July 26th 2017

NHEC Telephone Town Hall Meeting

NHEC rebates on Electric Vehicles and Heat Pumps

Allison: Hello. Hello and welcome everyone. Welcome to our live telephone from home meeting we have for you this evening. You are live on the line with the New Hampshire Electric Co-op. Please press 0 on the keypad on your phone to get in line with a question. Please stay on the line as we dial out to more and more members. I will go through this a few more times as we are dialing out to thousands of members. We'll be on this call for about the next half an hour.

Again, as I said before, if you have any questions please do not hesitate to press 0 on the keypad on your phone. You can do that now or at any time during this call. We really appreciate you being on this call tonight. We are going to talk about how you can significantly reduce or even eliminate the use of fossil fuel. Again, press 0 on the keypad on your phone now or at any time to get in line with a question, and for everyone who is just joining, welcome to our live New Hampshire Electric Co-op telephone town hall meeting we have for you this evening. Please stay on the line as we are dialing out to more and more members. We'll be on for the next half an hour. If you have any questions please press 0 on the keypad on your phone to get in line with your question. Also tonight we are collecting your email addresses. You can sign up to receive updates via email from us by pressing 7 on the keypad on your phone. We have operators standing by to collect your email address that way.

Again, that is 0 for questions, 7 to sign up for our email updates. Again, I'm going to go through this a few more times as we get more and more members on the call and then we'll jump right into the meat of the call. Tonight we're going to discuss how you can significantly reduce or even eliminate the use of fossil fuels, so please stay on the line for that. Our call is packed full with information and we don't want you to miss any of it.

Again, to everyone who is just joining us, welcome to our New Hampshire Electric Co-op's telephone town hall meeting we have for you tonight. You are live on the line with us, New Hampshire Electric Co-op, so please stay on the line. We have a lot of information for you tonight. You can press 0 on the keypad on your phone to get in line with a question. You can press that now or any time during the call. We'll be on for about the next half hour keeping you up to date, and also you can press 7 on the keypad on your phone to sign up for our email updates. We want everybody to stay involved and keep up to date on what's going on. Go ahead and press 7 on the keypad on your phone and an operator will take your email address for that.

Maybe the last time here I'm going to say this. Welcome, welcome to everyone joining our live telephone town hall meeting we have for you tonight. You are on the phone live with the New Hampshire Electric Co-op. Tonight we will be discussing how you can significantly reduce or even eliminate the use of fossil fuel. We'll be taking questions later from our callers during this call, so if you have any questions on any topic or especially on fossil fuels and eliminating them, please press 0 on the keypad on your phone, don't be shy, now or at any time during that call and we'll get you queued up. You can ask that question live. If you do not want to go live just go ahead and tell your operator that and they'll make a note and I can read your question live over the air that way. Also tonight we are collecting email addresses. If you'd like to stay updated via email please press 7 on the keypad on your phone. Again, 0 to ask questions and 7 to sign up for email updates.

Last time here. We are getting more and more members on the line. Welcome, everyone to our live telephone town hall meeting we have for you this evening. You are live on the line with New Hampshire Electric Co-op. Please stay on the line. We're dialing out to more and more people. We see people are pressing 0 to get in line with their question. That is awesome. You can also press 7 to sign up for our e-newsletter.

Now we have lots information for you tonight. We're going to talk about how you can significantly reduce or even eliminate the use of fossil fuel, so press 0 on the keypad on your phone with any questions about that or any other question. We'll get you in line and we'll take those questions live later in the call. Last mention here in the beginning, press 7 to sign up for our e-newsletter.

Now before we get into the middle of the call with all of our information, I do have a few polling questions for you, so to everyone on the line you are going to vote on these polling questions just simply on the keypad on your phone. We really hope you'll all participate. It's very important to us how you feel. That helps us do what we do, so first question goes like this. I'll read through it twice. Again, you are just simply voting on the keypad on your phone, and here's the question.

What is your most important reason for not considering buying an electrical vehicle? Press 1 if it's the upfront cost. Press 2 if it's that you're concerned about being stranded without a place to recharge. Press 3 if it's, "I don't like the available models." Again, very simply, question goes like this. What is your most important reason for not considering buying an electric vehicle? Press 1 if it's the upfront cost. Press 2 if it's concerns about being stranded without a place to recharge, and press 3 if it's, "I don't like the available models."

Thank you so much for voting on that. We'll give you a few more seconds here and then we've got another one coming up. While we are all weighing in on that, I want to remind everyone you can press 0 on the keypad on your phone to get in line with a question. You can press 7 to sign up for our e-updates, emails we can send you about what's going on. With that we are going to move

on to our next polling question of the evening. There are just three, so hang with me here. The second question goes like this. Again, just voting on the keypad like you all did before. Thank you so much for that.

Here is the second question. What is your most important reason for not considering installing a heat pump system for space heating? Press 1 if it's the upfront cost to purchase and install. Press 2 if it's the added cost on my monthly electric bill. Or press 3 if it's concerns that it won't keep my house warm in the winter. Again, question goes like this. Thank you for voting. What is your most important reason for not considering installing a heat pump system for space heating? Press 1 for upfront cost to purchase and install. Press 2 if it's the added cost on my monthly electric bill. Or press 3 if it's concerns that it won't keep my house warm in the winter.

Again, thank you all for voting on that. We have one more polling question coming up next, but want to remind everyone you are live on the line with New Hampshire Electric Co-op. You're on a live telephone town hall meeting, and right now we're doing our polling questions at the beginning. We'll get to some information tonight on how you can significantly reduce or even eliminate the use of fossil fuel, and then we'll take your live questions. To get in line with a question, press 0. Now we are going to go to our third and final polling question of the evening. Thank you all for voting, and the question simply goes like this.

Given the potential negative impact of fossil fuels on the environment, how important is reducing your fossil fuel usage to you? Press 1 if it's not very important. Press 2 if it's somewhat important, but I don't want to pay more to reduce usage. Press 3 if it's very important to you. Again, question goes like this. Given the potential negative impact of fossil fuels on the environment, how important is reducing your fossil fuel usage to you? Press 1 for not very important. Press 2 for somewhat important, but I don't want to pay more to reduce usage. Press 3 if it is very important to you. Again, thank you so much for your opinion on those. That really helps drive us in what we do here.

Again everyone, you are live on the New Hampshire Electric Co-op telephone town hall meeting. Press 0 to get in line with a question. Press 7 if you'd like to sign up for email updates. With that, it is my pleasure to introduce Seth who will be up next. He is New Hampshire Electric Co-op's communications administrator. Seth, go ahead and take it away, sir.

Seth Wheeler: Okay thanks, [Allison 00:09:00] and good evening everyone and thanks for taking the time to join us here on this lovely summer evening. As Allison mentioned my name is Seth Wheeler. I'm the communications administrator at the co-op. We're glad to have the chance to talk with you tonight because times are changing fast in the energy business, and a lot of it can benefit you specifically when it comes to your use of fossil fuels, so stay on the line folks and we're going to tell you how you can significantly reduce or even eliminate your use of fossil fuel.

You've probably heard these statistics before but they really set the stage for the topic of tonight's call. In New Hampshire, nearly 50% of us use oil as our primary heating source, and another 15% use propane. New Hampshire and the rest of New England are real outliers when it comes to fossil fuel use. On a per capita basis, no other region comes close to our consumption of oil and gas. When oil and gas prices are low like they are now it's not such a big deal, but you don't have to go back too far to remember when oil and gas were approaching $4 a gallon and filling your oil tank at home was setting you back about $1,000. On the roads, 99% of us are driving vehicles fueled by gas or diesel, and we get it.

Again, gas is cheap and electric vehicles are still considered exotic at best or downright inconvenient at worst, but we're here tonight to tell you that times and technology are changing fast. So fast in fact that you can now realistically consider living fossil fuel free without any discomfort or inconvenience. Better yet, by doing so you could potentially save more than half of your total energy costs. That's more than half. So whether you're ready to take the plunge or just want to test the waters, your co-op can help make it happen with information and financial incentives.

To recap for anyone who might just be joining the call, my name is Seth Wheeler and you're listening to New Hampshire Electric Co-op's telephone town hall meeting. Tonight we're telling you how you can significantly reduce or even eliminate your fossil fuel use at home and on the road. Thanks for joining us and please stay with us. We'll be taking your questions after our brief presentation tonight, so please hit 0 on your phone to get in the queue.

Back to our topic. How can we claim that you can virtually eliminate fossil fuel from your life? It wouldn't be possible without the amazing advances recently in heat pump technology and electric vehicle technology. Let's start at home where most of us are using oil or propane to heat our water and our houses. By switching to a heat pump system for space heating you can replace all that combustion equipment and reduce your annual heating bill by 30 to 50%.

Heat pumps are driven by electricity and function very differently than fossil fuel systems. In the winter, a heat pump extracts outside heat even in cold temperatures and transfers it inside. When it's warm outside it reverses direction and acts like an air conditioner, removing heat from your home. One advantage of this heat pump technology is that it moves heat instead of generating heat, giving you more energy efficiency. In fact, heat pump systems are up to three times as efficient as fossil fuel systems and as an added plus they also dehumidify as they heat and cool.

Heat pump technology can also replace your oil- or gas-fired water heaters. Heat pump water heaters are two to three times more efficient than fossil fuel or electric water heaters, and having installed a heat pump water heater in my own home last year I can tell you from personal experience that it's well worth the investment. I used to operate a tankless coil water heater directly off my oil-

fired burner, which is among the least efficient ways to heat water. So I replaced that last year with a 60 gallon heat pump water heater and have never run out of hot water, even with two teenagers in the house, and the impact on my electric bill has been less than I expected. About an extra $10 to $15 per month. Before installing the heat pump water heater, I was spending about $400 a year to heat water with oil, so that increase on my electric bill is more than offset by the money I'm saving on oil.

Heat pump technology itself isn't new. It's actually been around since the 1980s. What is new is the fact that the efficiency of heat pumps has advanced to a point where they can be used year round, even in subzero temperatures. We always recommend that you have a backup heating source available in the event that we get an unusually severe cold snap, but high efficient heat pump systems will continue to produce heat in temperatures as low as 13 degrees below zero. Let's move now from the house to the road and look at the very real possibility that an electric vehicle is the right choice for you.

I know that may be a stretch for a lot of us because let's face it. What do we think of most when we think of an electric vehicle? Basically it's an underpowered, egg-shaped car that can't go 50 miles without charging for 8 hours. Well for a while that wasn't too far from the truth, but not anymore. The newest generation of electric vehicles will go over 200 miles between charges and outperform a lot of gas fueled cars. Take the Chevrolet Bolt for instance.

I had an opportunity to drive one recently from Plymouth to Colebrook and back and it made me a believer. It's got a 200 horsepower electric engine. It'll go 238 miles between charges, but in my real world experience that mileage number is actually low. I made the 200 mile roundtrip Plymouth to Colebrook and back with about 70 miles of charge left when I got back to Plymouth, thanks to the ability of the car's brakes to recharge the battery while it's in motion.

So if you're worried about so-called range anxiety or the fear that you'll be stranded with a dead battery and no place to recharge, I'd encourage you to check out a website called PlugShare.com, that's PlugShare.com, and see a map of the dozens of locations throughout New Hampshire where you can now charge an electric vehicle. So basically no matter what corner of the state you're driving in, there's a publicly available charging station within a few miles of you.

We're going to pause here again and recap for anyone who might just be joining the call. Thanks for listening, everyone. This is New Hampshire Electric Co-op's telephone town hall meeting and we're talking tonight about how you can significantly reduce or even eliminate your fossil fuel use. Because of recent advances in heat pump and electric vehicle technology, it's never been easier to break free from fossil fuels at home and on the road. We'll remind you again too if you have questions that you want to ask, if you want to get in the queue please hit 0 and the operator will take your information.

Okay, let's shift gears now and talk about money, which is oftentimes the bottom line in these decisions. Reducing or eliminating your use of fossil fuel will require an upfront investment. There's no getting around that fact, but when you crunch the numbers you'll find the payback is worth the investment. Let's say you're installing a ductless mini split heat pump system to heat and cool your home. Depending on the efficiency of the system, you can qualify for incentives through New Hampshire Electric Co-op of up to $1,000 per ton. The co-op will also pay you up to $600 to install a heat pump water heater. Also, don't forget to research what federal tax credits are available for installing heat pump systems. For instance, a received a $300 tax credit this year from the government for installing my heat pump water heater last year. Combined with my co-op rebate, my total out of pocket expense to install a heat pump water heater was less than $1,500.

When you're buying a new electric vehicle, don't get too hung up on the sticker price. The new Chevrolet Bolt for instance lists for about $36,600. That's not cheap, but when you subtract the federal tax credit of $7,500 and a rebate from your co-op of up to $1,000, you could put yourself behind the wheel of a new car that costs half as much to operate for about $28,000. But before we get to your questions I want to call your attention to another co-op program that won't eliminate your fossil fuel use but can help you use less of it.

It's called the Home Performance with ENERGY STAR program and it starts with a comprehensive home energy audit. With the results of that audit you'll also receive a list of recommended measures that will improve the energy efficiency of your home. If you decide to proceed, the co-op will pay you 50% of the installation costs up to $4,000 to install recommended efficiency measures like LED lighting, air sealing, or adding insulation. It's a great way to save energy and money without the upfront cost of some of the measures we've discussed tonight.

Okay, that was a lot of information and I don't blame you if your head's spinning right now, but let's get to your questions and see if we can get you started on your way towards reducing or even eliminating your use of fossil fuel. Joining me tonight is Craig Snow. Craig is our vice president of energy solutions and he's a great source of energy efficiency information and will be doing his best to answer your questions tonight. So Allison, if you have some questions I'm going to turn it over to you so we can get right to them.

Allison: Absolutely. Thank you so much. We do. Our first question actually comes from James. Came in from email earlier today. His question goes like this. "How much money can I expect to save if I switch to air source heat pumps?"

Craig Snow: Thanks very much James for the question. It's a great question and actually one we get quite often. Unfortunately, it's difficult due to the variables involved, everybody's house is different, to say exactly what you would save specifically. Variables such as the size of the home, your heating system efficiency, insulation levels in your home, window quality all affects those metrics. What I

can tell you is that we actually monitor the average price of fuels in New Hampshire. We do that through the New Hampshire Office of Energy and Planning and by monitoring those fuels we can actually give you a percentage of what you would save over the typical fuel you're using.

You didn't actually mention what you use for fuel but if you use fuel oil, heat pump technology with today's current price of $2.20 a gallon you could save 14% on your energy bill. If you're utilizing propane the current price published as of July 5th was $2.90 a gallon. It would be a 57% savings in your energy bill. Kerosene a 33% savings. If you use electric, conventional electric resistance heat, up to 60% of savings on your energy bill if you utilize heat pumps. And last but not least wood pellets are about a 17% savings, so using those metrics it would give you a rough idea what the potential is for you if you install heat pump technology. Next question, Allison.

Allison: All right, excellent. Perfect. Thank you so much for that. We are going to our first live caller here in a moment, Baron, but first I want to remind everybody. If you want to get in line with your own question, press 0 on the keypad on your phone, and also to get email updates from the co-op to keep you updated on what's going on, press 7 and we have an operator standing by to collect your email address. Now we're going to go to Baron. Baron, go ahead. You're live. Tell us what your question is.

Baron: I've been considering putting solar panels on my home and I'm just wondering if that's an easy process to go through with the co-op.

Craig Snow: Baron, thanks for the call tonight. Thanks for joining us. We've actually been running a net metering program for a number of years now with the co-op and we've tried to streamline that process and make it as convenient and easy as possible for our members to do that. We have approximately just under 900 members that have actually installed systems over the last six or seven years, so basically the process that you would need to go through is you would contact the contractor that installs solar systems and get a proposal for doing that. They would come to your home and do a site survey and then you would fill out the interconnection application, and once you had that information on the system and basically it's a process that identifies the system and allows us to register your system with the state of New Hampshire. So it's a little bit of paperwork but we have program administrators on site here at the co-op that handle that process and like I said we try to make it as easy and convenient for members as possible.

Allison: All right, excellent. Thanks so much and thanks Baron for that question. Again, press 0 to get in line with your own question. We're going to go to a question that came in earlier today from Karen via email, and it goes like this. "What is the difference between a plug-in electrical vehicle and a battery electrical vehicle?" Who would like to answer that?

Craig Snow: This is Craig. I'll take that one also. Thanks for the question, Karen. We appreciate you calling in, and again it's actually a fairly common question as we're all getting more educated about electric vehicles and the acronyms that go along with them. Basically to make it easy, a plug-in electric vehicle is a hybrid vehicle. It's using a combination of a combustion gas engine and it also carries onboard batteries which allow the vehicle to be charged and run on battery power for a portion of the time. Some of the examples of those types of vehicles might be a Chevy Volt with a V for victory, a Toyota Prius, or those types of vehicles. Again, combination of gas and electric are the hybrids or PHEVs which stands for plug-in electric vehicle.

A battery electric vehicle is the second type that we've been talking about, and this is a vehicle that has strictly batteries onboard and powers the vehicle just with the battery power. You're starting to see more and more of those vehicles out now. Seth referred to a Chevy Bolt with a B as in Bravo. That's their new model that's out. It does 238 miles per charge. It's a great vehicle. We've actually purchased one for the co-op in our energy solutions department as a fleet vehicle and we've had it for about two months and are all very excited to be driving it.

That's basically the difference. Plug-in electric vehicles are hybrids. You can run them on gas or plug them in to charge the batteries. Battery electric vehicles are strictly a plug-in, battery powered vehicle. Hope that cleared up the question for you and again, thanks for calling in tonight.

Allison: Thanks. It cleared it up for me. Thank you, Craig. I had that question too. All right, our next question in comes from Kyle and he says, "What kind of equipment do I need to charge an electric vehicle at my home?"

Craig Snow: Well another great question, and thanks for the question Kyle. Basically all electric vehicles whether they're hybrids or whether they're battery electric vehicles come from the manufacturer with a charger usually in the trunk. It's an electric cord and a charge controller unit, and those will plug into any 120 volt outlet at your home. The downside to that technology or that process is that it takes a fair amount of time to charge the car at 120 volts. Each car manufacturer, each model has different size batteries on it so I can't speak specifically to how long. Let's just say that it takes significantly longer to do it that way.

Another option is to install what's called a level 2 car charger. That's a device that you can buy. You can put it in your home and basically it runs off of 240 volts, typical to the voltage used for an electric laundry dryer or an electric stove, and that unit can charge vehicles three times as quickly, so up to 25 miles of charge per hour of charging basically for that type of technology. Those are available aftermarket. They're not available through the dealers. Typically it requires an electrician to hardwire into your home, but for $5- to $600 dollars you can put in a level 2 charger and increase your charging capacity and reduce your charging times drastically.

Beyond that, there are public charging stations that are starting to appear and they're DC chargers instead of AC chargers. Some vehicles are available that have that option to do a DC charge and they can charge as much as 90 miles of capacity in 20 minutes. So a big difference in charging technology but for the home, either the plug-in unit that comes with the car, the 120 volts, or the 240 volt level 2 charger are your best options.

Allison: All right, excellent. Thanks so much, Craig. I want to do a last call for emails right now. If you would like to sign up to get email updates press 7 on the keypad on your phone. We have an operator standing by to collect those email addresses. We want to keep you up to date on what's going on, and while you do that we're going to take Jane live next. If you want to get in line with your question like Jane did go ahead and press 0 on the keypad on your phone. Jane, you are live on the line. Go ahead with your question.

Jane: Hi there. I'm very interested in reducing my own carbon footprint but I'm curious to know how you generate your electricity. Is there any point in me converting to electricity if you generate it via fossil fuels?

Steve Kaminski: Thanks, Jane. This is Steve Kaminski. I'm the VP of power resources and access here at the co-op. It's a good point and one of the things that people ask pretty often. We buy our power from a variety of sources. Most of it is actually from the power pool, suppliers and generators within the power pool, and as you may be aware the dominant fuel for most of the electricity produced here in New England these days is natural gas, so it's cleaner than the old days when there was a lot of coal on the system. We still have a bit of nuclear on the system. Carbon free. Fair amount of hydro. And more and more all the time the mix in New England is starting to be dominated by more wind resources and also photovoltaic sources.

There are several thousand ... I was told the figure last week, 110,000 individual solar installations in New England altogether that are now contributing to the production of electricity so that less electricity has to be generated by fossil plants, and there are more and more large projects being encouraged by various states in New England, particularly Massachusetts and Connecticut, all the time that will bring a lot more wind power onto the system, so slowly the mix of generation is changing. Can't ever really get rid of all the fossil fuels to make the system operate.

As you add more wind and more photovoltaic energy to the system you need traditional fossil fuel generation, mainly natural gas, that can respond quickly to the changes in the output of those kinds of renewable resources that are caused by changes in the wind and changes in the sunlight at various locations, so it's getting better. The states are really committed to reducing our carbon emissions all over the place and if you buy an electric vehicle for instance, over the course of time more and more of what you charge with will be less and less fossil fuel.

Allison: All right, excellent. Thank you so much. We're going to go directly to our next question. This came in from Maryanne. She asked that I read it over the air. Doesn't want to go live which is absolutely fine. Everybody out there wants to ask a question please press 0 on the keypad on your phone. If you'd rather me read it over the air like Maryanne did that is just fine too, so again, 0 to ask questions. Maryanne's question goes like this. "I live in a home that has a damp basement. I have heard that heat pump hot water heaters dehumidify when they operate. Will this solve my damp basement problem?"

Craig Snow: Hi, this is Craig again and I'll take that call. Welcome to the call tonight Maryanne and thanks for the question. It's true that heat pump technology does dehumidify. Seth covered that a little bit in the introduction. That's part of the process. Again, it depends on your home so it's not an easy question to answer without actually visiting, but at a high level I can tell you yes, they do dehumidify. The reality is that heat pump water heater, the amount of time that it actually runs is determined by how much water you consume. In a typical home with a couple of adults and a couple of children, that hot water heater unit may run for two or three hours a day so if you have an excessively wet basement and you run a dehumidifier 24 hours a day, the heat pump running for two or three hours won't necessarily cure your problem but in a moderate situation any dehumidification that does happen will help the situation. So again, not a cure all for it but every little bit helps.

Allison: All right, excellent. With that we have just about reached the end of our allotted time so I'd like to pass this back over to Seth. Do you want to go ahead and add some closing remarks?

Seth Wheeler: Yeah sure, thanks Allison, and before we go we just want to thank everyone again who joined us on the call tonight. We hope you'll come away from the call with the idea that it's really more possible than ever to eliminate fossil fuel from your life, and we here at the co-op are here to help you make it happen. To learn more about our incentives or our energy efficiency program, please visit our website. All your information you need is there. It's www.NHEC.com, or you can call our member solutions department during business hours at 1-800-698-2007. Thanks again for joining us folks, and have a great evening.