021)

What is your experience driving the vehicle?

I used to drive a hybrid cruiser at my previous job and found it to be unreasonable. I would attempt to accelerate at a regular rate to 25 mph, but the vehicle could not do this without switching to gas, and when it did, the vehicle gave me the impression that it was attempting to participate in a race. This was rather embarrassing when the public was around, and I was headed out for regular patrol. Since that time there have been several mechanical issues with that vehicle. Norwich Police is the agency, and they would be able to provide more details.

Have there been maintenance problems or unforeseen issues?

I don't have one here. Check with Norwich Police.

Do you have any regrets about purchasing the hybrid vehicle?

Based on my experience in Norwich and the lack of order filling, I am comfortable with our unfortunate situation of having to wait for improvements to be in place.

*If you do **not** have a hybrid vehicle on your fleet, have you considered purchasing one?*

Yes.

What models have you considered purchasing?

Initial purchase attempt since November 2021 was a Ford PIU. Plans are to replace our current F-150 with a F-150 Powerboost, which is a hybrid version, for the next cycle.

Any additional thoughts on hybrid police cruisers you would like the IREC Steering Committee to know.

My concerns are with the charging system, batteries, and the relationship between ICE and electric. I respect that there will be improvements over time, but we are not an agency who can afford to be part of a system in the development process. When we lose one cruiser, we lose a considerable amount of our fleet services (we have three cars slated for the Police). When I mention the relationship between ICE and electric, I am referring to my experience with the Norwich Hybrid PIU. In the Ford PIU Hybrid,

there is an electric motor and an ICE (which is naturally aspirated vs. more efficient turbo) and they work separately, one or the other.

In the case of my proposal to replace the F-150 Ecoboost with a F-150 Powerboost I have spoken with dealers and end users, and I have not received any measurable quantity of negative feedback (nothing more than all vehicles). I have learned that the two (ICE and electric) work together to provide their power and the ICE is a more efficient turbo engine. I believe this should be the goal for police cruisers at the moment, and then we should work on a transition to more electric as other areas are improved upon (such as battery capacity/charge rate and charging (grid support and charging rate)).

Vermont State Police:

What are your general thoughts on hybrid and electric police cruisers?

Based on current platforms, the Hybrid cruisers and the Hybrid trucks seem to have a much greater versatility than an electric vehicle for our operations.

Electric vehicle battery life vs. hybrid/gas operations: Our vehicles are assigned to an individual and not assigned a rotation, so the driver has access to only one vehicle, and this makes charging a more challenging operation. This is especially important for those members on a special team that may have to drive three hours to a bomb call or other high response event and the battery has not had time to charge. Battery life is a big concern as severe cold effects battery life, as do weight and terrain. An agency covering many miles is at a disadvantage with an electric vehicle, whereas a local agency can often rotate vehicles to allow time for charging and many of their miles are within a condensed area—though they may need to consider downtime to charge and shift coverage. I have heard that some agencies need to have an extra vehicle to allow for sufficient battery charge and meet shift rotation.

The hybrid going into electric mode works well in a city/town. However, if you are driving faster (at highway speeds) the vehicle does not go into electric mode, so there is a reduction in gas savings. However, a big fuel improvement can be obtained where lower speeds are involved and where a vehicle must sit idling.

Do you currently use any hybrid cruisers?

We currently are trying the Ford Hybrid Police Interceptor Utility and Hybrid Ford Special Service trucks with some of our non-marked units and have not expanded this to the marked fleet yet.

What was the cost to purchase?

When we purchased the Ford hybrids in years past, they were about \$3,000 more than the gas engine options. The 2025 Model Ford Hybrid is expected to cost about \$49,000 this year, with the gas model costing roughly \$46,200. (This price includes the options we normally purchase).

How long did it take to procure the vehicle?

Our first Hybrid came in about six months, and the last ones have been on order for about a year. The Ford order window is not currently open for the Hybrid Police SUV but is expected to open again in about 30 days.

What is your experience driving the vehicle?

The hybrid has a slightly different driving dynamic. This is mostly due to the quick take-off and the braking. The hybrid charges its batteries with regenerative braking. We have had several of our operators voice concern because the brakes are more sensitive and because it has a 10-speed transmission that feels different during acceleration and shifting.

Have there been maintenance problems or unforeseen issues?

We have had no significant maintenance issues with our hybrids as a class. Though some individual vehicles have had issues, they have all been fixed under warranty. You do have to watch what emergency equipment is installed to avoid overloading the 12-volt system—especially if the vehicle was not designed as a law enforcement vehicle.

Do you have any regrets about purchasing the hybrid vehicle?

No regrets on the purchase, though we have not really seen the savings on fuel as most of the vehicles travel at highway speeds when driven.

What other models have you considered purchasing?

We have Hybrids but mostly our fleet is composed of the Ford Police model. We do have some Hybrid RAV-4s in non-police use.

Bradford Police Dept:

We currently have one hybrid cruiser that is not a plug-in. So far, we have had good luck with it. The vehicle is new so there are no maintenance issues yet. We have a second vehicle on order now. The first vehicle took about a year to get. I am being told 6-9 months to receive the next one. Totally set up I believe we paid around \$56,000 for the first vehicle in 2022. Both are Ford SUVs.