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FORD F-150 LIGHTNING How to Get Yours ASAP!



Ford Motor Company

N. R. Mallory,
publisher of Green Energy Times

It looks like Ford is taking a bit of Tesla's thunder with their exciting new electric pickup truck. It is releasing the F-150 Lightning electric pickup truck at a price that is very competitive, and it has some super exciting new features. In our last issue of *Green Energy Times*, we had an article on electric and hybrid pickup trucks (www.bit.ly/GET-EV-pickups). We knew that something was coming, but we did not anticipate anything quite like this.

The response already has been extremely positive. In fact, Ford CEO, Jim Farley, announced that 44,500 reservations had been made in the 48 hours after the F-150 Lightning was revealed (www.bit.ly/F-150-reservation-count).

Joe Lorio said on autoblog.com, "The much-anticipated battery-powered 2022 Ford F-150 Lightning pickup has finally made its debut, a moment that feels like a sea change in the U.S. auto industry. The F-Series pickup has for years been America's bestselling passenger vehicle, and Ford's decision to offer it as an electric vehicle sends the message with a bullhorn. The EV's moment is upon us (<http://bit.ly/Autoblog-F-150-moment>)."

Jimmy Fallon, television host, is a F-150 owner. He has been talking about how much he wants the new F-150 Lightning (www.bit.ly/Ford-F-150-JF). In fact, on a recent late night TV segment, he was talking about all of their incredible statistics and excitedly said, "You can even power your home with it! I'm going to move in." He went

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CAN TOKYO 2020 PULL OFF A GREEN OLYMPICS?



U.S. gymnast, Simone Biles performs at the 2016 summer Olympics in Rio de Janeiro, Brazil. Image: Fernando Frazão/Agência Brasil. Inset: The Olympic flag and the Japanese flag in Tokyo (IOC/Jean-Jacques Strahm)

Brett Yates

Edging out the FIFA World Cup, the Summer Olympics represents the world's most popular sporting event, with an international television viewership that, over the course of more than two weeks, encompasses about half of the human population. On the ground, however, residents of host cities aren't always so enthusiastic.

The Games of the XXXII Olympiad, scheduled to begin on July 23 in Tokyo after a one-year delay, have inspired unusual resistance

on account of the Japanese public's fear of a coronavirus spike, but protest movements routinely trail Olympic bids, emphasizing associated problems such as residential displacement, increased policing and surveillance, ballooning public debt (amid corporate profit), and environmental degradation.

In 1992, the International Olympic Committee (IOC) began to incorporate environmental considerations into its candidature questionnaire, and since then, host cities have made plans to mitigate

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Keeping to 1.5°C – The U.S. Administration's Strategy for Dealing with Climate Change

George Harvey

In mid-May, the International Energy Agency released a report, "Net Zero by 2050," that warned that we must stop building coal-burning power plants worldwide and stop oil and gas exploration (www.bit.ly/Net-Zero-by-2050). Shortly after, on May 21, the G7 countries, U.S., Japan, Canada, U.K., Germany, France, and Italy, agreed to deliver climate targets that are in keeping with stopping global warming at 1.5°C. They are pushing for the other G20 countries to do the same (<http://bit.ly/G7-agree>).

We might review the events leading up to this.

On Earth Day, April 22, President Joe Biden introduced a virtual summit of world leaders on the climate crisis. No-



President Joe Biden opening the virtual summit of world leaders. (U.S. State Department. www.bit.ly/Biden-virtual-summit)

ably, all of the forty leaders considered most important attended. President Biden did not limit his comments to salutations, however. He increased the United States' greenhouse gas reductions from 25% by 2025 to at least 50% by 2030 (www.bit.ly/ghg-reduction-by-2030).

Actually, it is not hard to understand how the goal could be so dramatically in-

creased. The political situation in the U.S. has changed a lot in the last few years. Today, not just a majority of Americans, but a majority of Republicans believe that climate change is a problem that needs to be addressed.

People don't need scientific instruments to see the change in the climate. They can see the increasing damage from droughts in the West, heat in the Midwest and South, storms on the Gulf and Atlantic coasts, and floods wherever the whim of Mother Nature decides.

But weather is not the only issue at play. We still have high unemployment because of the Covid-19 pandemic, and many people are having financial troubles. Addressing the climate crisis by installing new renewable power facilities will put many of these people back to work, and at good pay.

Relief is going to some who really need it. Under the previous administration, about

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**HAPPY ANNIVERSARY
GREEN ENERGY TIMES
(2009-2021)**

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Historic Net-Zero Air BnB Features Air-to-Water Heat Pump

Dan Vastyan

Johnathan Matthew and Tracy Roux are proud to join the ranks of energy-efficient, fossil-fuel free Airbnb owners in the state of Vermont.

Their farmhouse, set on 50 acres near Plainfield, VT, was built in 1791 and added to extensively in 1827. Matthew purchased the property in 1997.

"We installed a large solar array on a barn roof in 2015," said Matthew. "The property is now an operating Airbnb. We're closed at the moment due to COVID-19, but we'll open again as soon as possible."

The 2,100 square-foot farmhouse has experienced many efficiency upgrades since 1997. The final component of the renovation was an HVAC system upgrade from its existing oil-fired furnace.

Matthew owns a spray foam insulation company, All Seasons Urethane Foam, and has worked extensively with Lloyd Plumbing, Heating and Gas Services, LLC, in the past. He and Jonathan Lloyd, comfort advisor and project manager for Lloyd, held several meetings to discuss



Built in 1791, the farmhouse is now one of the few fossil fuel-free Airbnb properties in Vermont. Rt: Solar PV was installed on the barn roof in 2015.



the best options for the historical home.

The primary objective was to remain as environmentally-friendly as possible and tap renewable energy. Reaching that goal took some deliberation, and they weren't sure to what degree they could minimize the home's carbon footprint.

"The existing 13.8kW solar array was a great start," said Lloyd. "Matthew and

I discussed the use of a pellet boiler, but this didn't address the need for air conditioning. He also considered the use of ductless heat pumps, but he and Roux preferred a radiant heat system for premium comfort. We hadn't reached a conclusion by the time I was contacted by Efficiency Vermont, who had been working with a manufacturer to bring a new, state-of-the-art, all-electric heating and cooling technology to Vermonters."

Beta test air-to-water heat pump

The professionals at Lloyd P&H are well known by managers at Efficiency Vermont. In 2019, the company was presented with Efficiency Vermont's Partner of the Year award.

Lloyd explained to Matthew that Mark Chafee, VP of governmental relations and sustainability at Taco Comfort Solutions, had approached Efficiency Vermont for assistance in identifying a beta test site for Taco's soon

to be released air-to-water heat pump system. Taco Comfort Solutions, based in Cranston, RI, is an American manufacturer of hydronic HVAC components and is known industry-wide for its forward thinking and development of class leading, high-efficiency products.

Taco's new System M heat pump, to be released soon, is a turnkey air-to-water heat pump that provides heating, cooling and domestic hot water with zero fossil fuel emissions. Much like a conventional unitary heat pump or a ductless mini-split, the system includes an indoor and an outdoor unit. But the similarities end there.

The outdoor unit of Taco's System M is a stylish, quiet condensing unit powered by a radically efficient variable speed inverter

and fan combination. The indoor unit houses a complete package of pumps, controls, and piping accessories ready to send chilled or hot water to all types of HVAC heating and cooling distribution systems. This can include hydronic coils for use in ductwork, convectors, radiators, unit heaters and radiant tubing, giving contractors, architects and homeowners nearly limitless options for premium comfort, architectural flexibility and energy efficiency.

"This system is truly an appliance, not an amalgamation of heat pump parts sold by different manufacturers, which has been the only option for an air-to-water pump in the U.S. until now," said Lloyd. "Taco has packaged the indoor and outdoor portions of this system in one cohesive, interconnected appliance. As a factory package, this cuts installation time in half."



Taco's pre-release System M air-to-water heat pump is installed at the farmhouse, supplying hot water to both the home's large indirect water heater and its main hydronic panel. Left: A technician from Lloyd Plumbing & Heating selects a pumping mode from several available on the Taco 0018e circulator.

"Our air-to-water heat pump incentive program began in 2019," said Brian Sweeny, supply chain account manager at Efficiency Vermont. "The biggest hurdle is lack of contractor familiarity with the systems. That results in higher prices for the systems, putting

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GEOTHERMAL

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Don't forget to check on essentials such as: if the company provides load calculations before installation, if they service the unit, and if they have their own service department. Questions like these will prevent you from

hiring a person who may want the sale but doesn't exactly know what he or she is doing. For an in-depth explanation and checklist, energy.gov provides an excellent resource for consumers considering switching to geothermal.

Lastly, ask your installer about available local and federal energy incentives and rebates. Most reputable geothermal installers should have this memorized.

When you take the time to ask the right questions, a residential geothermal installation will be a task you can



Geothermal ground-loop pipe being installed

approach with confidence!

Are you ready to interview geothermal installers? Download the contractor comparison guide (<https://pages.services/content.climate-master.com/how-to-choose-a-geothermal-installer>) now

to help make the best decision.

Joe Parsons has worked in the renewables and environment industry for over 40 years. Joe is the Residential Product Manager for ClimateMaster, Inc. He is a founding member of NY-GEO and is the treasurer of the California Geothermal Heat Pump Association. ♻️

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What We are Meant to Do

David Fried

There is a duck sitting, floating in the river under some leafy branches, so I can barely see him.

The camel stands up tall and watches us as we walk out from the rocky path. I am thirsty from my hike, but I do not think he is very thirsty. The camel is meant to go long distances over sand and over time with very few stops for water.

I have been getting up every day at the first hint of light. I have rows of cuttings to make, so we can have more very hardy berry bushes and flowering shrubs that Vermonters can grow in their yards. How else will the best undiscovered black currant varieties and the little-known basket willows be here for future generations?

I take my sharp pruners to my best and most vigorous plants and cut some stems back a little. I write with a wax pencil the variety name onto a plastic

label and carry the bundle down to our cutting beds the crew has prepared with deep, rich weed-free earth. Kneeling into the soft mud, I take each cutting and plunge it gently but deeply into the earth, pushing further and further. Slowly, I ease it in until only one or two buds are showing above the ground. There are rows of them now after a springtime of doing this. I visit every few days to see if the natural weather with some sun and some rain, some cool and some warm, will be just what they needed to do what they were meant to do. Grow.

Some early summer days are so hot, but then the clouds come in and soften the effect. My friend Bruce used to play only one song on the piano as a boy, and this was the Joni Mitchell song "Both Sides Now": "I've looked at clouds from both sides now, from up and down, and still somehow, it's cloud illusions I recall, I really don't know clouds, at all." When



Photo by Joyce Dutka

working outside on a very hot day with the sun in my eyes, I am thrilled when the clouds do what they are meant to do, balance the heat and brightness with their shade, sending all kinds of contrasts and shadows about the earth.

Whether we are running for mayor, running for fitness, or running to help someone, we are inspired by our vision of how to make the world a little better. Some of

us plant a garden. Some of us keep planting trees. Some of us call a friend to see how they are doing. Some volunteer to visit older people. I have a practice lately of not going to sleep until I write a poem or email to a few friends or family I know can use a kind word, hoping to bring a smile in the night or the morning.

One of my teachers said, "How does war start in the world? Someone on an island off the coast of Java yells at their child. How does peace begin in the world? Someone

on a street near you wakes up and says to their kid or their partner, 'It is so wonderful to be in the world with you.'" Sometimes we have the strength and the gift to be able to give over one good word to someone. Maybe this is what we are meant to do.

David Fried is a writer and grower of fruit and nut trees and berry plants at Elmore Roots. ♻️

Net-Zero Air BnB – Cont'd from p.23

them out of reach for many Vermonters. Whatever can be done to reduce complexity should help bring down the cost."

The model that Taco is releasing in the near future will feature a sleek, Euro-looking exterior. Otherwise, the beta test unit at the farmhouse is nearly identical to the final system. Like many modern appliances, the system can be controlled through a mobile app.

"This is the Tesla of the residential HVAC world," said Chaffee. "In that respect, it's similar to a geothermal system, though without the expense and disturbance of drilling or trenching a ground loop. It will appeal to homeowners who're interested in minimizing their environmental impact and eliminating fossil fuel consumption. It will also be of interest to consumers who understand the comfort advantages of a water-based hydronic heating and cooling system."

Several roads to comfort

In addition to providing domestic hot water, the beauty of the new Taco heat pump system is the ability to provide chilled and hot water to different radiation components. Matthew was adamant about providing in-floor radiant heat for the guests at the AirBnB, and took it upon himself to install radiant tubing below the floor on the ground level of the house.

Before the retrofit, the upstairs of the house had been extremely uncomfortable during the summer. In each of the bedrooms, Lloyd Plumbing & Heating installed fan coil units for heating and air conditioning. According to Matthew and Roux, the home is now far more comfortable in the summer.

"Not counting the domestic hot water load, the home needs 60,000 BTUs of heating capacity," said Lloyd. "The heat pump is rated for 48,000 BTUs. In addition to replacing the old oil boiler, the new heat pump has also replaced the existing propane water heater. Even when the house is full of guests, there has always been ample hot water for showers."

Renewable backup heat

Before deciding to install the heat pump, Matthew and Roux had considered the use of a wood pellet boiler.

They liked the concept of using a renewable solid fuel so much that they decided to install one as a source of backup heat, though not necessary in most residential applications.

"Using a backup pellet boiler allows us to remain 100% renewable," said Matthew. Working with Andy Boutin of Pellerger LLC, Lloyd Plumbing and Heating suggested a Pellerger Alpha A60.

"Matthew's boiler has a 52,000 BTU/h output and runs at 86% sustained efficiency," said Boutin, general manager at Pellerger. "He can purchase locally-sourced bulk pellets that are delivered directly to his bin."

Comfort and rebates

"The heat pump and pellet boiler combined with radiant floors and fan coils made for an unbeatable combination for achieving the homeowner's net-zero energy goal," said Lloyd. "We haven't received a single complaint. Comfort levels inside have been vastly improved."

Matthew received a \$6,000 rebate for installation of the pellet boiler, \$3,000 from Efficiency Vermont and \$3,000 from the Vermont Clean Energy Development Fund. Installation of the air-to-water heat



The Taco System M outdoor unit is sleek and weatherproof.

pump would have qualified for an additional \$4,000, had it not been a beta test unit.

"This is new technology," continued Lloyd. "It creates an opportunity for homeowners to increase their sustainability in a cool climate. As a fully-contained

package, it's ideal for converting from a fossil fuel furnace. I think it could help us break into the air-to-water heat pump market. That's something we've been looking forward to."

Learn more about Taco Comfort Solutions at tacocomfort.com.

Dan Vastyen is PR director and writer for Common Ground, a trade communications firm based in Manheim, PA. ♻️

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