

Susquehanna Sierran September 2023



Founded 1892

EXPLORE, ENJOY, PROTECT THE PLANET

Climate Pioneers !

In this issue find advice from two Susquehanna Group members who have thoughtfully and drastically reduced their greenhouse gas footprints. And they continue to live and travel normally. Pages 1 thru 3.

- Editor

Smart Steps to Fossil Freedom

- Gerri Wiley

Excited about the energy transition? Dream of taking a deep breath of clean air? Your gut microbes happily roll in clean water and nutrient-dense food. Streets so quiet you think you've lost your hearing, yet cars whiz by.

Then you wake up. You want to make it happen. Sierra Club friends are with you. The time is right. Homes and cars will be decarbonized, electrified. But it gets personal: What about MY home, MY car? People may tell you, "Start anywhere," "Start with the best incentives," "Start with solar." I beg you to choose none of those strategies. Follow these steps for the most positive impact on climate, your home's health and comfort, and your wallet:

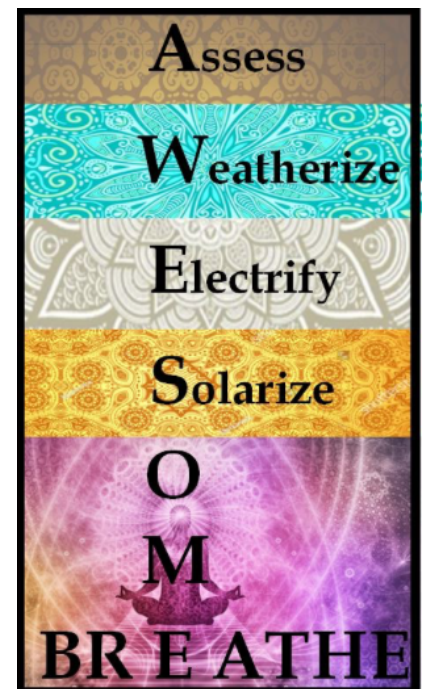
STEP 1- A Home Energy Assessment with a blower door test to determine air leaks and get a good idea of weatherization needed to get your home 'heat-pump-ready.' This is a good time to assess your electric panel capacity, based on your intended home electrification goals.

STEP 2- Insulation and sealing. No matter what type of heating/cooling equipment you have, you'll use less energy by improving your home's envelope. Your home will hold its temperature longer during power outages. It will be less drafty. Energy bills will be lower. New heating/cooling equipment will cost less. After weatherization, you'll want to repeat the blower door test prior to Step 3.

STEP 3- Heat Pump System – Now you're ready to right-size a ground- or air-source heat pump system. Without adequate insulation/sealing, a larger heat pump system would be required. Also, if you insulate after installing a heat pump system, the system may short-cycle and fail to remove moisture during the cooling season.

STEP 4- Water Heating and Appliances – I'm listing this as Step 4 although at any point you can replace your water heater with a heat-pump water heater, a ground-source hot water heater (along with space heating) or other electric-powered water heater. Explore induction stovetops. You can contemplate whether a heat pump clothes dryer, high efficiency electric dryer, or simple hanging rack or clothesline will suffice. You can consider an electric vehicle, its home charging apparatus, and a bicycle and public transportation.

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As part of your exploration, make sure the brands you select have good reliability records and on-site repair options where you live. Taking stock: Is your home 100% electric? Are you ready to cancel your fuel delivery or have your gas line disconnected and eliminate delivery costs?! You may be happy with your back-up fossil fuel systems and not ready to part with them? In either case, it's time to tally your total annual electric load.

STEP 5- Solarize – Now that you know your home energy load, you can size a solar array to power it. This may include a battery backup system and smart electric panel. If your rooftop or property is not suitable for solar, you can explore offsite solar array options. At any time you can subscribe to a solar project in your utility area. Your solar allocation is based on your electric load when you subscribe. In order to receive your full discount, periodically contact the solar company to increase your solar coverage.

Incentives and rebates abound in each of these steps. Contact your regional Clean Energy Hub for more information: <https://www.nyserda.ny.gov/All-Programs/Regional-Clean-Energy-Hubs/Find-Your-Clean-Energy-Hub-Today>. One impactful action you can take is to talk with friends, family, and acquaintances who may be struggling to pay their bills and encourage them to connect with their Clean Energy Hub to have a home energy assessment and weatherization, both of which may be free based on their income. Together we rise and thrive!

I haven't emphasized starting with incentives or rebates. Chasing energy incentives is akin to shopping with food coupons. It's bound to lead to wrong-sized equipment lined with 'junk food.' I encourage you to remain price-blind until point of sale, then make sure available incentives are applied. Some energy services and products may be free or reduced-cost depending upon household income.

Now go forth and Assess, Weatherize, Electrify, Solarize, and bring friends and neighbors along for the ride!

Reducing Fossil Footprints

– Chris W. Burger

Much of the public has consistently been out of sync with the scientific reality of climate change. While politicians debated whether climate change was real (a question the scientific community settled long ago), the scientific community shifted to trying to determine how much time we have to address the problem. In recent years this has come down to a debate between whether the time is urgent (almost desperate) or is already too late. Virtually no one in the scientific community suggests that we have much time left. Even more worrisome is the fact that the majority of climatologists have consistently underestimated rates of climate change.

Polls have shown that most people now accept that climate change is real. Unfortunately, too many have simply moved from “climate change deniers” to “urgency deniers.” This hardly helps when it comes to addressing the problem and changing behavior. As Greta Thunberg, a student activist, has observed: “If we truly believed the science, we would be behaving very differently.”

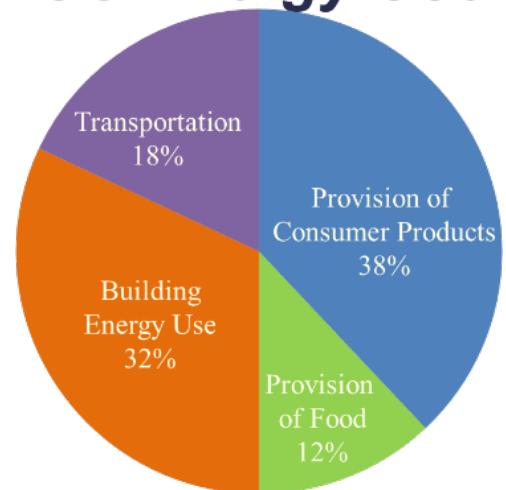
While government leadership would be helpful, at the end of the day the transition away from fossil fuels will be accomplished by the many individual decisions made by community residents, businesses, and civic institutions. It will require “all hands on deck” to have any chance of succeeding. What is required is a commitment to energy efficiency, the electrification of our energy use, and ensuring that our electrical supply comes from renewable energy.

For those ready to make the commitment to moving away from fossil fuels, here is my 7-step approach. These need not be in any specific order.

1. Reuse, Recycle, and Compost
2. Change your eating habits
3. Practice energy conservation

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US Energy Use



4. Make your home as energy efficient as possible (reduce energy waste and loss)
 5. Electrify all your home equipment and appliances (including cooking, heating, and hot water)
 6. Electrify your transportation
 7. Ensure that your electricity comes from renewable sources
1. It might seem strange to include Reuse, Recycle, and Composting on this list, but 38% of our energy is used to provide all the “stuff” we consume. This is embedded energy that can be reduced simply by buying less “stuff.” In addition, more than half of this 38% (20% overall) is used to extract and process the material used to make these products. If we were to recycle this material, we would cut this energy use significantly. Reusing, recycling, and composting while avoiding what can’t be reused, recycled, or composted, is a must and pretty straight forward but requires concerted effort. NOTE: Composting keeps organics out of our landfills where they produce methane; a greenhouse gas far more potent than even carbon dioxide (CO₂).
 2. Cutting down on food waste (Americans waste more than 40%), buying more locally produced, less processed food and eating less or no meat (especially beef) will reduce the energy used in the provision of our food.
 3. Conserving energy and making your home more energy efficient is a good place to start when it comes to reducing the energy use of buildings. Get a free energy audit as soon as you can (for audits see <https://nynest.org/resources/>). A good audit will identify where, how, and how much energy you are losing. It will help you set priorities for improving the energy efficiency of your home and give you an estimate on the payback time with the energy saved.
 4. Our buildings and homes are the second largest energy drain (32%). We need to electrify everything in our homes. Luckily, a good deal of our household equipment and appliances (lights, refrigerators, washers, dryers, air conditioners, small appliances, etc.) use electricity already. Lighting uses 12% (of the 32%) of this energy. Incandescent lights are very inefficient. Switch to LED lights as soon as you can. For your cooking needs, microwaves, toaster ovens, etc. already use electricity. Electric stoves use electricity but are terribly inefficient. Consider changing to an induction stove. They are not only more efficient but provide much more control and provide a more satisfying cooking experience. Generating hot water is another big energy user. If you haven’t already, consider switching to an electric hot water heater, solar hot water heater, a heat pump, or a combination of the three.
 5. In the colder climate of New York State, the biggest energy user in most homes is heating (42% on average). This is where paying attention to the energy efficiency of your home really pays off. 40% of our homes are already heated by electricity. Most of these homes, however, heat with very inefficient electric baseboards. Installing radiant heaters would be a big improvement, but the most efficient form of heating is with heat pumps, either air source or geothermal. Heat pumps can also serve double duty as air conditioners (for heat pump solutions see <https://nynest.org/programs/heat-smart/>).
 6. We are slowly electrifying our public transportation system, but for those of us who need our own vehicles, your next vehicle needs to be electric as well. Most of your charging will be done at home, so the minimum range of your vehicle should at least equal a typical day of driving. EVs with a 200-mile range or more would cover trips within a 100-mile radius of your home. For “road trips” (over 100 miles), as an EV driver who has traveled from Maine to Florida, I can attest to an adequate charging network that is only getting better.
 7. None of this electrification will do any good if we don’t address the source of electricity. We all have the option of choosing our source of electricity. There are several Energy Supply Companies (ESCOs) that generate electricity with renewable energy (usually wind, solar, and/or hydro). People interested in changing their electric supply company should contact Gerri Wiley, of Binghamton Area Climate Action Now, at gerriwiley@yahoo.com and she will advise you on your best options. Switching ESCOs will satisfy the immediate need to generate your electricity with renewables. At the end of the day, however, investing in solar panels, either on your roof, lawn, or in a community solar farm will be far cheaper for you (about a third of the cost of current market electricity prices) and will keep your energy dollars local (for solar solutions see <https://nynest.org/community-solar/>).

Susquehanna Group

Broome and Sullivan, & most of Chenango,
Delaware, Otsego, and Tioga Counties

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|------------------------|------------------------------|
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| | * Member Executive Committee |

To become a candidate for the
Susquehanna Group's Executive
Committee, mail by November 1, 2023
a candidate statement of 150 words or
less to:

Susquehanna Group
PO Box 572
Endicott NY 13760

The Nominating Committee will create
a slate of candidates, and ballots will be
mailed with the December *Sierran*.



At east end of Greenway. photo: Kathy Cronin

434 Greenway Opens

– Scott Lauffer

The 434 Greenway, a 2.5 mile multi-use path connecting Binghamton University with downtown Binghamton opened in August. The path provides safer and easier non-motorized transportation and recreational opportunities. It parallels NY Route 434 (Vestal Parkway) and is separated from the roadway by guard rails and concrete barriers. It replaces what had been a dangerous walk or bike along the shoulder of the Parkway.

At a cost of \$23.9 million the Greenway was designed after public input and constructed by the New York State Department of Transportation. At-grade road crossings were constructed including at the entrance to the University Plaza. Traversing it, especially from

west to east, affords good views of the Susquehanna River.

The Greenway can be accessed at many locations including the Washington Street pedestrian bridge, MacArthur Park, Ivanhoe Road at Vestal Avenue, Plaza Drive where car parking has been created, and Murray Hill Rd on the BU campus.

Some residents opposed the Ivanhoe Rd connection fearing disruptions to their neighborhood. The NYS DOT ultimately chose to include the connector. It is pretty well established that multi-use paths generally enhance neighborhoods and don't degrade property values.

The Greenway will undoubtedly become a vital part of long-range plans for a continuous Southern Tier bike/trail system.

We Must Declare A Climate Emergency!

– Valdi Weiderpass

In June 2023 many millions of Americans in the Northeast who may have viewed Climate Change as a hoax or not a top priority woke up to a thick pall of smoke that dimmed the sun and colored the sky orange. When they sought news to explain this, they learned the smoke was from hundreds of out-of-control wildfires in Canada caused by drought and an early heat wave. New York City on June 7 had the worst air quality of any major city in the world and residents were warned to stay inside. [CNBC NYC worst air quality AQI 342](#) Many realized that no one is immune from the effects of climate change.

July 2023 was the hottest month in the history of global temperature recordings. "According to NASA data, the five hottest Julys since 1880 have all happened in the past five years." [NASA July-2023-hottest-month-on-record](#) There were record-shattering heat waves around the world and USA is still experiencing heat wave conditions, now months long in large areas, with almost one third of USA's population having been under heat alerts. Phoenix, Arizona had 31 consecutive days of 110°F or above and 6 consecutive days of temperatures of 115°F or above, reaching 119°F July 20. This heat wave filled the 45 beds of the Arizona Burn Center with patients severely burned from falling onto or otherwise touching pavement or concrete which had temperatures of 150 to 180°F. [CNN Arizona heat burns](#)



photo: burned-out cars and buildings, Lahaina, U.S. Civil Air Patrol, Maui

2023 has seen record floods, mudslides, droughts, unusual cold snaps, storms, crop failures and wildfires. The devastating wildfire in Lahaina, Hawaii resulted in at least 115 deaths and hundreds of buildings and vehicles destroyed. These climate effects are just a sample of extreme events in 2023.

Attribution science found events almost “impossible” without the influence of Climate Change: Siberian heat wave of 2020 (record 104°F in Arctic), Pacific Northwest heat wave of 2021 (record 121°F in Lytton, British Columbia), Northern Hemisphere drought of 2022, Horn of Africa drought of 2020-2023, and heat waves in the Mediterranean and South Asia in 2023. [CNN extreme events due to climate change](#) Record-smashing high ocean temperatures and Antarctic sea ice loss ([Sciencealert.com - 6 sigma-event-Antarctic-sea-ice](#)) have shocked climate scientists. [The Guardian - scientists shocked by recent climate events](#) Climatologists admit that climate models cannot yet adequately model extreme events nor predict risks. They say we have a narrowing window to take climate actions needed to avoid triggering tipping points that could push Climate Change beyond humanity's control. [The Guardian - dramatic climate action needed](#)

Sierra Club members as well as the public need to push local, state, and national levels of government to declare a Climate Emergency and take urgent large-scale steps to slash greenhouse gas emissions to near zero. The President has executive powers and can take additional emergency actions under the 1976 National Emergencies Act. Detailed recommendations are at: [Center for Biological Diversity - urgency-for-Biden-to-declare-climate-emergency](#). Humanity needs to take drastic actions now in order to save itself and much of life from Climate Catastrophe!

Coming Events

- Sept 17 Climate March, NYC. Endorsed by Sierra Club. <https://www.endfossilfuels.us>
- Sept 19 7pm Membership meeting via Zoom. Diane Cohen of Finger Lakes ReUse Center on its community reuse facility. Additional information forthcoming via email.
- Oct 21 Broome County Riverbank Cleanup. <https://gobroomecounty.com/emc/riverbankcleanup>, or contact Scott Lauffer at 607-341-3746 or lauffer.scott@gmail.com
- NOTE: Susquehanna Group Executive Committee is arranging venues and technology for hybrid general membership meetings for our 6-county geography. Meetings will include both in-person and online participation. Additional information forthcoming via email.

Recent Activities

Susquehanna Group on August 26 simultaneously tabled at two events:

- Binghamton University's UFest where our Move Out Project alerted new students to its ambitious program to recover and distribute usable discards at the end of the school year.
- The University's "Binghamton 2 Degrees" event at Confluence Park. <http://binghamton2degrees.com>

Members on August 19 took guided tours of Newark Valley Historical Society's Bement-Billings Farmstead Museum and associated lands. The farmstead dates from 1796.



*The Binghamton 2 Degrees event at Confluence Park shared space with our Pollinator Garden which in spite of concerns was not seriously trampled.
photo: Binghamton 2 Degrees*



Member Ed Nizalowski conducts a lands tour of the extensive and impressively maintained Bement-Billings Farmstead, Newark Valley NY. photo: J Taft



Susquehanna Group

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<https://www.sierraclub.org/atlantic/susquehanna>