Sierra Club Applauds Leadership of Governor, Legislature in Passing Strategic Environmental Measures in Budget Amid COVID-19 Crisis

Roger Downs, Chapter Conservation Director

When the legislative session began in January 2020, there was great optimism that the governor, Senate and Assembly could build upon the remarkable environmental policy achievements from the previous year and further advance the goals of achieving a carbon neutral society by 2050, in a way that follows principles of equity and justice. But this momentum to combat climate change, protect clean water and curb persistent sources of pollution was stalled by the global Covid-19 pandemic. Like most aspects of society, the workings of the legislature came to a standstill, as several lawmakers contracted the virus and congregating in the legislative chambers could no longer be done safely. It would have been understandable if the legislature scrapped its environmental agenda altogether and pursued just the bare necessities of an austerity budget in a time of crisis. But it appeared that Governor Cuomo, Senate Majority Leader Stewart-Cousins and Assembly Speaker Carl Heastie understood that this public health crisis will only deepen if we do not live up to our environmental and climate commitments.

With especially difficult negotiating and voting conditions, and deepening deficit projections, Governor Cuomo and the New York State Legislature still came together to pass a budget that addressed the Covid-19 crisis without losing sight of other global threats, like the climate crisis.

Chair’s Report: Can We Hear? Are We Listening?

Kate Bartholomew, Atlantic Chapter Chair

[Viruses], not lions, tigers or bears, sit masterfully above us on the food chain of life, occupying a role as alpha predators who prey on everything and are preyed upon by nothing.

— Claus Wilke and Sara Sawyer, virologists at the University of Texas at Austin and the University of Colorado Boulder, respectively, in a recent eLife commentary on how viruses drive evolution and adaptation in human and other mammalian genomes (May 2017)

A virus can change the fate of the world; power has nothing to do with being tiny or giant! Power is something related to the power hidden within you!

— Mehmet Murat Ildan

It is June 2020, more than three months after Governor Cuomo put the state on lockdown in response to the Covid-19 crisis. While some areas of the state have begun Phase 1 of reopening, any semblance of a return to normalcy is on some future horizon. There’s no possibility of escaping the reality that we’re all experiencing in every aspect of our lives — each day – the fear, grief, isolation, gratitude, frustration, confusion. We are all here together, apart but not alone.

I need to believe that something positive will — if we choose — emerge from this pandemic crisis. I’m certain many of you have read, as I have, the findings of drops in GHG emissions since lockdowns were initiated around the globe. People in metropolitan areas in India and Japan may be wearing masks, but it’s not to protect themselves from the thick, cloying smog that once interfered with athletic events and seeped into homes. At the moment, the skies above Mumbai are clear. Unfortunately, now that the “Great Quiet” is past in China, so are the clear skies. As reported by Yessenia Funes in the May 18, 2020, edition of Gizmodo, according to a report released on the same day by the Center for Research on Energy and Clean Air, pollution in the atmosphere above China now exceeds pre-Covid-19 levels.

Perhaps the lessons we should glean from this public health nightmare...
From the Conservation Chair: Pre-Existing Conditions

Ellen Cardone Banks

US Health and Human Services Secretary Azar was asked to comment on the disproportional incidence of Covid-19 among African-American, Latinx and Indigenous people. He replied that many of “them” had preexisting conditions, such as diabetes and hypertension. Later, asked if he was blaming them — he indignantly said “of course not” and denounced the reporter for making such a mean suggestion. The important preexisting condition here is the administration that has been trying to take health care away from millions of Americans. Conditions that could be prevented or controlled early spiral into life-threatening illnesses.

Carbon emissions and black carbon (microparticles from combustion) in the atmosphere are long-known factors in asthma and other respiratory diseases. The pandemic disproportionately affects people living near gas and coal power plants, predominantly people of color and low income, who breathe this polluted air. The Trump administration has attempted to stifle renewable energy and to roll back the protections of the Clean Air Act while continuing to dole out millions to support fossil fuels, making it a pre-existing condition.

The pandemic has sharply revealed how broken the factory farm system is. Pigs, cattle, chickens, milk, eggs and vegetables are being destroyed when their growth and production no longer fit factory equipment, packaging and scheduling. Meanwhile, increasing numbers of people face hunger. Meat-packing and other food-processing factories are major sources of Covid-19 infection and deaths of workers, with few or no penalties for these corporations. Moreover, this administration has tried to roll back nutrition standards for school children. Our chemical-laden, inhumane, long-distance and nutritionally inadequate food supply is a pre-existing condition.

My generation, the post WWII boomers, were taught to respect science. It was a major factor in America’s postwar dominance. Everyday people knew the names of scientists. At seven, I was a Polio Pioneer for the first nationwide clinical trial: the Salk polio vaccine in the face of an epidemic that paralyzed our peers and closed playgrounds, pools and movie theaters. No one picketed the armory where we proudly and bravely lined up to get our shots.

Reverence for science was a mixed blessing, bringing us nuclear power and weapons, chemical-laden processed food, and unimaginable quantities of petroleum-based plastic and polyester. But science in its essence is self-correcting and has shown us the harms of these things and how to go forward in cleaner and healthier ways. The Trump administration is an enemy of science, destroying environmental protections, firing scientists, cutting research grants and shutting down research in many agencies, even the US Agriculture Department. Now it is dismissing and disrespecting epidemiologists who might help solve the pandemic, and encouraging the public to follow fads and authority figures, rather than data. This administration’s enmity to science is a pre-existing condition.

What do we do about this toxic syndrome of pre-existing conditions? Don’t wait for November! Join the Sierra Club 2020 Plan to Win! Visit sierraclubindependentaction.org/2020-plan-to-win

Submissions: We welcome our readers to submit brief timely articles for consideration in the SA. Please contact the editors, Susan Lawrence (slawrence55@gmail.com) & Kate Bartholomew (ecogreenwolf@gmail.com) to discuss your ideas and to obtain information about submission format and other details. When querying, please write “Sierra Atlantic” in the subject line.

Deadlines: Summer Issue (online only)—July 15th, 2020; Fall Issue (print/online)—August 31st, 2020.
What’s Next for New York’s Climate Goals?
Ellen Cardone Banks, Atlantic Chapter Conservation Chair

In 2019, New York State enacted the Climate Leadership and Community Protection Act, requiring reduction in greenhouse gases to 40% below 1990 levels by 2030 and 85% by 2050, and reduction of carbon emissions in the electric power-generating sector of 70% by 2030 and 100% by 2040.

Are we on track to meet these goals? Not yet. A major obstacle to de-carbonizing the electric power sector is the backlog of renewable energy projects waiting to clear the permitting process, known as Article 10, which was devised for permitting fossil fuel plants. More than 25 utility-scale wind and solar projects are stalled in the Article 10 process, with only about five having been approved in the past ten years.

During the overnight session that ended the abbreviated legislative budget process on April 3, the Accelerated Renewable Energy Growth and Community Benefit Act was passed by the legislature, signed by Governor Cuomo, and included in the 2021 budget.

The act will create an Office of Renewable Energy Siting to establish uniform standards for environmental impacts. Developers will be required to present evidence of a net conservation benefit for endangered and threatened species, and to implement a species mitigation fund. The new office will standardize procedures for community input, while still allowing for modifications as needed for local conditions. Presently, many of these aspects have to be designed separately for each project and submitted to several different agencies.

According to a study by the League of Conservation Voters, each of these agencies has had different priorities and communication among them has been ineffective. Some developers have abandoned plans for wind farms because of the cumbersome and unpredictable permitting process.

Contrary to some commentary from anti-renewable groups, there will be no shutdown of local community input, but just as in the previous Article 10 process, local restrictions cannot be "unduly burdensome." Wildlife protections will be regularized, not overturned.

With vast numbers of wind and solar energy projects around the world, growing bodies of evidence show that utility-scale wind and solar energy projects are not harmful to human health or property values. Renewable energy has a substantial net benefit to birds and other wildlife, and the toxic effects of mining and burning fossil fuel far outweigh any damage from construction and operation of wind and solar power. The new act strengthens requirements for community benefits, including reduced utility rates for municipalities that host renewable energy projects. Hearings will be held around the state, dates and times to be announced, to inform the public about the act.

The state will also prepare and fast-track renewable energy sites on brownfields and abandoned industrial properties. The new law provides for improvements in the power grid so that electricity production can be more reliable and evenly distributed throughout the state. Most importantly, decisions on utility-scale wind and solar proposals will be required within one year for most applications and six months for repurposed industrial sites. Releasing the backlog of stalled energy projects and incentivizing developers to plan more of them will go a long way to meet New York’s decarbonizing goals, protect our air, water, wildlife and human health, and create good jobs in rural areas that badly need economic development.

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All of these sign-up forms are in the right column on the homepage of the Atlantic Chapter website.
Murder Hornets, Neonics and a Second Silent Spring
Elizabeth Ahearn, Atlantic Chapter Conservation Staff

Hornet Hype

In the midst of a news cycle overwhelmingly dominated by pandemic coverage, few other stories have gained high-profile attention—until the arrival of the murder hornet. The frenzy seemingly corresponded with a story released on May 2 by The New York Times. Within twenty-four hours, the hashtag #murderhornets was trending on Twitter, and widespread media hype generated a narrative of a terrifying, five-centimeter-long hornet invading the United States. Photos and videos showing the species savagely attacking honeybee hives and decapitating bees quickly went viral, further contributing to the insect’s growing vicious reputation. Two dead “murder hornets,” more officially known as the Asian giant hornet (Vespa mandarinia), were found in Washington State last December.[1] One live nest found in Canada in November 2019 was destroyed. No live hornets have been reported so far in 2020.

Many experts say people shouldn’t feed into the “hornet hype.” Washington Agriculture Department entomologist Chris Looney says, “They are not ‘murder hornets.’ They are just hornets. The number of people who are stung and have to seek medical attention is incredibly small.” Up to 50 people in Japan die from Asian giant hornet stings every year.[2] According to the US Centers for Disease Control and Prevention, hornet, wasp and bee stings combined kill 62 people a year on average in the United States.

University of Illinois entomologist May Berenbaum says, “People are afraid of the wrong thing. The scariest insects out there are mosquitoes. People don’t think twice about them. If anyone’s a murder insect, it would be a mosquito.” Millions of deaths each year worldwide are directly attributed to malaria, dengue fever and other diseases mosquitoes carry.[3]

For bees and people who depend on them to make a living, Asian giant hornets could potentially become a big problem, but most experts say it is hardly a problem to worry about yet. Doug Yanega, senior museum scientist for the Department of Entomology at UC Riverside says, “I don’t want to downplay this — they arelogically dangerous insects. But having people in Tennessee worry about this is just ridiculous. The only people who should be bothering experts with concerns about wasp IDs are living in the northwest quadrant of Washington State. And really, right now, nobody else in the country should even be thinking about this stuff.”

The Real Threat — Neonicotinoids

Asian giant hornets may become a more serious problem in the future, but for now, the bee-related threat we need to be most concerned about is neonicotinoids. Neonicotinoids, or “neonics,” are neurotoxic insecticides linked to massive bee and insect losses around the globe. While invasive mites and pathogens, habitat loss, diminishing genetic diversity and the negative impacts of climate change all contribute to the decline of pollinators, scientific consensus now focuses on the impact of this powerful class of insecticides.

Since their introduction in the mid-1990s, neonics have become the world’s most widely used insecticides.[5] Neonic kll leaf, fruit and root-chewing agricultural pests. In doing so, they also permeate plants — making their nectar, pollen and fruit toxic. If the
chemicals do not kill bees and birds outright, they often severely weaken motor function, productivity and reproduction, ultimately reducing pollination and agricultural yields.

New York beekeepers have lost more than 40% of their bee colonies nearly every year for the last decade.[6] But bees aren’t the only pollinator species adversely impacted by neonicotinoids. New York State has over 450 wild pollinator species, which have also seen a decline proportional to that of commercial hives, indicating similar catastrophic losses. In addition to damaging ecosystems and biodiversity, these losses threaten the estimated $1.2 billion that pollination-dependent crops contribute to the state’s economy each year.[7]

Recent research has also specifically identified neonicotinoids as a leading cause of mass bird losses, including the 30% decline observed in North American birds in the last 50 years.[8]

New Yorkers are commonly exposed to neonicotinoids, through contaminated food and water. Emerging research now links neonicotinoids to elevated risk of developmental and neurological damage in humans, including malformations of the developing rain and heart, tremors and memory loss.[9] In addition to being immensely problematic and insidious, most of the neonicotinoids that contaminate New York’s environment provide little to no economic benefit.[10] In New York agriculture, neonic corn and soybean seed treatments account for roughly 70% of the neonicotinoids used, but these neonicotinoids are made to treat pests that rarely reach damaging levels in a place with a climate like New York’s.

Ironically, neonicotinoids may often actually decrease yields by killing pollinators or “good bugs,” the non-targeted predators of pests. Research has shown that neonicotinoids are replaceable for almost all uses, with the best and most cost-effective alternative often being no insecticide treatment at all. Therefore, farmers using neonicotinoids may be wasting money, dealing with more pests, and profiting less as a result.

It’s Time for NY to Act

In 1962, Rachel Carson published Silent Spring, in which she delivered a stark warning about the links between toxic pesticides and the disappearance of birds and insects. The response to Carson’s book was monumental, resulting in a nationwide ban on most all use of the pesticide DDT. Unlike DDT, neonicotinoids are powerful neurotoxic chemicals. Some experts have referred to the environmental damage caused by neonicotinoids as a “second Silent Spring” in response to massive die-offs of species.

Europe has banned outdoor use of several major neonicotinoids, and Canada is following closely behind. In May 2019, a comprehensive UN report came to the dire conclusion that at the current rate of biodiversity loss, over 1 million plant and animal species risk extinction by the end of the century unless human activities drastically change course.[11] Despite international outcries, the EPA has done close to nothing to reverse the impacts of neonicotinoids.

With no federal leadership on this issue in sight, states must take action on their own. New York State legislators must act to pass the Birds and Bees Protection Act (A.7639-A) Englebright/S.5618 Hoylan — currently not “same as”), a five-year moratorium on outdoor use of these pesticides, to protect our pollinators, water and New Yorkers, while further study is conducted. Passing the Birds and Bees Protection Act would set New York apart as a national leader in the fight against these toxic chemicals. New York cannot afford to lose our pollinators, much less the thousands of other species interconnected with these essential insects.

No, neonicotinoids may not have a catchy, villainous and clickbaity nickname that effortlessly garners media attention like the “murder hornet.” However, considering that neonicotinoids have contributed to a 30% decline in North American bird populations in the last 50 years and catastrophic losses in bee populations, perhaps they are the true, less-publicized “murderer” in the world of pollinators that we should focus our attention on.

Footnotes

While these are significant policy accomplishments that outshine what Albany lawmakers typically accomplish, what remains unclear is whether the work of the legislature has concluded until 2021, or whether the Senate and Assembly will return — with some form of remote voting — to continue helping New Yorkers during this crisis. As a grim counterweight to New York’s leadership, the Trump administration has vowed to suspend most environmental regulations during the pandemic, allowing flagrant violations to the Clean Water and Air Acts.

In these hard times, NY should be bracing for the potential destruction of wetlands, degradation of our waterways and the blackening of our skies if indeed our federal regulators abandon their posts as the president has decreed. Still left on the legislative table are bills that would strengthen the protection of wetlands and streams, ban the use of pollinator-killing insecticides, incentivize the purchase of electric vehicles, eliminate harmful chemicals in everyday products and strengthen citizen’s rights to uphold neglected environmental laws (to name a few).

It appears that all these crucial issues will have to wait for another time. It’s clear that when New York fully and finally emerges from the Covid-19 crisis it will be a time of great economic upheaval and recovery. Recent history tells us that when there are significant budget deficits, environmental funds and staffing are the first to get raided and cut. We have always maintained that short-changing the environment in times of austerity hurts the economy more than maintaining small but powerful investments in clean drinking water and protection of natural resources.

For the rest of the year, we will push the legislature to maintain its historic commitment to environmental funding — despite pressure to claw back funds and fill deepening budget holes. But projects financed through the “Restore Mother Nature Bond Act,” the Environmental Protection Fund or even the new renewable energy siting law will not only protect critical environmental resources and jumpstart wind and solar development — they will also provide thousands of New Yorkers with family-supporting jobs when the Covid-19 emergency finally passes.

Until that day comes, the Sierra Club invites you to join us in protecting New York’s environment against those who would use this public health emergency as a means to subvert environmental laws and profit from the degradation of the natural world and our most vulnerable communities. Together we can make a difference.

Chair’s Report continued from page 1 can be broken into categories, beginning with “relationships.” Because this truly is a pandemic, scientists, virologists and epidemiologists around the world are, for the most part, working diligently and communicating their findings with one another in a global race to develop an effective vaccine against Covid-19, as well as treatment options. If politics and profit are, indeed, removed from the equation, this becomes the perfect archetype for tackling the many facets of climate chaos, and doing so swiftly. Building relationships and cooperation instead of barriers and sanctions is the only possible means to address our shared global emergency in time to avert unfathomable catastrophe.
The circular economy is a form of biomimicry — innovation inspired by nature. [1] Currently, the global economy is based on a linear model of production, consumption and waste. By contrast, the circular economy imitates the circularity of nature, in which everything that dies and decomposes becomes a nutrient for new life.

In 2010, Ellen MacArthur formed the Ellen MacArthur Foundation to promote the circular economy. In her 2015 TED Talk, “The surprising thing I learned sailing solo around the world,” MacArthur discusses how her experiences as a champion sailboat racer inspired her appreciation for finite planetary resources and commitment to transforming the “operating system” of the global economy: “. . . Your boat is your entire population of an inherently social species. We are also interconnected and interdependent with the entire biosphere of this planet.

There are ways we can remain globally connected and responsible by acting locally and respectfully to reduce our negative impact on this earth. We can produce and buy locally, grow food regeneratively, heal the earth and reduce the carbon footprint of transport simultaneously. We can reduce our consumption of factory-produced animal products, sparing people the horror of working in the meat-processing industry and saving the animals from being born into a life of torture. We can decrease our consumption of consumer products and stop falling victim to the mythology of capitalism where endless growth is the penultimate, supreme attainment, and Bill Gates and Jeff Bezos are the bodhisattvas of our culture.

Certainly, we have also witnessed the weaknesses of current fossil fuel and nuclear energy sources when faced with the unpredictable consequences of a global pandemic. Demand vacillates wildly, while supply is impacted by worker safety concerns and illness in the worldwide fossil fuel industry. The nuclear power sector offers even more frightening scenarios to contemplate. Just what is minimum safe staffing (skeleton crew) for a nuclear reactor? Who determines that guideline? Do we trust them? Social distancing and added PPE are not always feasible in the nuclear power sector, creating a transmission potential in some parts of the facilities not unlike that faced by the meat-packing industry.

This pandemic — with all the panic, fear, suffering and upheaval it has generated — has so wrenched us away from any pattern of reality we’ve ever known that, in many ways, we are temporarily adrift as we wait for the whirlwind to pass and land to appear. I’ve read accounts of people claiming this is a message from Nature to reconsider our behaviors. If this is so, I say it’s long overdue, but I’m not one to be anthropomorphic about a system of systems. Instead, I think this is a rare opportunity where the whole human species is being given a glimpse of a different paradigm and has the chance to choose whether to leap back into the old skin worn before and close their eyes — or return to the world after the lockdown ends by keeping their eyes open and choosing change.

Long ago, a friend of mine told me that in Tibetan Buddhist tradition, being born a human being was considered an auspicious event and a right juncture, because only in the human form was there the ability to attain enlightenment. I may be wrong, but in my mind this series of events offers our species the possibility of an auspicious event and right juncture — to make the transition away from a culture of endless growth, greed and exploitation to one of a sustainable and respectful relationship to all life. I sincerely hope we accept the gift being offered.
board to anything outside of sailing until I stepped off the boat at the finish line . . . Suddenly, I connected the dots. Our global economy is no different. It’s entirely dependent on finite materials that we only have once in the history of humanity.”

As the Ellen MacArthur Foundation website, “What is the Circular Economy?,” explains: “A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.” The first principle is the most important because a product’s design, which includes the selection of raw materials, such as the fibers chosen for clothing, determines its durability and potential for circularity: repair, reuse, remanufacture and recycling. In a diagram of the circular economy, recycling is represented as the outer circle, as it is an energy-intensive process that typically downgrades materials.

The concept of a circular economy incorporates several historical and contemporary theories about nature and the economy. According to the foundation’s schools of thought website, “They include the functional service economy (performance economy) of Walter Stahel; the Cradle to Cradle design philosophy of William McDonough and Michael Braungart; biomimicry as articulated by Janine Benyus; the industrial ecology of Reid Lifset and Thomas Graedel; natural capitalism by Amory and Hunter Lovins and Paul Hawken; and the blue economy systems approach described by Gunter Pauli.”

Today, companies, cities, governments, non-profits and nongovernmental organizations throughout the world are demonstrating the feasibility of a circular economy that protects plant and animal species, ecosystem services and natural resources. In her article, “Doughnut Economics,” Kate Raworth, the author of Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist (Chelsea Green Publishing, 2017), emphasizes: “The focus on GDP growth is clearly long past its due date. The global crisis of environmental degradation and extreme human deprivation urgently demands a better starting point for economy theory and policymaking.”

Factors facilitating the circular economy include:

- Technical innovations in circular product design.
- Circular economy commitments by companies and governments.
- Multidisciplinary collaboration within and across industry sectors.
- Extended Producer Responsibility (EPR), which may be mandatory or voluntary, in which the producer assumes responsibility for financing the costs of recycling a product or its end-of-use disposal.
- Political and economic support by local governments for establishing and maintaining recycling facilities in the US.
- Municipal or county government initiatives that promote and, optimally, mandate organic waste recycling. [2]
- The product-as-service model that replaces the purchase and ownership of a product by a consumer with a pay-per-use leasing contract between the user and the manufacturer responsible for the product’s maintenance and disposal. This model creates an incentive for companies to design durable products that can be repaired.
- Expanding opportunities for the repair and/or resale of used products. [3]
- Shared economy initiatives based on borrowing, rather than owning products.
- Government procurement programs that require the purchase of products with recycled content.
- Initiatives to reduce plastic pollution, such as bans on single-use plastic bags and bottles.
- Green certifications of products that facilitate consumer choices based on sustainability.
- Cost/benefit analyses, such as the social cost of carbon. [4]
- Circulytics, a new form of metrics to measure circularity. [5]
- Global circular economy forums and initiatives, such as the Ellen MacArthur Foundation Circular Economy in Cities, the World Economic Forum Platform for Accelerating the Circular Economy, and the New Plastics Economy Global Commitment.
NOTES (Circular Economy)
2. See Sims Municipal Recycling, Lower East Side Ecology Center, and Cooper Recycling (for construction and building debris) in NYC.
5. See the Ellen MacArthur Foundation website Circulytics – measuring circularity: https://www.ellenmacarthurfoundation.org/resources/apply/circulytics-measuring-circularity

* The circular economy is expanding and now involves virtually all sectors of the global economy. In Part II of this article, which will appear in a future issue of the Sierra Atlantic, I will discuss examples of the circular economy relating to plastics and packaging, textiles and clothing, food and materials.

For the complete text of this article with links to all the websites and additional resources, see the electronic version of the Spring 2020 Sierra Atlantic on the Atlantic Chapter publications website: https://atlantic2.sierraclub.org/publications.

Solar Photovoltaics: Climate and Economic Benefits
Bob Ciesielski, Atlantic Chapter Energy Committee Chair

Climate change caused by greenhouse gas (GHG) emissions has been underway for well over a century. The best way to reduce greenhouse gas emissions is to replace the energy used to operate our electric, transportation, heating/cooling and manufacturing sectors with renewable electricity sourced from solar, wind and hydropower. This is the goal of the Sierra Club. It is also the goal of the 2019 New York State Climate Leadership and Community Protection Act (CLCPA), which aims to produce 70% of our state’s electricity from renewable sources by 2030.

This year our Legislature also enacted the Accelerated Renewable Energy Growth and Community Benefit Act to address the siting of large-scale renewable energy projects. The act also expands many of the local benefits of renewable energy installations, including solar arrays. For instance, solar and wind companies will be able to offer electricity discounts and rebates to residents of host communities where their projects are built. Current tax increase limits placed on school districts will also be removed to permit larger Payments in Lieu of Taxes (PILOTs) to schools from renewable projects.

Solar power is one of the three (with wind and hydro) major renewable energy sources in our country.[1] In 2016, 43% of all energy workers were in the solar field – more than the total number of fossil fuel workers. The US Department of Energy found that in 2018, 3.43% of the country’s energy capacity was delivered by solar.

The CLCPA requires that all renewable energy jobs, whether construction or operational, be paid prevailing family wages. For this reason, the build-out of renewable projects in NYS enjoys the strong support of workers and unions.

New York State currently has over 2,000 megawatts of installed, distributed solar electricity (enough to power 240,000 homes). Investment of $74 million of state money has incentivized over $4 billion in private solar projects and helped reduce the cost of solar panels and installation. New York is currently ranked ninth among states in solar installation and third with jobs in the solar industry.

Rooftop solar is well known. The system is generally installed as solar panels. Tesla, with its large plant in Buffalo, is producing solar roofing shingles. Rooftop solar installations may either be purchased outright or leased from an installer.

Community Solar is another important development, with current facilities in Western New York and portions of the Hudson Valley and Southern Tier. New York has adopted Community Distributed Generation (CDC) for solar, wind and hydropower, which permits localized generation of electricity. Coupled with remote net metering legislation, Community Solar projects sell electricity through local utility providers to individual homeowners, religious institutions and small businesses. Most Community Solar projects are required to sell electricity at 10% below what you would pay for traditionally sourced electricity.

Large-scale solar projects are usually constructed on land that is leased. Farmers and landowners are paid by large-scale solar installers to lease their land. This revenue supplements their income, helping farmers to keep their land in agricultural production. Large-scale solar electricity feeds directly into the electric grid, with a guaranteed minimum input to the electric system. In many instances, this eliminates the need for electricity storage.

All siting of large-scale projects is
subject to federal and state environmental guidelines, including such laws as the Endangered Species Act.

The State Department of Agriculture and Markets recommends that topsoil be removed from where the solar panels will be installed and returned after the panels are removed. The department also recommends trenching power cables to a depth of 48 inches to permit cultivation and planting to continue.

Agricultural activities, such as grazing sheep[2] and beekeeping[3], may continue in the areas where the ground-mounted panels are installed. Increased biodiversity also may result from solar panel installation, providing birds, animals and insects with chemical-free acreage.[4]

Towns generally have regulations requiring setbacks and year-round vegetative barriers being planted between solar arrays, rights of way and adjacent properties.

Payments in Lieu of Taxes (PILOTs) are paid by the solar companies to towns, school districts and counties. These are often fifteen times greater than taxes paid on farmland with an agricultural exemption.

Solar panels are generally manufactured from environmentally safe materials.

All panels are constructed to prevent leaching of any materials, even in the event of a fire or hurricane winds.[5]

Footnotes:
1. Alliance for Clean Energy NY. “ACE NY Presents: Harvest the Sun!” YouTube https://youtu.be/UDUztoEERNg

Sustainable Aviation: How Albany can Position New York for a New Era of Carbon Neutral Flight

Wayne Arden, volunteer with the NYC Group

This year, before the Corona virus pandemic forced widespread travel lockdowns, global international aviation emissions were projected to be around 70% higher than in 2005 and the International Civil Aviation Organization forecast predicted that by 2050 emissions could grow by a further 300%–700%. (1)

Since March 2020, emissions have decreased as passenger and freight airplane use has dropped due to the social distancing requirements and the global economic contraction caused by the virus. This gives us an opportunity to reflect upon how we can re-envision aviation through a climate chaos lens. As the pandemic response relaxes and travel returns to its previous pace, how can we stop the trend of increasing emissions, with the ultimate goal of actually developing carbon neutral aircraft?

Airport emissions
One source of emissions is the airports themselves. However, airports can now buy electric vehicle (EV) versions of ground support equipment (GSE) in nearly all categories, including airplane tugs and tractors, baggage-handling tractors, fire trucks, pickup trucks (by 2021), and passenger buses. In 2019, JFK’s Terminal 5 switched to zero-emission GSE. In addition, per a comprehensive National Academy of Sciences study, airports have the unrealized potential to generate much of the power needed on-site, especially via solar energy. (2)

Electric aircraft
Electric aircraft will be transformative, eliminating jet fuel emissions, cutting the cost of flying, and substantially reducing takeoff and landing noise at airports. Ampaire says that fuel costs will decline 90%, maintenance costs 50%, and takeoff and landing noise 66% versus fossil-fueled aircraft. (3)

The nascent electric aircraft market is at a comparable stage
of development to the EV market in 2008, when Tesla first delivered its electric two-seater, the Roadster. Dozens companies are working on electric planes or electric vertical take-off and landing (eVTOL) aircraft. They range from industry giants, such as Airbus, Boeing, Embraer, Hyundai and Rolls Royce, to slews of startups, like Ampaire. Wright Electric, a startup that moved its headquarters to Albany this year to take advantage of New York’s strong engineering talent, is developing a 737-class electric airplane that it anticipates will enter service in 2030. Per its CEO, Jeffrey Engler, “Wright believes all short flights of up to 1,000 miles can be hybrid or electric by 2040, which would dramatically reduce emissions in aviation.”

Sustainable aviation fuel (SAF) Barring an unforeseen technological breakthrough in battery energy density, in twenty years medium-to-long-distance commercial flights will still require liquid fuel. Thus, the only way to reduce emissions of these flights is to replace jet fuel with an equivalent renewable fuel. Depending on the production methodology, jet aircraft using 100% biofuel can achieve emission reductions of over 50%, and via one approach, 75%, according to a Department of Energy National Renewable Energy Laboratory 2016 report.(5) Over the last several years, multiple biofuel producers have achieved commercial-scale production volumes of well over a million gallons a year. Many carriers, including Air Alaska, Cathay Pacific, JetBlue, Qantas, Southwest, United and Virgin Atlantic, have signed agreements with producers to use biofuel. However, biofuel is available only at a small number of airports.

Emissions trading
North America has two different regional greenhouse gas (GHG) cap-and-trade pricing systems, the Regional Greenhouse Gas Initiative (RGGI) and the Western Climate Initiative (WCI). North America has two different regional RGGI members include New York plus nine other eastern states. WCI consists of California, Nova Scotia and Quebec. WCI is a more comprehensive initiative than RGGI, which applies only to power plant emissions. By contrast, WCI applies to most sources of GHG emissions, representing about 80% of the total.(6) However, even WCI does not take into account aviation emissions.

Actions we can pursue in NYS These actions would both reduce emissions and stimulate job growth.

**AIRPORTS**
- Require all publicly owned airports to purchase only zero-emission ground support equipment (GSE) starting in 2022 and fully implement them by 2030.
- Analyze the potential for on-site electricity generation using renewable energy at all New York State airports.
- Adopt San Francisco International Airport sustainability goals: that airports achieve zero net energy use, zero waste and carbon neutrality no later than 2025.(7)

**HOSPITALS**
- Fund assistance to hospitals to replace helicopters with eVTOL aircraft, which will dramatically lower the cost of transporting both organs and severely injured patients to hospitals.
- Fund grants or low-cost loans to flight-training schools and flying clubs to buy electric airplanes, defraying the initial higher purchase price versus conventional airplanes. The buyers representing these two market segments could jump-start zero-emissions aviation in NYS.
- Require sightseeing and airport transportation helicopters to fully implement fault-tolerant multi-rotor (eVTOL) aircraft by 2030.
- Engage with aircraft manufacturing companies active in New York State, such as Beta Technologies and Wright Aircraft, to further explore the creation of jobs in the rapidly growing electric aircraft industry.

**BUSINESSES & CONSUMERS**
- Develop a program to motivate more airlines to use SAF and ensure that airports make it available in significant quantities.
- Offer incentives to encourage instate production of SAF.

**SUSTAINABLE AVIATION FUEL**
- Advocate to merge Regional Greenhouse Gas Initiative (RGGI) and the Western Climate Initiative (WCI) into a common system.
- Expand WCI to apply to all significant commercial sources of GHG emissions, including the three modes of transportation: ground transportation, aviation and boats and ships.

Footnotes:
Our hearts are heavy with the grief and pain that our Black, Indigenous, and People of Color (BIPOC) members, friends, partners, and communities continue to experience as a result of systemic racism, police brutality and the heightened risk from COVID-19. Environmental issues cannot be separated from racial and social justice. We can’t succeed in enlisting humanity in protecting the human and natural world while racism continues to divide us and inflict suffering. Sierra Club is on a journey to becoming a better ally and accomplice against racism. We commit to centering and uplifting the voices and experiences of BIPOC people.

— Sierra Club statement released June 3, 2020

CHAPTER CALLS FOR EXCOM NOMINATIONS (2020 ELECTION)

The Atlantic Chapter Executive Committee (ExCom) sets Sierra Club conservation policy in New York State and administers the Chapter. The Chapter ExCom meets in person four times a year and meets by conference call several times a year.

Some ExCom members are chosen by their local Groups. Others, the nine at-large delegates, are elected by the Chapter membership statewide for two-year terms. This fall’s election will fill four at-large seats beginning in January 2021.

Every member of the Chapter is eligible. If you are interested in running for one of these seats, please let the Nominating Committee (NomCom) know by July 6. Send your name, address, and membership number to the Nominating Committee, Sierra Club Atlantic Chapter, 744 Broadway, Albany, NY 12207 or by e-mail to atlantic.chapter@sierraclub.org. Please include a statement about your qualifications and reasons for running to help the NomCom decide whether to nominate you. The NomCom will notify you by July 31, if they are nominating you as a candidate for at-large delegate. If you need help finding your membership number, email atlantic.chapter@sierraclub.org for assistance.

If you are not nominated by the NomCom, you can become a candidate by filing a petition signed by at least 50 members of the Chapter. The deadline for filing petitions to be a candidate is August 30. The NomCom has the option until September 8 to nominate more candidates. The deadline for all candidates to submit the final version of their ballot statements is September 15.