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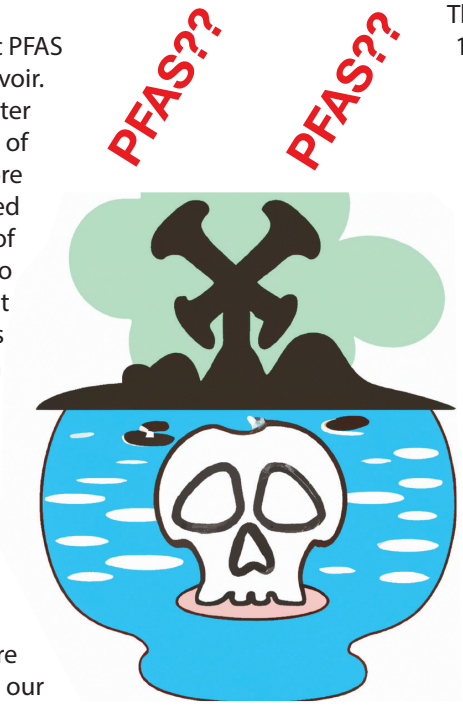
Land Swap Heightens Threat to Westchester and NYC's Water

By George Klein

In brief: Westchester County Airport is polluted with highly toxic PFAS chemicals. Yet, the Westchester County Board of Legislators on April 8, 2024 approved a land exchange, "the swap", of 13.4 acres owned by the Westchester Joint Water Works, for the same sized parcel at the airport. This will allow WJWW to build a water treatment plant at the airport.

The problem is that the construction project site is located within the watershed of the Kensico Reservoir. A watershed is the area surrounding a body of water, and any precipitation falling there ends up in that body of water, so a watershed is a basin.

This project could easily dislodge these toxic PFAS chemicals into the nearby Kensico Reservoir. The Kensico is the source of drinking water for 9 million people, including most of Westchester's population, and many more in NYC. PFAS chemicals have contaminated the drinking water supply for hundreds of communities around the U.S. According to recent findings by the EPA, PFAS are toxic at even the lowest detectable levels and it is extremely expensive to remove them from the water.



This is an environmental and public health issue.

The 4/10/2024 New York Times article "E.P.A. Says 'Forever Chemicals' Must Be Removed From Tap Water" is just the latest evidence that federal and state regulators are judging PFAS to be ever more dangerous to our health. "Exposure to PFAS has been associated with metabolic disorders, decreased fertility in women, developmental delays in children and increased risk of some prostate, kidney and testicular cancers," says the article.

Our Board of Legislators could avoid this harm simply by insisting that the WJWW project be sited outside of the Kensico Reservoir watershed.

Sierra Club, Purchase Environmental Protective Association, Purchase Friends Meeting, the Coalition to Prevent Westchester Airport Expansion and others oppose the WJWW project at the location planned, specifically because it is within the Kensico Reservoir watershed.

We acknowledge WJWW's need to build the treatment plant, but judge the risk of contamination by PFAS pollution to the water in the Kensico from soil and groundwater disturbance from the construction at this location is too great. However, the Board of Legislators judges this risk worth taking, considering the urgency of the project, which will benefit 80,000 - 100,000 people served by WJWW.

The 4/8/2024 vote was 15 in favor, 1 against, and 1 abstention. The legislator who voted against the project had concerns about the water in the Kensico Reservoir.

An ounce of prevention would surely go a long way here, considering the risk to public health and to the public's wallet.

We are continuing our efforts against this project.

The Examiner News did a good article on the situation: https://www.theexaminernews.com/westchester-approves-land-swap-for-new-filtration-plant-near-airport/

If you would like to pitch in, please send a message to lowerhudson@gmail.com.

Membership Meeting Schedule

Visit SierraLowerHudson.org and select Events

Visit RocklandSierraClub.org

All meetings via Zoom, link on websites

Join us to work on environmental issues in Rockland County!

Rockland Sierra Club was one of the groups leading the successful effort to defeat plans to desalinate Hudson River water for Rockland's drinking water. We are now helping the County craft a sustainable water management policy. We are also working to limit new fossil fuel infrastructure and have partnered with 350.org on efforts to address climate change through divestment and through promoting Climate Smart/Clean Energy Communities programs for towns and villages.

Rockland Sierra Club usually meets on the second Monday of each month. Check RocklandSierraClub.org for dates and locations. For more information: pkurtz9@gmail.com or call 845-709-0802.

Hikes and other Outings

Don't forget to check the Get Outside page on our group website for all kinds of outings. They're fun and invigorating, and a great way to meet like-minded people of all ages and walks of life.

Visit SierraLowerHudson.org and click Get Outside.

Get Paid to Not Use Electricity

by Liam Robb O'Hagan

At the beginning of March, I received a check for $106.28. This was my reward for reducing my electricity usage 3 days last summer.

I call it easy money. The power industry calls it Demand Response. When the **demand** is pushing the electricity grid to the limit, utilities will pay customers to respond by using less electricity, to ensure the supply is reliable and reduce the chances of blackouts.

This usually occurs on hot summer afternoons when people crank up their air conditioners, and little used "Peaker Plants" are fired up to meet the demand. These are usually inefficient fossil-fuel powered plants, and the utilities will pay users to avoid using them.

It is a simple way to reduce your carbon footprint.

Demand Response used to be a benefit that was extended to large consumers and businesses, but smart meters make it possible to pool individual customers together. There are 28 of these so-called Aggregator businesses listed on ConEd's website. Orange and Rockland has 12 Aggregators. NYSEG has an in-house program.

The process, rewards and services vary among aggregators. I use the one promoted by Sustainable Westchester, which also offers power saving tips and analysis of my energy use thorough out the year.

In summer, my program will give me warning of an upcoming "Event" via text message or a notification from the app. This is usually a day ahead of time, and most events are between 2-6pm, so I have plenty of time to plan.

The easiest adjustment is to remember to run the dishwater or do the laundry in the morning. But there are other tricks like pre-cooling your house before the event starts and then turning off the AC during it. Unplugging the modem or incentivizing the kids to go to the beach is a great way to achieve some savings. As is starting to cook after 6pm. And it's not the time to charge the car.

The season started on May 1, but it's not too late to enroll, you may earn a smaller amount of money this season, but you will be eligible to earn the maximum amount next year.

ConEd doesn't make it easy. When I enrolled 3 years ago signup was a little clunky, and it took 6 months to get the check, but Demand Response is worth the effort, and a simple way to get to maximize carbon reductions for minimal effort.

In Memory of Jerry Ravnitzky

Beloved Sierra Club activist Gerald Philip Ravnitzky passed away on February 23, 2024, at age 88.

One of his most valuable contributions was the candidate forums he organized at the Mahopac Library before elections.

He was a board member of the Croton Watershed Clean Water Coalition and a founding member of Stop the Algonquin Pipeline Expansion (SAPE), a vital local anti-pipeline group that always punched above their weight.

Jerry also served several terms on our group's executive committee, and pitched in on countless initiatives pursued by our group, always with thoughtful intelligence, good cheer and calm judgment.

Among Jerry's many professional skills was the art of mediation that he presented in workshops to educators. This greatly contributed to his ability to see both sides of a contentious issue and bring about a successful outcome.

He and his wife Judy also worked as a great team in the antiques business traveling the United States to buy and sell in the national antiques shows.

Jerry will be missed by many and his memory is a blessing for all.

Climates: They Are A-Changin' (Part I in a series)

By Joseph Dunnigan

Climate change. It's a stand-alone phrase that can invoke some kind of emotion in most people whether it is anger, dismay, or, perhaps even, disbelief. But why are we now in such a predicament that almost every politician argues for or against policies that aim to deal with the effects of climate change? After all, doesn't the climate change anyway? Well, before I took my journey to learn more about the environment by joining the Sierra Club's LHG and studying climate change at Oregon State University, I too was mystified by the term *climate change*. And while I am still trying to understand it all, I am hoping that on this path of discovery that I entitled, 'Climates: They Are A-Changin' together we can uncover and understand the many facets related to climate change beginning with this article. So, let us sit back, take a breath and dive headfirst into this sometimes dividing, sometimes uniting, and very much current topic.

Now, If I may paraphrase a line from Lewis Carroll, "let us begin at the beginning," (well *sorta*) and briefly explore a period of Earth's climate change history before releasing the smoky layers of carbon and its connection to the climate change paradigm.

In the beginning … there was climate change

According to the United Nations, "climate change is a long-term shift in temperature and weather patterns." The United Nations adds that these shifts can happen naturally. In fact, there are theories that suggest that the Earth, over its 4.5-billion-year history, has experienced many changes to its climate. Such occurrences have happened during the Neoproterozoic period, a point in time in which the Earth underwent cycles of glaciation (formation or covering of land by glaciers) and greenhouse events (the process of heat being trapped in the atmosphere by gases causing a rise in temperature) from about 1,000 to 580 million years ago (Hoffman and Schrag 2000; Pierrehumbert et al. 2011). But how did such an extreme climate change event occur?

According to Hoffman and Schrag, the continents atop their tectonic plates were clustered near the equator. Next, ice began to form at the southern or northern latitudes.

In fact, in that period the Earth was covered in so much ice that scientists called it the "Snowball Earth" (Pierrehumbert et al. 2011). According to scientists, this event is significant in that glaciation had been absent on Earth for almost a billion years. The origination of ice development is not well explained.

But a scholarly article by Retallack (2023) suggests that carbon sequestration due to increased microbiome and chemical weathering is to blame for reducing the atmosphere of its greenhouse gas which enabled cooling which then enabled the expansion of glaciers. What comes next is something out of a Hollywood movie.

Snow and ice have a high albedo (albedo is the ability to reflect light) and that as the ice sheets expanded, they reflected more sunlight, the more light that was reflected the colder the surface temperatures became, and the cooler the temperatures became the more the glaciers expanded (Hoffman and Schrag 2000; Li et al. 2011; Pierrehumbert et al. 2011). This is called ice-albedo feedback and could have created what has been termed as a runaway freeze (Hoffman and Schrag 2000). Luckily, a reversal did occur.

As we alluded to by the UN's definition of climate change, shifts can happen naturally, and one of the means of those shifts is when volcano activity occurs and spews out its carbon dioxide filled smoke (United Nations). During the Neoproterozoic period, volcano activity above and below the surface increased because of tectonic movement and with it an increase of greenhouse gases was emitted (Hoffman and Schrag 2000). What would have occurred next would have been a capture of the carbon via the formation of certain rocks, but this did not occur as the glaciers prevented the process from happening. What did happen was that the carbon and other greenhouse gases from the increase in volcanic activity accumulated in the atmosphere, then the Earth's surface temperature heated up, the glaciers melted, and the lower albedo of the exposed water and land reversed the feedback loop to create higher and higher temperatures.

During that "Snowball Earth" period life was on the verge of total collapse, luckily with the reversal an explosion of life occurred (Li et al. 2023). Perhaps without this drastic climate change event we would all not be here.

Conclusion

This is just one example of many in which climate change impacted the Earth. I chose to discuss it because I wanted to display a time in which carbon dioxide and greenhouse gases saved the day (so to speak) and spawned a new beginning to our little rock we call Earth. I by no means take this as an analogous to our current situation, in fact I believe the next step in our climate change journey would be to fast forward in time and relate the story about how we began to heat up the Earth's surface in a negative way. And so in the following articles I aim to discuss the dawn of the anthropogenic era, the carbon cycle, and how we as a people began to do so much damage to the Earth's natural processes that perhaps Hoffman and Schrag would have to amend their description of the "Snowball Earth period," and state that in no other time besides that of the post industrial era has Earth's climate been so disrupted. But alas, that's for another article. And so, our climate change journey begins ….

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New York Poised to Outlaw New Fracking Threat

By Gale Pisha

Capturing carbon dioxide (CO_2) from coal-, gas- and oil-burning power plants and injecting it underground is claimed to be the solution to climate change. Moreover, injecting CO_2 into shale formations which absorb it can force out natural gas and oil without using as much water as other extraction methods, and these fossil fuels can be used to run power plants to power direct air capture (DAC) facilities to remove more CO_2 directly from the atmosphere. What's not to like?

A Sierra Club member from Atlantic Chapter's Susquehanna Group (mainly Broome, Chenango, Delaware, and Sullivan counties), Gerri Wiley, learned about this idyllic-sounding proposal last October when she was told by landowners in Tioga County that they had been solicited for leasing their land for this purpose. She informed Valdi Weiderpass, Susquehanna Group Chair, a retired engineer who sounded the alarm to the Department of Environmental Conservation and to the chapter.

The group's quick action and collaboration with their state legislators, Assembly Member Donna Lupardo and Senator Lea Webb, resulted in the introduction of a bill in both houses of the legislature in January by Senator Webb and Assembly Member Anna Kelles to ban this new type of fracking for fossil fuels. The Assembly bill, A.8866, passed that house on March 12, 2024 while the companion bill, S.8357, passed the Senate on March 20. It is currently awaiting signature by the governor to become law.

What is so alarming about this proposal? It is part of a massive effort by the fossil fuel industry to keep producing more fossil fuels, with the justification that the CO_2 emissions from burning them in power plants and other industrial processes will be captured at the source and stored indefinitely via a process called carbon capture and sequestration (CCS). Because CCS cannot capture all the emissions, industry wants to augment CCS with DAC to result in net-zero emissions from continued use of fossil fuels for most non-transportation purposes. The problem with industrial carbon removal methods being incentivized by government funding, including the process of DAC when fossil fuel-powered, is that CO_2 emissions exceed the amounts removed. [1]

We need to stop new human-caused greenhouse gas (GHG) emissions from burning fossil fuels, deforestation, and wetland destruction to avert the worst effects of climate change. In addition to rapidly moving to 100% clean energy use, we also need to remove CO_2 and other GHGs from the atmosphere to reach a level of less than 350 parts per million.

Nature already sequesters carbon through photosynthesis and microbial action, which remove CO_2 from the atmosphere and store it in plant tissues and the soil. Sierra Club supports protection and proper management of agriculture and natural ecosystems, including soils, forests, wetlands, and oceans, whereby carbon can be drawn down by at least half the amount needed to meet global climate goals.[2] The Club also supports "a diverse portfolio of environmentally acceptable and just [carbon dioxide removal] technological options to back up and supplement the natural systems solutions." [3]

However, the proposal for New York's Southern Tier did not meet these criteria. For this project, the CO_2 to inject underground would be brought by train from industries where it is captured and from geologic sources in the Gulf Coast region where it is mined. A network of a dozen or more "hubs" would be constructed, each with a power plant fueled by gas extracted from drill wells scattered over tens of thousands of acres, which would generate electricity and operate a DAC unit. A network of CO_2 and methane distribution lines would be constructed along with compressor stations and storage facilities.

This scenario presents multiple environmental problems in addition to construction impacts on such a huge land area. First, carbon capture projects are expensive but can be made profitable by using the CO_2 to extract fossil fuels while it is being injected. But this process can easily result in more GHG emissions and pollution. Currently, over 70% of carbon capture projects are used to enhance oil recovery. [4] The current NY proposal seems intended to circumvent the state's ban on fracking processes which use 300,000 gallons of water or more per well, and then to use the extracted gas for generating electricity. Sierra Club opposes enhanced oil recovery or projects intended to prolong the life of fossil fuel facilities.

Second, New Yorkers are already aware of the impacts of methane leakage along gas pipelines and from compressor stations, both on increasing GHGs and on the health of residents near the pipelines, who experience elevated levels of respiratory symptoms, cardiovascular disease, and cancer. The current proposal would have all these impacts and more: as more pipelines are built across the country to carry CO_2 to injection sites, experiences of communities along these paths have revealed an additional danger.

CO_2 gas is colorless and odorless. When it is being transported in its gaseous state, it is not regulated. On February 22, 2020, a pipeline near Satartia, Mississippi, ruptured and sent a cloud of CO_2 gas through the community.[5] [6] Many residents became unconscious from the lack of oxygen, while some vehicles with combustion engines became inoperable, hampering rescue operations. At least 45 people were hospitalized, and some have had residual lung and brain damage years later. First responders had no idea of what they were dealing with, since the pipeline

company did not notify them even though it was aware of the rupture, until an emergency responder called the company 40 minutes later. Air monitoring showed that pockets of the gas continued to persist for hours.

As CO_2 pipelines continue to expand, officials from the federal Pipeline and Hazardous Materials Safety Administration are looking at ways to make them safer, including adding an odorant to the gas so people can detect it, similar to what is done with natural gas. Clearly there is a need for regulation and for communities near pipelines to be aware of the potential for mass asphyxiation.

Third, though the use of CCS without employing it for fossil fuel extraction is a potentially acceptable method to lock carbon up underground for centuries, currently it is expensive and has underperformed its emissions reduction targets. [7] Meanwhile, the vast sums of financial incentives being dedicated to this technology, through the Inflation Reduction Act and other sources, are diverting precious resources and attention away from expanding renewable energy development and other proven climate actions.

For New York, the story has a happy ending as quick action on the part of activists resulted in a law being passed to include CO_2 fracking among other types of gas extraction banned in the state. Sometimes we work for years to get good environmental outcomes, and not all our efforts are successful. But we should celebrate the success of our fellow activists. Working with so many people who care about this planet and the precious life it contains is inspiring, and it's what keeps us in the fight to protect the environment for those who come after us.

WHAT YOU CAN DO TO HELP:

As *Terra Firma* goes to press, the governor has not yet signed the CO_2 fracking ban into law. Check SierraLowerHudson.org when you read this, and if you do not see an article saying she signed the bill in late April, please call her office at 1-518-474-8390 and leave a message asking her to sign A.8866/ S.8357, the CO_2 fracking ban, into law!

1 https://link.springer.com/content/pdf/10.1007/s41247-020-00080-5.pdf
2 https://www.sierraclub.org/sites/default/files/2020-Sierra-Club-Climate-Resilience-Policy.pdf
3 Ibid, p. 63.
4 https://www.npr.org/2023/05/21/1172679786/carbon-capture-carbon-dioxide-pipeline
5 https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f
6 https://www.npr.org/2023/05/21/1172679786/carbon-capture-carbon-dioxide-pipeline
7 Ibid.

How Spending Time in Nature Reduces Stress

By Elena Leonard

A sea of green; birdsong and cicadas and the rustling of leaves; dappled sunlight warming your face; the smell of fallen leaves and damp soil — nature, at its finest. Perhaps the image that comes to mind when you read that sentence brings you a sense of **peace and tranquility**. For most people, it does.

Spending time in nature undoubtedly **leaves a positive impact on a person's mental and physical wellbeing.** Ask anyone who gardens or goes for a daily walk or likes to fish or spend the weekend camping and they'll surely tell you in their own words all of the benefits they reap from their time in the outdoors. If that's not enough, there are several studies that have provided us with the numbers to prove just that.

One study from Nature magazine, by Matthew P. White et. al., shows that **spending at least 120 minutes a week in nature can increase a person's sense of health and wellbeing.** Another study from the journal Behavioral Science, by Alan Ewert and Yun Chang, showed that **people who recreated in a natural environment had significantly lower levels of cortisol** – the stress hormone – than those who recreated in an urban environment.

Cortisol is a hormone that plays a vital role in your body's chemistry, but can cause a lot of damage when there's too much of it. Normally, cortisol is produced in the morning when you're waking up and dissipates throughout the day as it completes various functions throughout your body. It also gets produced in response to stressors – just like the hormone adrenaline – which is helpful in situations like getting chased by a bear, but not-so-helpful when you're doing your taxes. **Having high levels of cortisol for extended periods of time can lead to chronic stress**, something that can wreak havoc on your body when left unchecked – leading to symptoms like fatigue, weight changes, high blood pressure, and more.

Everyone gets stressed out sometimes – maybe even a lot of the time – but that doesn't mean you have to sit with it. The next time you're feeling a little too stressed out, take a few minutes to get outside, breathe some fresh air, and soak up some of that good ol' nature. Even better, you can try to add outside time into your daily routines. From walking the dog to gardening to sitting on a bench in your local park and reading, there's no limit to the amount of activities you can do outside, and all of the benefits. So get outside today!

Bonus Tip: You can also get outside and de-stress with us on one of our upcoming outings!

Elena Leonard is Operations Manager at Another Summit. Visit SierraLowerHudson.org > Get Outside.

How We Did It: Installing Solar and Other Advice from a New York State Climate Leader

by Liam Robb O'Hagan

The Village of Croton on Hudson in Westchester County leads the state's Clean Energy Communities (CEC) program with the most points. Most recently, it was awarded $425,000 in grants to spend on sustainability projects that will move Croton even further toward a net zero future. Lindsay Audin, chair of Croton's Sustainability Committee, discusses how the Village of 8,300 people does it, before diving deep into a couple of solar projects to illustrate the process.

Croton's Guiding Principles

1. Put doers, not talkers, on your committee. Separate out the former by giving each prospective member a simple, closed-end, task (e.g., populating a spreadsheet, web searching for specific data) with a near-term (e.g. one week) deadline. Those that fail get sent elsewhere.
2. Have a clear goal and stick to it. In Croton every idea is run through this filter: "What will get us the most carbon reduction per hour of committee time and dollar spent?"
3. Don't rely on the Village staff to lead the charge. They are busy, so make it easy for them. Pre-digest each task and break it up into easily handled pieces. Do as many as you can before asking for staff help.
4. Be prepared to be tough. "It sounds aggressive, but you must have strong arguments in your back pocket to deal with the naysayers," says Audin. "Politicians want to look good and not bad, so frame it to them in terms of 'If this doesn't get done, it won't look good for you later on.'"
5. Success builds on itself. Croton's political leaders love touting their climate leadership, which makes it easier to green light new projects. But be prepared, Audin warns, as the projects get bigger, they get more difficult.
6. It's all about the money. When planning an action, think in these terms.

First: What will Generate Revenue?
The Community Solar model or renting space to a solar company is a classic example. It's an easy sell because it produces, rather than consumes, municipal revenue. Securing grants may also do so. Merely by identifying 70 local owners of electric vehicles (EV), Croton earned $27,500 under a CEC Community Campaign, by running some promotions, getting DMV data on EVs registered in the Village, and submitting it to NYSERDA (New York State's energy agency).

Second: What will Generate Savings?
The Village had two buildings heated with oil. Even shifting them to natural gas would have resulted in a 30% carbon reduction. They sold the idea of replacing the oil by highlighting the lower future energy costs, the lower maintenance costs and removing the threat of an oil tank leaking and causing a huge cleanup cost. Remember the line, "Bad things may happen if you say no to this idea."

Third: What will be Cost Neutral to the Village?
Many grant programs require that a municipality contribute as much to a project. That's often a deal killer. Instead, look for grants that don't require a municipal match. The $425k from NYSERDA is free of any commitment from the Village.

7. Always have several possible projects in the pipeline. "To ensure we get that $425k, in three months we need to show how we are going to spend it. Getting all those 'ducks in a row' in such a short time would be a challenge if we didn't already have a wish list of possible projects." Keep an eye out for external events that could be used to your advantage. When Covid hit, it was a good time to start our solar canopy project at Croton's train station parking lot because the construction would impact fewer commuters. All of this requires being prepared ahead of time.
8. Focus on the municipal budget process. The capital plan is often ripe with opportunities. If a vehicle or A/C unit is scheduled for replacement, that may be an opportunity to push a sustainable option such as an EV or heat pump, instead of just buying another problem.
9. Start by assessing opportunities with municipal facilities. A quick "flyover" of them using Google Maps may reveal several nearly flat rooftops or open spaces that could host solar arrays. To attract solar developers looking for financially viable opportunities, an area of at least 40,000 to 50,000 square feet is needed. For smaller rooftops (e.g., 4,000 SF or more), sufficient NYSERDA grants may be available to bankroll their arrays.) You can measure areas on Google Maps by following the instructions at this link.
10. Do energy audits. Audin prefers the friendlier term "assessments" to avoid sounding like an intrusion, of government buildings to help identify projects with the best carbon reduction and return on investment. The audit is a baseline from which a municipality can show how much a project will reduce emissions and cut operating costs. Doing so is important to determine how much funding may be secured via grants. Under CEC's sister program, Climate Smart Communities, the NYS Dept. of Environmental Conservation may pay 50% of an audit's cost. Audin notes that some municipalities have gotten "creative" with their half by focusing on in-kind contributions, such as the staff time required to assist the audit. Municipalities having a utility (e.g., Con Ed or NYSEG as their electricity provider, instead of the NY Power Authority) may be able to cover the full cost of the audit, and/or secure a grant from NYSERDA under its FlexTech program.

Lessons from Two Solar Projects
Croton is completing a $13M, 4,220 kW community solar canopy array at its train station parking lot. Most of the cost is being paid by the developer, with the Village covering two dozen EV chargers and storm water management for the job, and providing significant staff time overseeing the project.

On its own, using NYSERDA and NY-SUN grants, the Village completed a 36 kW solar array atop one of its firehouses in early 2023. It powers the building's lighting, plug loads, and heat pumps. The latter then displaced fuel oil used by the building's boiler.

While a Google Map flyover of municipal and school buildings is a good place to start, Croton also looked at private buildings, but they were realistic about it. They asked a solar developer if it had ever approached the local supermarket about solar, but learned it wasn't interested, so the committee decided it wasn't

worth their time to push for it. But they did work with a new apartment project to ensure it used heat pumps instead of gas-fired boilers for heating.

To get the ball rolling on any project, the typical first step by a municipality is development and issuance of a Request For Proposals (RFP) for solar on potential municipal sites. Most municipalities already have boilerplate RFPs to which a new Scope of Work (SOW) may be inserted to cover details. Audin advises including the Google Map coordinates in the RFP so bidders know the exact locations involved. For large projects (such as its train station canopies) it may be best to start with a Request for Information (RFI). All such steps should only be undertaken after securing formal municipal approval. Audin's advice is to minimize work by municipal staff by developing first drafts of RFIs and RFPs that staff can then adjust to be acceptable. As previously stated, never depend on staff to initiate projects. They already have plenty of other work to do. Waiting for others is a sure way for nothing to get done.

Those procedures (Google flyover, energy audits, RFI/RFP) will whittle down the list potential projects to a small number which can then be prioritized, with the first being those with the best carbon reduction potential for the time and money to be invested. The other roofs/options were added to Croton's project pipeline.

The train station canopy started with an RFI to every solar company approved by NYSERDA (168 of them at the time) That resulted in 21 requests for the RFP, which then yielded 7 good proposals, from which they chose the winner.

Getting the winning project approved required buy-in from half a dozen agencies that included the Metropolitan Transit Authority (MTA, which runs the Metro North railroad), DEC plus the local water, planning and conservation boards, as well as reviews by the municipal engineer, fire department, and DPW. Part of the parking lot area had to be avoided due to land subsidence that could compromise the stability of the heavy steel canopies. Since it was to be financed by a developer, it did not need to meet the requirements of NYSERDA's Carbon Reduction Calculator, as occurred with the firehouse rooftop array.

Getting such support was much easier once the committee demonstrated the benefits to the Village's bottom line. The ability to produce revenue from leasing its land for a community solar project was essential to get that project across the finish line. It is hard for people to say no to a source of revenue for the village, Audin says.

A project at another firehouse was complicated by the fact the physical position of existing rooftop A/C units made installing an array difficult. But when the Village needed to extend the building to accommodate the ambulance service, the opportunity to replace the aging A/C units with heat pumps elsewhere on at the site arose. That will make space available for a 50 kW solar array.

If anyone thinks this sounds easy, Audin cautions that it takes time, commitment, persistence, and the determination to push through the barriers. But, he adds, if we really want to minimize climate change, we really have no other option.

He says Croton is merely an early adopter that's had some success. But good luck catching up it.

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"…PFAS has been associated with metabolic disorders, decreased fertility in women, developmental delays in children and increased risk of some prostate, kidney and testicular cancers" - E.P.A.

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Inside