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New York Solar Energy Society

Monthly Digest for July 2021

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NATIONAL & INTERNATIONAL

Lawmakers and experts warned of paying cybersecurity vulnerabilities to the nation's critical water sector amid growing attacks against a number of U.S. organizations. A cyber consortium attempted to pass the water supply of Oldsmar, Fla., earlier this year by breaching city computers and increasing the chemical production of sodium hydroxide to water treatment plants. San Francisco is being hit by a ransomware attack. The Department is backed up nationwide in a change of training days and tampering with other systems in a rural Kansas town.

- https://www.eenews.net/articles/

US and Russia said they would cooperate on climate change despite strained relations, during a call by Moscow to US climate envoy John Kerry. "We spoke were, you know, in very difficult relations were, on chemical weapons, on nuclear weapons, I would say without any reservation this is absolutely critical," said Russian President Vladimir Putin. Kerry said Russia and Putin "understand the urgency" of the UK's COP26 conference in November in Glasgow, adding that Russia "highly values the importance of climate change and Arctic change" and that Kerry's three-day visit was "very timely."

- https://www.eenews.net/articles/

CLIMATE CONNECTED/ENVIRONMENT

Current rates of plastic emissions globally may trigger effects that we will not be able to remove such as increasing risk to reservoirs from floods, researchers warned. Plastic pollution is a global threat, and actions to drastically reduce emissions of plastic to the environment are "the rational and prudent response."

"As consumers, we believe that when we properly separate our plastic trash, all of it will magically be recycled. This fundamental misunderstanding of what happens to our plastic waste and how modern infrastructure have been expanding their plastic waste streams to countries with worse facilities. Reducing consumption of plastic is the most important step, but we need to also ensure that the remaining plastic is recycled properly, and banning export of plastic waste unless it is to a country with better recycling" according to one researcher.

- https://www.eenews.net/articles/

Millions of people in countries around the world could face an increased risk of malnutrition as climate change threatens food security.

Climate change could push food prices up by as much as more than 137 countries have exceeded how much they can afford to buy, researchers found. Developing and near-fishing coastal areas the vulnerable of critical micro-nutrients from our oceans.

- https://www.eenews.net/articles/

Fewer surgeon creeks parts of the Pebble East and record heat waves and rising unrest. The Washington Post

In Death Valley, Calif., Sunday's 130.2 was over 127 degrees Fahrenheit, a record hot for the entire continent of North America that soared to 134.6 in Sunday afternoon. (The Hill)

The danger posed by heatwaves deserves to be taken more seriously

Deaths from extreme heat are underestimated, and the risks are rising. (The Economist)

Residents of older substandard mobile homes are at higher risk of death in summer's blazing temperatures. (Los Angeles Times)

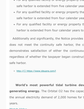
Researchers say they are certain unusual that warming from human emissions played a global role in recent heatwaves. (The Washington Post)

Extreme weather could lead to hotter days in a decade, with an average temperature of nearly 75 degrees in the continuous United States, exceeding the 2050 record by about 2 degrees. (AP) The country has experienced record hottest days of record climate scientists to the year, according to NOAA. They include the ongoing drought and heat waves in the West, as well as April temperatures in Texas and Ohio. Reporting in Louisiana, last week, a Thousand Oaks heat wave killed hundreds of people in the Pacific Northwest and British Columbia, Canada. (The Washington Post)

Heat wave, wildfires and emissions are a different kind of debate. (Fort Portland Oregon Live)

Climate change is making heat waves more frequent and more intense, between 1967 and 2019 alone scientists have attributed with total hundreds extra heat waves a public health crisis. (NPR)

This summer's extreme weather is having impacts unlike ever before, from the Pacific Ocean to the U.S. and about state around the world. (CNN)



RENEWABLE ENERGY

395 Estimate Continually Safe Market for Renewable Energy Tax Credit

- For any qualified facility or energy property that began construction in 2016 or 2017, the continuity safe harbor is extended for four calendar years to six calendar years.
- For any qualified facility or energy property that began construction in 2018 or 2019, the continuity safe harbor is extended four four calendar years to six calendar years, and
- For any qualified facility or energy property that began construction in 2020, the continuity safe harbor is extended four four calendar years to six calendar years.

Additionally and significantly, the Notice provides that for any qualified facility or energy property that commences construction after 2020, the continuity requirement will be met if the taxpayer demonstrates satisfaction of either the continuous construction test or the continuous efforts test, consistent with the Internal Revenue Service's longstanding guidance using the physical work test or the five percent safe harbor.

- https://ccj.crbusa.com/news/

World's most powerful tidal turbine device started generating electricity in Scotland, the equivalent of the annual electricity demand of 1,000 homes for the entire year. Watch Video

- https://www.cnn.com/

One pension system is trial a surge in air-conditioning could make the planet even hotter, by increasing the use of electricity from power plants burning coal and other fossil fuels, **pension systems that drive global warming.**

Operating pension funds invest in companies that produce electricity from power plants, including companies that burn coal, oil and natural gas, **in certain climate emissions**

Pension funds are said to be behind the collapse of the Texas power grid, which many fossil pumps work like efficiency in subzero temperatures.

Shrinks and offices account for **17 percent of the nation's annual greenhouse gas emissions.** And building emissions have barely budged since 2005.

- https://www.nytimes.com/

A solar energy company has used the Department of the Interior over its approval of the nation's first large offshore wind farm, requiring that its project off the coast of Massachusetts threatens the area's fishing industry and imperturbable life.

- https://www.nytimes.com/

Solar

A Lincoln Filed in federal district court is targeting the Alabama Public Service Commission.

The lawsuit, on behalf of nonprofit health advocacy group SHAP and four Alabama Power customers with distributed solar, asks the court to block the monthly fees for private solar investments from Alabama Power and the state's PSC. Solar regulatory approved Alabama Power's proposal increasing the charge in October, from $12/kW to $25/kW.

"Power shares of the state's large utility to drive the growth of rooftop solar and utilities offer (subtly) these charges by arguing that they are necessary to maintain infrastructure," according to a spokesperson for Environmental Alabama.

- https://www.eenews.net/articles/

Green Hydrogen

The New York Power Authority is gearing up to launch a green hydrogen demonstration project at the gas-fired power plant on Long Island. The project, slated to begin construction in the fall, will involve injecting up to 10% of the plant's gas-fired power with green hydrogen, which is made when electricity is used to split water into hydrogen and oxygen.

- https://www.utilitydive.com/news/

Hydrogen technology company Plug Power has entered into a 345 MW wind power purchase agreement (PPA) with Open Close Energy. The new hydrogen plant, which will draw power from the wind farm, is being built to serve the company's customers in the Northeast and will produce 20 metric tons of liquid hydrogen per day, which Plug Power estimates is enough to fuel over 1,000 fuel cell electric vehicles.

Southern California Edison plans for 38,000 EV charging stations, in the largest EV effort of its kind.

US the battery storm was used to power a billion electric vehicles could be lying on the floor of the Pacific Ocean. It but collecting them and turning them into EV batteries is a major challenge.

Experts say that metal critical's environmental threats could outweigh the benefits of renewable energy production.

- https://www.utilitydive.com/

Researchers at Stanford University mined open battery alternatives after cycling and screened more than 1,000 materials for their potential to store energy, and discovered a promising one in the structure at the nanoscale. The group found that oxygen is initially released in a "burst" from the cathode, but then "traps" the oxygen "inside" the cathode. The cathode's "ability to trap oxygen" fundamentally alters the structure of the cathode, degrading the voltage and efficiency of the battery. The group is now looking for other promising materials.

- https://www.utilitydive.com/news/researchers-find-promising-battery-alternative-after-1000-tests/

Fossil Fuels

The Environmental Protection Agency (EPA) in 2011 approved the use of ethanol for Dodge Dual model Ram trucks, but it has not allowed Ram trucks to use ethanol blends. Dodge's Ethanol contents according to documents obtained by an advocacy group. (The Hill)

NORTH-EAST

New England Energy Cost among the Nation's Highest

State	Rank	Monthly Electricity Cost	Monthly Natural Gas Cost	Monthly Heating Oil Cost	Monthly Propane Cost
Connecticut	1st	$185	$103	$215	$215
Massachusetts	2nd	$175	$103	$215	$215
Rhode Island	3rd	$175	$103	$215	$215
New Hampshire	4th	$175	$103	$215	$215
Maine	5th	$175	$103	$215	$215
Vermont	6th	$175	$103	$215	$215
New York	7th	$175	$103	$215	$215
Pennsylvania	8th	$175	$103	$215	$215
New Jersey	9th	$175	$103	$215	$215
Delaware	10th	$175	$103	$215	$215
Maryland	11th	$175	$103	$215	$215
District of Columbia	12th	$175	$103	$215	$215
Virginia	13th	$175	$103	$215	$215
West Virginia	14th	$175	$103	$215	$215
North Carolina	15th	$175	$103	$215	$215
South Carolina	16th	$175	$103	$215	$215
Georgia	17th	$175	$103	$215	$215
Florida	18th	$175	$103	$215	$215
Alabama	19th	$175	$103	$215	$215
Mississippi	20th	$175	$103	$215	$215
Louisiana	21st	$175	$103	$215	$215
Arkansas	22nd	$175	$103	$215	$215
Tennessee	23rd	$175	$103	$215	$215
Kentucky	24th	$175	$103	$215	$215
Ohio	25th	$175	$103	$215	$215
Indiana	26th	$175	$103	$215	$215
Illinois	27th	$175	$103	$215	$215
Michigan	28th	$175	$103	$215	$215
Wisconsin	29th	$175	$103	$215	$215
Minnesota	30th	$175	$103	$215	$215
Iowa	31st	$175	$103	$215	$215
Missouri	32nd	$175	$103	$215	$215
Kansas	33rd	$175	$103	$215	$215
Nebraska	34th	$175	$103	$215	$215
South Dakota	35th	$175	$103	$215	$215
North Dakota	36th	$175	$103	$215	$215
Montana	37th	$175	$103	$215	$215
Wyoming	38th	$175	$103	$215	$215
Nevada	39th	$175	$103	$215	$215
Utah	40th	$175	$103	$215	$215
Colorado	41st	$175	$103	$215	$215
New Mexico	42nd	$175	$103	$215	$215
Arizona	43rd	$175	$103	$215	$215
Texas	44th	$175	$103	$215	$215
Oklahoma	45th	$175	$103	$215	$215
Idaho	46th	$175	$103	$215	$215
Washington	47th	$175	$103	$215	$215
Oregon	48th	$175	$103	$215	$215
California	49th	$175	$103	$215	$215
Alaska	50th	$175	$103	$215	$215
Hawaii	51st	$175	$103	$215	$215

Source: http://weatherbug.com/news/energy-costs-by-state-9832

- https://www.utilitydive.com/

NEW YORK

The New York City Fire Department's proposed new codes could affect virtually all new rooftop solar projects in the city.

The proposed rules for the city to revise the Fire code to have on fast-with openings around roof drains and on the perimeter of shorter buildings, and make expansion upgraded to parapet walls.

"Fire Department's proposed rules would make it difficult or impossible to install solar on most of the tens of thousands of flat roofs in the city," said Jackie Fishman, a lawyer who represents solar developers and property owners in Washington and seeks to change the Fire Department's proposed rules. The Fire Department's proposed rules would have the effect of "stifling the growth of the solar industry," Fishman said, adding that the Fire Department's proposed rules would "effectively eliminate the ability of most rooftops to be used for solar."

Photograph: Guy Corbishley/Alamy

- https://www.theguardian.com/u

Miscellany

Using satellite observations from 2001 to 2020, scientists at Princeton University calculated less than 1% probability that Earth's energy imbalance increase occurred naturally. Sunlight in, reflected and emitted energy out. That's the fundamental energy balance sheet for our planet -- and for decades, it has been out of balance. The extra energy manifests as higher temperatures, rising sea levels, floods, droughts, more powerful blizzards and hurricanes, and deadlier extreme events. Not only is the imbalance growing, but there's a 99% chance that the growth is due to human activity.

- https://www.sciencedaily.com/

The photovoltaic effect of ferroelectric crystals can be increased by a factor of 1,000 if three different materials are arranged periodically in a lattice. Researchers at Martin Luther University Halle-Wittenberg (MLU) in Germany achieved this by creating crystalline layers of barium titanate, strontium titanate and calcium titanate which they alternately placed on top of one another. Their findings, which could significantly increase the efficiency of solar cells, were published in the journal *Science Advances*.

- https://www.eurekalert.org/

The New York Solar Energy Society (NYSES)

a chapter of the American Solar Energy Society (ASES)

prepares consumer knowledge handouts about energy conservation and renewable energy and distributes Green Energy Times, a resource publication, to the public throughout eastern New York State. NYSES analyses legislation and state programs and visits with the staff of legislators in New York City, New York State and in Washington, DC.NYSES **NYSES is a volunteer, grassroots, membership organization serving the children, families, engineers, architects and teachers of New York State since 2007.**

Our Mission:

To encourage the understanding and use of solar energy technologies through public outreach, to be a source of sound technical knowledge and to provide a forum to address critical regional and state issues relating to solar energy solutions. We address the energy usage of all segments of society by increasing awareness of the benefits of renewables: solar, wind, biomass, geothermal ground source, tidal/wave energy and energy efficiency.

For more information, please contact:

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Join and Support NYSES -- http://nyses.org/Main/Join

By renewing your membership and/or making one time or periodic donations, you can help to sustain and expand the efforts and activities of the New York Solar Energy Society.

Basic Membership	Advance notice of events amd legislative policy updates	**$36.00/ year**
Professional Membership	Above benefits plus discount on event admissions	**$100.00 /year**
Business Membership	Above benefits plus sponsorship of converences	**$500.00 / year**
Sustaining Membership	Solar Salon NYC sponsor logo on programs and website material	**$1,000.00 /year**

Contribute on line via NYSES website www.nyses.org
or mail check to the address above
Thank you!

Please send your comments/suggestions via Contact-Us

The Board of Directors of the New York Solar Energy Society meets on the fourth Tuesday of each month via teleconference. Please contact-us **if you wish to attend.**

Monthly Update is compiled & edited by Yuri Kalina

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