



**Sussex Rural
Electric Cooperative, Inc.**

A Touchstone Energy® Cooperative



Currents

CONTENTS

P1 / Our Energy Future

P2 / Hidden Costs of Appliances

P2 / Efficiency Tip of the Month

WATTS UP?

When beginning a construction project that requires digging, always call 8-1-1 a few days beforehand. This is the national "Call Before You Dig" phone number to help prevent people from coming into contact with underground utility lines while digging.



**Know what's below.
Call before you dig.**

For weekly fun facts on energy efficiency, electric safety, and more, follow us on social media and look out for #WattsUpWednesday!



@sussexrec



@SussexREC

CURRENTS is published monthly by
Sussex Rural Electric Cooperative
64 County Route 639, Sussex, NJ 07461
p: 973.875.5101 f: 973.875.4114
website: www.sussexrec.com
email: currents@sussexrec.com

Our Board of Directors

Chairman	-	Jack Haggerty, Jr.
Vice Chairman	-	William Kovach
Sec./Treasurer	-	Raymond Cordts
Barbara Miller	Thomas Madsen	
Ronald Dupont	Brad Sparta	
Michael Hopkins	Joseph Barca	
President & CEO - Christopher P. Reese		



Our Energy Future

By: Chris Reese, President & CEO
contacttheceo@sussexrec.com



We have come a long way since global climate change was an obscure idea - when the image of a sad polar bear, drifting away from the melting polar ice cap on a fragment of ice, was our main reference point for the problem at hand. Today we are witnessing the possible effects of climate change and concrete plans are being assembled to mitigate its impact. I know the concept of global warming can be a hot button issue for some. This article is not a debate about whether the idea of climate change is real. We know that global temperatures have been increasing. For the purposes of this article, I will err on the cautious side and consider the cause of this warming trend to be man-made. "Better safe than sorry" is the practice for now.

It's important that we are having these discussions more often and making plans to reduce carbon emissions. However, critical facts about energy generation are too often overlooked, perhaps out of a strong desire for a simple solution to the issue.

Realistically, renewable energy technology alone cannot completely fill the energy demand of our planet, our country, or even the state of New Jersey, which aims for 100% use of clean energy by 2050. The intentions behind NJ's Energy Master Plan (EMP) are admirable, but one question is: are these goals realistic?

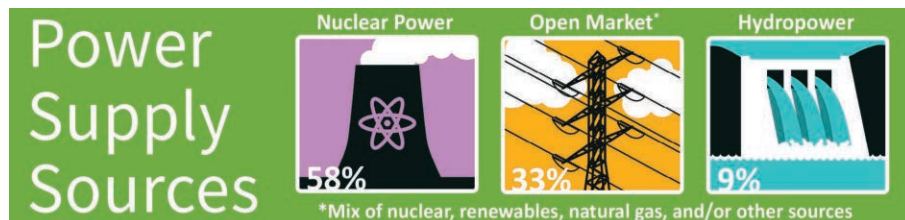
I am not trying to discourage activism for a greener future, but it is my responsibility to keep our membership informed on the reality of this situation. For New Jersey to meet its 2050 goal would require a yearly deployment of solar energy three times larger than anything the state has done before, and maintaining that level of installations for 15 years in order to catch up to and replace the current levels of energy production. With about 3,500 MW of solar installed today, to meet its goals

>> CONT. PAGE TWO

Our Energy Future

>> CONT. FROM PAGE ONE

NJ must have 32,000 MW installed by 2050. Wind energy will help offset this, with a large 7,500 MW project now underway in its early stages. On top of all that, I don't believe these goals cover the potential massive increase of future electricity usage due to electric vehicle charging and other new electrification projects. All of this new development is going to cost a substantial amount of money. While there's no final price tag yet, the state's ratepayers will in some way have to pay a large portion of this. We are watching this very closely at the Cooperative.



Renewable technologies are far from perfect and we often overlook their drawbacks – namely their reliability. But without incredible amounts of battery storage to cover overnights, low sun, and low wind days, there is no guarantee that enough energy can come from these sources to meet the needs of the state's populace. Otherwise, gas and coal generators will still be needed to fill those voids. To fully meet our energy needs while shedding our dependence on fossil fuels, our energy mix will require a more efficient “backbone” that can be supplemented by renewable sources. That potential backbone already exists and can serve this purpose while being 100% carbon-free, but it's often left out of the conversation. That option is nuclear energy.

As an SREC member, most of your energy already comes from nuclear power. 58% of our energy mix is derived from nuclear energy, giving us a head start in keeping our emissions low in general. If you combine this figure with energy we receive from hydroelectric plants, we are at least 67% carbon free. Additionally, looking at the approximate 35% energy we receive from the open market, the portion of that which comes from renewable sources makes our total energy mix 79% carbon-free. We still get some electricity from fossil fuel sources, but SREC is already far ahead of the state of New Jersey. While it's working towards its lofty 2050 goals, at the moment only about 27% of the energy in the state is generated through carbon-free sources.

Nuclear power can be utilized to remove the reliability problems renewables may face on their own. This power source is 128 times more powerful than coal and completely carbon free, so it can easily cover people's energy needs on days when the wind is too low or at night when solar panels can't charge. Unfortunately, it does not seem our state will make the most of nuclear power's potential going forward. The Energy Master Plan calls for retention of existing nuclear facilities but does not include plans for expansion nor does it mention nuclear power playing a critical role.

Nuclear power generates about 20% of the electricity in the U.S. While some countries in Europe and Asia are increasing their nuclear capacities, the U.S. continues to shut down plants. I'm certainly aware of the negative issues that surround nuclear power. Everyone knows that radioactivity and nuclear waste are dangerous, but with proper management nuclear power plants are absolutely a worthwhile investment, especially when facing a potential threat like climate change.

Recycling methods can allow reactor fuel to be treated for reuse, mitigating concerns about waste management. Additionally, most nuclear plants have never had any dangerous incidents. In more than 50 years there have only been three major accidents worldwide, only one of which claimed human lives. Overall, nuclear energy is responsible for less deaths than coal, gas, or hydropower in energy production, and safety standards are only getting better.

While solar and wind energy are certainly beneficial, they can be intermittent and need to be backed up by a more reliable and sustainable fuel source. I don't think we can have a realistic goal of 100% renewable energy. We can, however, be 100% carbon-free in the future. While there is a difference between those two terms financially and strategically, there is no difference between them to the Earth's atmosphere. Well-managed, secure nuclear power plants have great potential to help us push back on climate change. SREC understands the importance of its stewardship to our members and our shared environment. It should be repeated, our source of energy is already almost 80% carbon-free. We want our members to know where their power comes from and be informed of the issues surrounding power generation in their state, especially as these discussions evolve.

Hidden Costs of Appliances

By: Steve Sokolowski, Marketing Associate
ssokolowski@sussexrec.com

There's a saying that when shopping for appliances, you need to consider two price tags: there's the purchase price, but also the operating cost. When we buy a new refrigerator that's on sale, the cost to keep that appliance running isn't always something we consider – even when this model may cost more in the long-run than one that's more expensive in-store.

Some of these devices are luxuries and others we can't live without, but regardless of which category an appliance falls into it is always good to stay informed of what it costs you to own.

When you purchase an appliance or electronic device, they commonly come with energy guides that let you know their wattage. Keeping this number in mind while using your device will help determine what your usage adds to your monthly electric bill. To determine the kilowatt hours (kWh) added by a given device, which we use to determine how much is billed each month, you simply need to multiply the item's wattage by the hours you've used it in a month and then divide that number by 1,000. Your kWh can then be multiplied by SREC's current New Jersey residential rate of \$0.1094731/kWh to determine how much this one item adds to your bill.

If you no longer have easy access to an item's energy guide, you can usually find it online. Most online retailers include the energy information in the additional details of a device's listing. If you really feel dedicated to investigating the minutia of your electric bill, you can make use of the Department of Energy's Appliance Energy Calculator tool. Located at bit.ly/doe-energyuse, this calculator makes it easy to determine a device's impact on your bill and can provide an estimate for an item's average wattage. For a peek at what some common household items contribute to your total kWh, you can check out the table of appliances included below. This information is presented with Sussex Rural's New Jersey residential rates applied.

Please remember that all appliances are different, so the numbers presented here are just estimates. Your home's appliances may be higher or lower wattage, and you can

>> CONT. PAGE FOUR

Appliance	Typical Wattage	Estimated Hours/Month	kWh/Month	Cost/month*
Cable box	140 W	120	16.8 kWh	\$1.84
Ceiling fan	35 W	90	3.15 kWh	\$0.34
Clothes dryer	2790 W	18	50.22 kWh	\$5.50
Clothes washer**	255 W	18	4.59 kWh	\$0.50
Computer - desktop	75 W	240	18 kWh	\$1.97
Computer - laptop	25 W	240	6 kWh	\$0.66
Dishwasher**	330 W	23	5.28 kWh	\$0.58
Furnace fan	295 W	560	165.2 kWh	\$18.08
Hair dryer	710 W4500	12	8.52	\$0.93
Iron	1100 W	5	5.5 kWh	\$0.60
Light bulb - incandescent	60 W	288	17.28 kWh	\$1.89
Light bulb - LED	9 W	288	2.592 kWh	\$0.28
Microwave oven	1500 W	10	15 kWh	\$1.64
Refrigerator	225 W	720	54 kWh	\$5.91
Router/DSL/cable modem	6 W	720	4.32 kWh	\$0.47
Space heater	1320	250	330 kWh	\$36.13
Television - LED, >40"	234	150	35.1 kWh	\$3.84
Water heater	36	90	405 kWh	\$44.34

Source: Department of Energy Appliance Energy Calculator; bit.ly/doe-energyuse

* Calculated using SREC's New Jersey residential rate of \$0.1094731 per kWh.

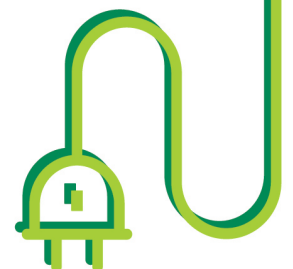
** Does not factor in energy used in heating water.

Energy Efficiency Tip of the Month

Avoid placing items like lamps and televisions near your thermostat.

The thermostat senses heat from these appliances, which can cause your air conditioner to run longer than necessary.

Source:
www.energy.gov



Hidden Costs of Appliances

>> CONT. FROM PAGE THREE

use their information in this calculator to get a customized summary of your home's electric use.

While the monthly costs of using some items seem negligible on their own, consider that each month you are billed for the use of every electrical device in your home. Creating savings where you can, even small ones, is a great way to cut down your bill and make paying for the use of necessary but higher wattage items, like water heaters, more bearable.

So what can you do? Here are some small ways you can start saving energy:

- Using LED light bulbs costs a fraction of the price to use incandescent light bulbs and LEDs last up to five times longer, so switch out any holdover incandescent bulbs you have in your home even if they're not yet burnt out.
- If you have a second refrigerator in your garage or basement, unplug it when it's empty so you don't continue wasting energy to cool an empty fridge.
- Only use a space heater when absolutely necessary – they're a top culprit in sudden increases on members' bills when the winter months arrive.
- Be mindful of "phantom load," the energy that devices like TVs, gaming consoles, and computers continue to draw when turned off but still plugged in. Unplug these devices when not in use!

Energy efficient appliances require lower wattage and can help ease the strain of operating costs on your electric bill. When shopping for an appliance pay attention for an Energy Star logo, a signal that an item is recommended to help you save energy.

Sussex Rural Electric Cooperative has an appliance rebate program that rewards members for committing to Energy Star-rated refrigerators, washers, and dryers. Customers of our investor-owned counterparts in the electric utility industry pay a Societal Benefit Charge on their bills and get to take part in state-sponsored rebates for these kinds of products. Though our members do not pay this charge and are not entitled to state rebates, SREC chose to institute its own offer that incentivizes energy efficiency among members. If you've purchased an eligible, Energy Star-rated appliance in the past 12 months, you can qualify for a \$50 rebate in the form of a bill credit. Be sure to check out www.sussexrec.com/rebate for details.

Outages & After Hours

877-504-6463



Sussex Rural Electric Cooperative
A Touchstone Energy® Cooperative



DISCONNECT/RECONNECT



SREC offers members **FREE** Disconnect/Reconnect service from 8am - 2:30pm, Monday-Friday

When your electrician needs to work behind the SREC-owned meter on your home, call us at 973-875-5101 to schedule service

APPLIANCE REBATES

Get money back for buying energy efficient
\$50 for each ENERGY STAR rated appliance
www.sussexrec.com/rebate

