

# Woodbury GreenTimes

A special environmental edition

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## Factors to consider when purchasing an electric vehicle

Electric vehicle (EV) sales are steadily increasing. According to the Minnesota Department of Transportation, nearly 10,000 electric vehicles were registered in Minnesota as of April 2019, including 250 in Woodbury.

Although EVs may not work for every consumer, the increase in sales is largely due to the availability of models that offer longer electric driving ranges; decreasing prices in batteries and vehicles; and a larger variety of EV models on the market.

If you are considering purchasing an EV, there are several factors to consider:

### Driving range

Electric vehicles fall into two categories: battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). BEVs run only on electricity, and have all-electric ranges between 150 and 250 miles, with some models that offer a range up to 350 miles on a single charge.

If this range is not sufficient, a PHEV may be a better choice. PHEVs run on electricity for shorter ranges, generally between 15 and 50 miles, depending on the model, then switch over to gasoline when the battery is depleted. Many people prefer the flexibility that PHEVs offer because they can utilize the electric range for shorter trips and the internal combustion engine for longer trips.

On average, Americans drive 29.2 miles per day, according to a study by the AAA Foundation for Traffic and Safety.

### Cost of an EV

According to Bloomberg New Energy Finance Electric Vehicle Outlook 2019, 57 percent of all passenger vehicle sales are expected to be electric by 2040. The anticipated increase is attributed to more affordable EV options being available; a decrease in battery prices; and enhancements to the battery's lifespan.

According to the Environmental Protection Agency, the most efficient EVs will cost the average owner \$500 per year to drive 15,000 miles (combined city/highway driving). That's \$4,700 less over a five-year ownership period than the industry average. Kelley Blue Book says service

costs for an EV average 25 percent lower than with a comparable internal combustion engine vehicle because EVs do not require fluid changes or tune-ups, and there are fewer mechanical components to fail and need replacing.

Federal tax credits also help to make EVs more affordable. Depending on the model, tax credits range between \$2,500 and \$7,500. Some EV manufacturers offer additional incentives that have ranged between an additional \$2,500 and \$3,500.

### How will Minnesota temperatures impact the vehicle?

EVs perform just as well as their gas-powered counterparts when it comes to driving in snow and ice, but Minnesota's cold temperatures can impact an EV's performance. A study conducted by AAA found that when the ambient temperature dips to or below 20 degrees Fahrenheit, and the vehicle's heater is keeping the car interior at 75 degrees, the average electric car's operating range drops by 41 percent. That means that for every 100 miles of driving in optimal conditions, the range would drop to 59 miles. If that range is not enough, consumers will need to plan a stop for their next charge or consider the PHEV alternative.

### Charging the vehicle

Currently, EV drivers charge their vehicle at home 80-90 percent of the time, simply by plugging the vehicle into a standard electrical outlet. A Level 1 charger is a 120-volt outlet, which is a standard outlet found in a home. Level 1 chargers typically take eight hours to get a 40-mile charge. Some EV owners opt to upgrade their garage outlet to 240 volts, making it a Level 2 charger. Level 2 chargers can charge 10-20 miles in one hour of charging. DC fast chargers (DCFC) provide the fastest charging and are often found along heavy traffic corridors. DCFCs provide 60-80 miles of range in 20 minutes of charging.



*The city owns a Chevrolet Volt plug-in hybrid electric vehicle, resulting in a fuel savings of \$580 per year.*

### Woodbury adds electric vehicles to its fleet

Fleet vehicles represent a great opportunity for cities to transition to more efficient vehicles. Currently, the City of Woodbury's fleet includes four plug-in hybrid electric vehicles (PHEVs), seven electric vehicles that are used for parks maintenance and three hybrid vehicles. PHEVs in the fleet include two Chevrolet Volts and two Mitsubishi Outlanders. The city has also ordered the first hybrid pursuit-rated vehicle for public safety.

The Chevrolet Volts replaced Chevrolet Cobalts, increasing the miles per gallon from 16.9 mpg in the Cobalt to an average of 70 mpg in the Volt, resulting in an annual gas savings of \$580.

According to the U.S. Department of Energy, the average U.S. household spends nearly one-fifth of its total family expenditures on transportation, so saving on fuel can make a big difference in terms of the average family's budget.

To find locations of available public chargers, visit [plugshare.com](http://plugshare.com) or download the mobile PlugShare app, which includes more than 300,000 charging stations.

Learn more about EVs by visiting Drive Electric Minnesota's website at [driveelectricmn.org/communities](http://driveelectricmn.org/communities).





## Discounted home energy assessment

The Minnesota heating season is in full-swing as cold weather crept in earlier than expected. And as temperatures continue to dive throughout the state heating bills will be moving in the opposite direction. In addition to straining our wallets, high energy bills can also signal energy waste.

Another indication that a home could be wasting energy is the existence of drafts and cold spots in the home. A lack of insulation and air sealing creates a condition where warm escapes through the top of the house and cooler air is then pulled in from below. As a result, homeowners need to turn up the temperature, which makes their furnace work harder.

Energy waste is also observable from outside the home in the form of ice dams on the roof. The main cause of ice dams is warm air escaping into an attic that is not properly sealed and melting the snow on the roof. Many homeowners will notice some icicles during the winter months but in the more extreme cases excessive ice build-up can lead to water damage inside the home.

High heating bills, draftiness or ice dams are symptoms of potential energy efficiency issues. Homeowners looking to make some basic

improvements may want to schedule a Home Energy Squad visit.

The Home Energy Squad will visit your home to install energy saving products such as:

- LED bulbs
- Door weather-stripping
- Faucet aerators and shower heads
- Water heater wrap
- Programmable thermostat

At the same time, the Home Energy Squad team will conduct an energy assessment that includes:

- Insulation inspection
- Blower door test
- Infrared camera
- Carbon monoxide safety check
- Help with next steps

The Home Energy Squad is provided by Xcel Energy and CenterPoint Energy and delivered by the local nonprofit, Center for Energy and Environment. Woodbury residents also receive a discount and pay only \$70 (normally \$100) for the assessment plus all of the materials. To schedule your home visit, call 651-328-6220.



### Take it to THE BOX

## Dispose of unused medications at Woodbury drop box

Residents can dispose of any unused and expired medications for free at a year-round collection drop box located at the Washington County Service Center at 2150 Radio Drive in Woodbury.

Medication disposed of in a sink, toilet or landfill can pollute surface and groundwater and harm fish and wildlife. Instead of flushing or throwing them in the trash, properly dispose of medications during business hours at the Washington County Service Center Woodbury location: Monday and Wednesday between 8 a.m. and 6 p.m.; Tuesday, Thursday and Friday, 8 a.m. to 5 p.m.; and Saturday between 8 a.m. and noon.

Additional drop boxes are located in Cottage Grove, Forest Lake, Hugo and Stillwater and have different business hours. For more information about what medications are accepted and how to prepare medications for drop-off, visit [www.co.washington.mn.us/meds](http://www.co.washington.mn.us/meds).

To find more collection sites, visit the Minnesota Pollution Control Agency website at [pca.state.mn.us/living-green/managing-unwanted-medications](http://pca.state.mn.us/living-green/managing-unwanted-medications). Collection sites may have limitations for what they accept, so always check the specific site for restrictions.



## Recycle holiday lights and more at the Washington County Environmental Center

Whether you have holiday lights and electrical cords that no longer work or if you're ready to make the switch to energy efficient LED lights for your holiday decorations, there is an easy and FREE option for disposal.

The Washington County Environmental Center offers year-round recycling for holiday lights and extension cords. The Environmental Center is located at 4039 Cottage Grove Drive in Woodbury. Locations hours of operation are:

Tuesdays: 11 a.m. to 7 p.m.

Thursdays and Fridays: 8 a.m. to 4:30 p.m.

Saturdays: 8 a.m. to 2 p.m.

In addition to holiday lights, many other items may be taken to the Environmental Center for FREE disposal including:

- Household hazardous materials
- Household electronics
- Recycling
- Organics
- Sharps disposal from homes

For a detailed list of what is accepted at the Environmental Center, visit [www.co.washington.mn.us/envirocenter](http://www.co.washington.mn.us/envirocenter).

