

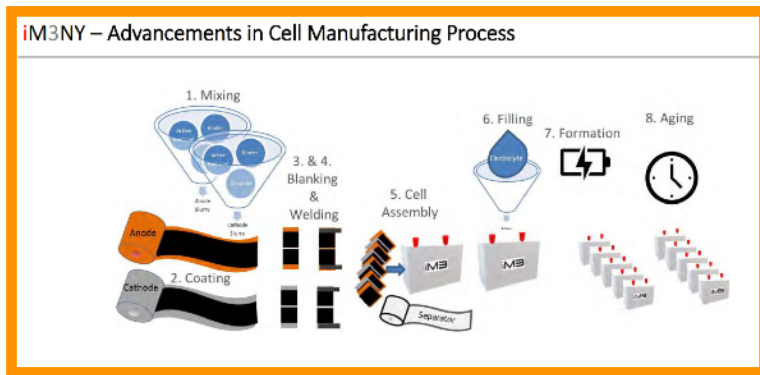
Susquehanna Sierran

SEPTEMBER 2021



Founded 1892

EXPLORE, ENJOY, PROTECT THE PLANET



graphic: iM3NY



photo: Supply Chain Council of European Union

Review of iM3NY's Application for Li-ion Battery Plant Emission Permit

–Valdi Weiderpass

Imperium3 New York, Inc. (iM3NY), a battery manufacturing startup from Binghamton University's Koffman Southern Tier Incubator, plans to manufacture lithium-ion batteries at the Huron Campus, Endicott. iM3NY describes the production process as "capable of delivering the most efficient, and longest life cycle lithium-ion battery in the world." NYS Department of Environmental Conservation, a permitting agency, required iM3NY to apply for an Air State Facility (ASF) permit. Susquehanna Group Chair Valdi Weiderpass kindly reviewed resulting data. His report follows. – Editor

I reviewed documentation in iM3NY's environmental permit applications and concluded that manufacturing processes will produce very small quantities of emissions, and those will be benign, well below allowable limits, and of relatively low toxicity. Projected emissions are available at: <https://www.dec.ny.gov/permits/123468.html>

Air emissions:

Expected full-production-rate emissions to the atmosphere, in Table 2 of Ramboll's (subcontracting engineering firm) 4/15/21 report, titled 'Imperium 3NY Air Dispersion Modeling Report':

Contaminant	CAS Number	Emission point ID	pounds/hour	grams/second
N-methyl-2-pyrrolidone	00872-50-4	STCK4	0.861	0.108
Acetone	00067-64-1	STCK7	8.61	1.085
Carbonates	00616-38-6	STCK5	2.35	0.296
Biphenyl	00092-52-4	STCK5	0.131	0.0165
Acetone	00067-64-1	STCK6	4.14	0.522
N-methyl-2-pyrrolidone	00872-50-4	STCK11	6.16E-04 (0.000616)	7.77E-05

(continued next page)

None are carcinogens. Acetone, from two sources, is the largest emission at a rate of less than 13 pounds/hour. It is commonly used as fingernail polish remover. Air dispersion modeling reveals expected ground-level and neighborhood air concentrations are much lower than allowable limits in applicable regulations. The Ramboll letter states: *'The modeling results... indicate that maximum predicted concentrations are less than the NYSDEC Annual Guideline Concentrations and Short-term Guideline Concentration (AGC/SGC) values.'*

There are non-production-process emissions which are expected from three diesel-engine-powered emergency generators and associated storage of diesel fuel. These include a low vapor emission rate of benzene, a known carcinogen in diesel fuel, at an estimated rate of 0.0000561 tons per year, equivalent to 0.1122 pounds per year. For context, note that the many gasoline/diesel stations in the community emit many multiples of this rate.

Liquid effluent:

a) About 550 gallons per day of sanitary wastewater effluent (from kitchens and bathrooms), with low levels of possible contaminants, enable it to be connected to the Village of Endicott waste water treatment plant via a sewer line connection.

b) Approximately 700 gallons per day of process wastewater will be generated, collected and hauled to a 3rd party processing center. I found no description of expected contaminants/concentrations in the wastewater. However, per my phone calls with DEC, regulation of this will be handled in association with the 3rd party, under state regulatory authority delegated by EPA or conducted by EPA itself, with testing required to be done on the effluent prior to being trucked, and record-keeping maintained by iM3NY of test results and of the records provided by the 3rd party showing it received, treated, and disposed of the wastewater. These records are required to be made available by iM3NY for inspection by DEC.

PFAS (Per- and Polyfluoroalkyl Substances):

Per 3/5/21 Ramboll letter to DEC: *"The PVDF binder is the only PFAS material in the finished product and is approximately 1.8% by weight of the finished cell."* And *"At the start of a batch, the mixer lid and vent are closed. Dry ingredients are metered in first. Any dust emissions generated from the metering of dry ingredients into the mixers will either settle into the mixer or be pulled back into the dry ingredient dispensing system that is vented to the dust collector that vents inside the mixing room."* And *"....ensuring that the mixing room air does not have particulate dust is critical for worker hygiene and cross-contamination concerns....Differential pressure controls will be provided to ensure that the rooms are consistently negatively pressurized to prevent migration. In addition to the air handling systems utilized, the mixing rooms do not open to the exterior through windows or doors."*

Note that Polyvinylidene Fluoride, also referred to as Polyvinylidene Difluoride (PVDF), which is the only chemical substance the facility will use that can be considered a PFAS, is a non-reactive thermoplastic allowed in food containers, per the following excerpt from a Wikipedia article on Polyvinylidene Fluoride: *"It can also be used in repeated contact with food products, as it is FDA-compliant and non-toxic below its degradation temperature."*

Based on the above and my review of the documentation, I submitted neither comments nor objections to the DEC regarding this application..

434 Greenway Update – Jim Taft

The NYS Department of Transportation project—described as "a 2.5 mile shared use bicycle and pedestrian pathway between Pennsylvania Avenue (City of Binghamton) and Murray Hill Road (Town of Vestal) in Broome County"—is under construction. Design challenges include fitting the Binghamton section into the narrow strip already occupied by school property, a floodwall and the divided 4-lane Route 434. Construction is also underway on the Town of Vestal portion. NYSDOT now estimates completion in May 2023.

Current construction, Town of Vestal portion



Susquehanna Group

(All of Broome, & most of Chenango,
Delaware, Otsego, Tioga Counties)

Chair	*Valdi Weiderpass
Vice Chair	*Scott Lauffer
Secretary	*Karen Boba
Treasurer	*Joann Lettis
Political Chair	*Allan Hochberg
Chapter Delegate	*Jim Taft
Newsletter Editor	*Jim Taft
Membership Chair	*Chris Harasta
Outings Chair	*Chris Harasta
Conservation Co-Chairs	*Doug Gausman, Mary Cronk
Alt. Chapter Delegate	*Joann Lettis
	* Member Executive Committee

To become a candidate for the
Susquehanna Group's Executive
Committee, mail by November 1, 2021
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*.

COMING EVENTS

Note: Club general meetings during the pandemic continue online. To join a meeting use the Zoom app or website.

September 18, 11:00am to 3:00pm, Tour Wolf Mountain, Smyrna NY. Facility website:
<https://www.thewolfmountainnaturecenter.org>
Normally open Sundays only, the facility will be open on Saturday the 18th for the Susquehanna Group. \$8 admission, bring lunch. Register **ASAP** at christopher.harasta@gmail.com



photo: Wolf Mountain

September 21, 7:30pm, General Meeting: <https://uso2web.zoom.us/j/3644665286?pwd=VS9kUoNBaUttMnpRa3BSNngwci9TUT09>
Dr. Shailesh Upreti, Chairman of iM3NY and the founder of C4V, the R&D partner of iM3NY: an overview of the iM3NY Lithium-ion battery manufacturing plant, including history/timeline, management team, technology, and status of the gigafactory being set up in Endicott, NY. Q & A to follow. Zoom meeting is open to the public.

October 19, 7:30pm, General Meeting: <https://uso2web.zoom.us/j/3644665286?pwd=VS9kUoNBaUttMnpRa3BSNngwci9TUT09>
Valdi Weiderpass, Susquehanna Group Chair: a review of the UN's IPCC 6th Assessment Report, climate tipping points, how degrees of warming matter, and what needs to be done now. (Tentative)

The Caldor Cauldron

– Scott Lauffer

In 2019 my partner Kathy and I spent the summer volunteering at Eldorado National Forest in California. This beautiful area stretches from the foothills to the High Sierras between Sacramento and Lake Tahoe. 2019 was a good year as there had been substantial snowfall and the forest was wetter than usual. There were no major fires that summer. We explored widely, but the forest is so vast we covered only a small portion.

As I write, the Caldor fire continues to devastate much of the Eldorado forest and communities within and beyond. The Sierras have been tinder dry the last two years, enabling quickly-spreading wildfires. The Caldor and Dixie fires are the first known to burn from the west across to the east side of the Sierra Nevada crest. Hot weather, drought, winds, substantial fuel accumulation, and stretched firefighting resources have overpowered effective control.

The USFS closed all nine national forests in the Sierras soon after the August 14 start of the Caldor Fire, and out of an abundance of caution subsequently closed all national forests in California.

It is distressing for us to see the damage caused by the Caldor fire and other major fires in the west. Wildfires have burned over 8200 square miles in the U.S. so far this year, an area larger than the land area of Massachusetts. Much of the west is in a severe drought, and it seems that fires will be a major factor there for some time. Climate scientists have predicted higher temperatures, increased droughts, more severe storms bringing heavy rain and flooding (the story in the Eastern U.S.).

Extraordinary effort has been expended to fight the Caldor Fire, but this fire is a beast. It came very close to incinerating the Lake Tahoe basin. It appears the pristine lake and communities around it may be spared the worst. But the Sierras are facing more fire danger. Climate change is here. Challenges now include minimizing its impact and being realistic as to what each region will face in the future. I personally would not now choose to live in the West, and I fear for the coming years of fire, loss and disruption that will redefine the American West.



Caldor Fire, August 26, Eldorado National Forest photo: Tahoe Daily Tribune

Susquehanna Group Electoral Endorsements

– Allan Hochberg, Jim Taft

Several candidates for public office have asked Susquehanna Group for endorsements in the November general election. Club policy requires that group endorsements be approved by the chapter. Susquehanna Group has forwarded its endorsements to the Atlantic Chapter. We await the Chapter's approvals. Thus far one candidate has been endorsed by both the Group and the Chapter:

Harris Weiss

Candidate for Broome County Clerk



Calendar time! Good bye 2021!

Please pre-order calendars and we'll mail them to you when they come in. This is a small fundraiser for Susquehanna Group.

Orders must be received by October 31, 2021.

Order full size calendars and/or the desk appointment version. \$15 each plus \$4.00 postage.

Mail the order form below and a check to the address below. Questions? Please contact Treasurer, Joann Lettis, at Jomom83589@aol.com.



Calendar Type	Each	Quantity	Cost
Wall	\$15.00		
Appointment	\$15.00		
Shipping	→		\$5.00
TOTAL DUE	→		

Ship to:

Name _____

Street or PO Box _____

City, State Zip _____



Please make check payable to: Sierra Club Susquehanna Group

Our mailing address:

Sierra Club Susquehanna Group
PO Box 572
Endicott NY 13760



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PO Box 572
Endicott NY 13760

Binghamton Off-Campus Move Out Project

– Jim Taft, Christina Fuller

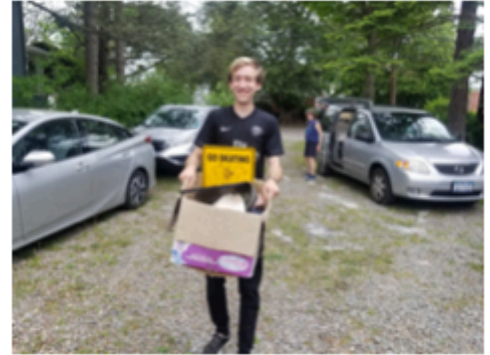
Susquehanna Group Executive Committee voted 9/7/21 to assume responsibility in future years for managing this project. It was begun in 2018 after recognition of large amounts of reusable goods placed curbside by students departing city residences.



The Binghamton Off-Campus Move Out Project reduces waste discarded by Binghamton University students during Spring move out and repurposes

items back into the surrounding community. A volunteer-run pick-up service during the month of May picks up discards from students and redistributes them to nonprofit organizations and schools. In its four years of operation, the project has collected clothing, small appliances, furniture, books, and non-perishable food items from over 220

students. Recipients of items have included The Children's Home, Truth [Pharm](#), RISE-NY, the Addiction Center of Broome County, and local school districts.



Next issue of the *Sierran* will be in December 2021, and will include election and voting materials for positions on the Susquehanna Group Executive Committee. Instructions for candidates are on page 3 of this issue.



Susquehanna Group
PO Box 572
Endicott NY 13760