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# New York Solar Energy Review
## Monthly Digest for November 2019

In the NYSERDA Monthly Digest Newsletter is a lot of fun and we are excited about NEW

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## NATIONAL & INTERNATIONAL

Selected headlines

The CARE act, contained within an agreement that made its reference to the use of fossil fuels. The fund was delayed by nearly two years between the NJ, which started a Solar transition, and the remaining one-third, discussed.

The Clean and Reliable Grid Affordability Act, sponsored by the Illinois Senate, the new rules will be implemented by the Illinois Power Agency, the state's electricity procurement agency, and will bring more and more solar projects online, through a generous technology, to the state's power generation portfolio. Additional clean power plants and large solar projects, rather than the current 1,500 megawatts, will be allowed.

Florida Republicans are backing a bill that would ban the administration proposed by **Biden** as one effort to the eastern Gulf of Mexico. "Preserving our nation's beach tourism is deeply important to the economy of our state and the jobs it supports," said Rep. Matt Gaetz, a Republican from the Panhandle, in a statement. "Joining a Florida GOP leader, The office of Florida governor also criticized the plan.

*A condition of clean energy groups and the city of St. Paul, Minn, used the Trump administration's rollback of Obama-era fuel-economy standards to block a Minnesota project that would run around 87 miles to prepare a Democratic-led state.* New York Times

Trump admin to carry out controversial Arctic lease sale by Interior Friday: report - Hill

This hurricane season is ending without a U.S. landfall - Vox

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## BILL ALLEN JOINS SOLAR ENERGY INDUSTRIES ASSOCIATION (SEIA)

Bill Allen, a longtime Washington, D.C. business power-broker and leader in **Jessica** industry, **Jessica** and **Jessica** Jackson, **Jessica** Jackson, **Jessica** Jackson,

**reports:**

- Global investments in the energy transition reached a new record of USD 2.4 trillion in 2024.
- Still, year-on-year growth of renewables slowed significantly, with annual investments increasing by 7.3% in 2024, compared to 32% the year before.
- 96% of renewable energy investments went to the power sector, continuing a long-term trend.
- Global investment in solar PV hit a record with USD 554 billion in 2024, up by 49%.
- Investment in renewable power, grids, and battery storage exceeded fossil fuels investment in 2024, though fossil spending is on the rise
- Investment in energy transition technologies grew globally, but 90% remained concentrated in advanced economies and China, leaving emerging and developing countries behind.
- Investment across other renewable technologies, including marine energy, geothermal power, bioenergy and hydropower, remains far below what is needed. (*IRENA*)

**So far in 2025, cancellations are outpacing new clean energy investments nearly two to one.** Companies have announced $11 billion tied to new projects and about 17,000 jobs, compared to the $28.7 billion and almost 30,000 jobs lost from abandoned ones. (*Electrek*)

**No growth in fossil power is expected in 2025 as clean power growth meets all new demands**.
Record growth in solar power, combined with moderate wind growth, exceeded the rise in electricity demand in the first three quarters of 2025, even when accounting for a fall in hydropower. As a result of fast-rising clean power, fossil generation in the global power sector is expected to remain flat in 2025 for the first time since the Covid-19 pandemic. (*Ember*)

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**OF INTEREST**

**A report this year by the St. Louis Federal Reserve echoes the consensus** that corporate and personal use of artificial intelligence (AI) agents is already skyrocketing beyond even adoption of the personal computer decades ago.

The AI adoption increases the pressure on the energy grid to a point where the old utility model, already under the stress of aging equipment without transformational upgrade, cannot keep up with the growth in the electric energy demand.

Every method of electric generation is on the table to satisfy the demand for power, gas generators, renewables, battery storage and eventually even small nuclear modular reactors. (*Microgrid Knowledge*)

**Environment/Climate**

**While on a full attack against offshore wind and other renewable energy sources, Trump is pushing deep-sea mining,** i.e. ocean floor drilling, for "polymetallic nodules" loaded with critical minerals including copper, iron, zinc and more.

Not yet commercialized, the deep-sea operations are pursued amid rising demand for these minerals in electric vehicles and other parts of energy transition, as well as for technology and military use.

Researchers from the University of Hawaii found that mining waste could affect the oceanic food chain, starting with a decline in zooplanktons due to their intake of waste from the mining, to a decline of progressively higher species feeding on the lower species, all the way up to the commercially important fish.

Environmentalists have advocated against deep-sea mining, citing not only the direct harm to wildlife and parts of the sea, but also the disturbance of planet-warming carbon dioxide that is currently sequestered in the ocean and on its floor. (*EuroNews* == *News.Sustainability*)

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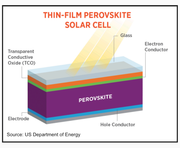
Energy: Research/Development

**Solar**

**Perovskites are a family of materials that have shown potential for high performance and low production costs in solar cells. T**he name "perovskite" comes from their crystal structure

Perovskite has emerged as a promising solution for cheaper, more efficient solar energy. This advanced synthetic material is made from crystals that mimic the naturally occurring crystal perovskite (calcium titanate).

The main problem preventing perovskite solar cells from reaching their potential is the use of a chemical called methylammonium chloride (MACl) in the manufacturing process. It helps the crystals grow, but during the heating process, the scientists discovered that chlorine ions start to move, clump up and aggregate near both the top and the buried surface of the film. This film is a thin layer of perovskite material that sits inside a solar cell, and the uneven distribution of chlorine ions limits its maximum power output.

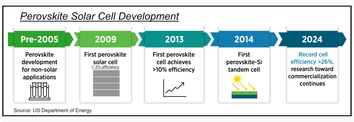



Researchers from the Chinese Academy of Sciences have arrived at the solution to the chlorine lumping. They added an alkali metal oxalate (potassium binoxalate) to the liquid perovskite mixture before the film is made

Th new ingredient dissolves and releases potassium ions that stick to the migrating chlorine ions to form a new, stable salt (potassium chloride). The result is a uniform, homogenized distribution of chlorine that prevents the defects from forming.

With this methodology, the researchers have achieve a record-breaking power conversion efficiency (PCE) of 27.2%, meaning the solar cell successfully converted 27.2% of the total energy from the sun hitting the panel into usable electricity.

However, additional work needs to be done. In the next steps will require reducing a large number of defects buried in the interface - the boundary between a perovskite layer inside a solar cell and the rest of the structure.




(*Techxplore* == *DOE*)

**Wind**

**The extreme winds generated by climate change-driven monster storms are already pushing against the limits of some wind turbines.**

A study focused on, widely used, Class III turbines, a type designed for relatively mild conditions, found that over 40% of existing and planned offshore turbine farms in Europe and Asia are exposed to wind beyond the speeds they were designed to tolerate. (*Haaretz*)

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**THE READS**

Appalachian Coal Town
Photo: PCIF

**"We knew we were living in a historic moment, not just because of the amount of funding, but because the whole region mobilized to meet the moment."**

In 2022, the Biden administration earmarked billions of dollars to help revitalize and strengthen former coal communities.

On his first day in office, Trump scrapped Biden's clean energy and environmental programs, which he lambasted as woke, anti-American liberal hoaxes. (*Guardian*)

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**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 and Northern New England. NYSES analyses legislation and state programs and visits with the staff of legislators in New York City, New York State, and Washington, DC.

NYSES is a volunteer, grassroots, membership organization serving the children, families, engineers, architects, and teachers of New York State since 2007.

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:

**New York Solar Energy Society**
5270 Sycamore Avenue, Bronx, NY 10471
917 974 4606
www.nyses.org

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*Monthly Update is compiled & edited by Yuri Kalina*

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