Re: Ch. 17, S.D.G. Enforcement by Global Organizations
Re: Addenda #46 – May 2024
SDG 10.7 – U.N. Migration Policies
SDG 17 – Strengthen the means of implementation and revitalize the global partnership for sustainable development

In the November 2024 updates to Addenda #65, I detailed multiple instances of illegal non-citizen immigrants that have committed crimes while living among us in the United States, and how Progressive Democrat Marxists have fought to protect them and thwart attempts by ICE Enforcement and Removal Operations officers to apprehend and remove them from our cities.

One of the cases that has made an impression on me in investigating these cases, was that of 22-year old Laiken Riley, a student at the Augusta University's school of nursing who was brutally murdered by an illegal immigrant with a criminal background. The day after the newly elected 119th Congress was sworn in, Republicans introduced the first bill of the session, H.R. 29, to the House Committee on the Judiciary. Known as the Laiken Riley Act, this bill set the requirement for the U.S. Department of Homeland Security to detain illegal immigrants who have admitted to, been charged with, or convicted of theft-related crimes, assault on a law enforcement officer, or any crime resulting in death or serious bodily injury.
The bill was also intended to protect American citizens in the future, if the policy of Homeland Security reverts to what it was under the Biden administration of not seizing and deporting criminal illegals, by allowing individual states to sue the Secretary of Homeland Security to enforce the law.

Democrats protested the bill, falsely claiming it would lead to mass deportations and targeting illegal immigrants for minor crimes. "The bill serves as a license to discriminate against our immigrant communities, including Dreamers," said Rep. Yassamin Ansari (D-Arizona). "Under this legislation, someone charged — just charged, not found guilty — could be immediately deported. This is a gross miscarriage of justice."
Other Progressive organizations also protested the protection of legal U.S. citizens, by removing criminal illegals. "For the children of undocumented families, this bill represents a new wave of fear and instability," said Sarah Mehta, senior border counsel at the American Civil Liberties Union (ACLU). "It is a dangerous precedent that could lead to sweeping human rights abuses."
Note: Entering the United States illegally *is* a misdemeanor crime for first offenders and a felony crime for repeat offenders, punishable by civil and criminal penalties including expulsion from the country.

The Laiken Riley Act went to the House Floor on January 7, receiving 216 Yea votes from Republicans and 48 from Democrats, while 159 Democrats voted *against* the bill.

The bill then moved to debate in the Senate, which passed the bill January 20 with 52 Yea votes from Republicans and 12 from Democrats, while 35 Democrat Senators voted *against* the bill. Because the Senate made changes to the bill, it was sent back to the House for an additional vote. The bill passed for a second time in the House with the exact same results as before. President Trump signed the Laiken Riley Act into law on January 29.

Response from the American Civil Liberties Union was immediate. “The first immigration bill of the new Congress, the proposed law would require the government to detain people who pose no risk to their communities. Under the bill, individuals would be mandatorily locked up – potentially for years – because at some point in their lives, perhaps decades ago, they were accused of nonviolent offenses like shoplifting.”

This is a gross misrepresentation of the intent and language of the bill by an organization that exists to (allegedly) protect the civil liberties of *Americans*.

The September 2024 report released by Immigration and Customs Enforcement showed that there are 662,566 illegal immigrants with criminal histories residing in the United States and not in detention. This number includes 14,944 with current or pending convictions on murder charges, 105,146 with current or pending convictions on assault charges, 36,143 with current or pending convictions on sex offenses or sexual assault, and 70,379 with current or pending convictions of dangerous drugs, all free and living among legal citizens in the United States.

These are the people that the ACLU cares about protecting the rights of, not legal American citizens like Laiken Riley who have become victims, or those who will become victims in the future, if nothing is done to stop it.
These are the people that Congressional Democrats care about protecting the rights of, not their constituents who put them in office to serve, protect and defend them.

It’s a sad commentary on the priorities the Democrat Party today.

Addenda #73 – February 2025
Re: Ch. 8, 050 Net-Zero Emissions; Impossible!
SDG 13 – Take urgent action to combat climate change and its impacts

In his 2024 "Make America Great Again!" presidential campaign, Donald Trump promised voters he would cut government spending, reduce inflation and boost the economy in part by his energy policies. This plan is to boost fossil fuel production (drill baby drill) and terminate government spending on 'the Green New Scam', which exploded during the four years Joe Biden was in office.
The American Jobs Infrastructure Plan, known as Bidens "*Build Back Better Plan*" Part 2, dedicated $518.5 billion for Climate Change and renewable energy spending. The American Families Plan, known as *Build Back Better* Part 3, dedicated another $386 billion for Climate Change and renewable energy spending.
Together, these two plans alone account for more than $900 billion in spending over five to ten years in climate change-related priorities, which will be financed through debt issued (borrowed money) by the U.S. Treasury.
With our National Debt already exceeding $36 trillion, this additional debt issued and the interest we pay to finance it, will affect the ability of the federal government to provide services to all Americans in future years.

When President Trump took office on January 20, 2025, he signed a series of executive orders and actions to overrule policies put into place by President Biden through his own executive orders and actions. This included withdrawing from the U.N. Paris Climate Accord treaty, cancelling electrification of the federal government vehicle fleet (Ref: Addenda #67 – November 2024), cancelling the EPA tailpipe emissions final standards (Ref: addenda #68 – November 2024), and 'pausing' all wind lease sales and permitting for offshore wind farm development and construction, for an initial period of six months.

Trump executive orders halt wind development, declare energy emergency

The orders pause wind lease sales and permitting on federal lands while taking steps to accelerate other forms of energy production.
UtilityDive, January 21, 2025

The presidents executive order cited "various alleged legal deficiencies underlying" the federal government's leasing and permitting of wind projects, and concerns that the projects could lead to "negative impacts on navigational safety interests, transportation interests, national security interests, commercial interests, and marine mammals."
In have detailed these effects on marine mammals in various Addenda's in the past, so I won't revisit them in this one.

The pause affects only the offshore wind industry, which has already had its own share of problems related to increased costs. It does not affect the permitting and construction of any wind or solar installations on land. Any current proposals or applications for offshore leases cannot go forward until they are reviewed by the new administration appointees. Federal

agencies were notified to stop disbursing Infrastructure Investment and Jobs Act and Inflation Reduction Act funding, including any money that Congress already authorized. This order has thrown climate and infrastructure projects at various stages of development into uncertainty and will most likely face legal challenges in the coming months.

President Trumps pick to become the new U.S. Department of Energy Secretary, Chris Wright, earned a bachelor's degree in mechanical engineering and a master's degree in electrical engineering from the Massachusetts Institute of Technology in the 1980's and has worked for several energy companies, many of which focused on natural gas production. Wright, who has never held a government position, has maintained that "There is no climate crisis, and we're not in the midst of an energy transition either… The only thing resembling a crisis with respect to climate change is the regressive opportunity squelching policies justified in the name of climate change," Wright is a critic of the Biden administrations (and Agenda 2030) net-zero carbon emissions by 2050. "Net-zero policies raise energy costs for American families and businesses, threaten the reliability of our energy system, and undermine our energy and national security…"

Wright is in direct contrast to Biden administration Secretary of Energy Secretary Jennifer Granholm, who was a net-zero advocate and was in the spotlight for several high profile comments and actions. During the summer of 2023, Granholm decided to prove to a skeptical American public just how reliable and easy it was to travel long-distance in an electric vehicle. She set off from Charlotte, N.C., to Memphis, Tenn., a 630 mile trip by car should take around 10-hours with refueling stops.

Granholm rode in a $63,000 Cadillac Lyriq EV, that had an approximate range of 300 miles for the 2-wheel drive version, so in theory, she would have to stop for at least three 30 minute charges at a DC fast charge station to complete the trip. But it wasn't just Granholm making this trip, she had multi electric vehicle entourage accompanying her to publicize the benefits of electric vehicles at stops she made along the way.

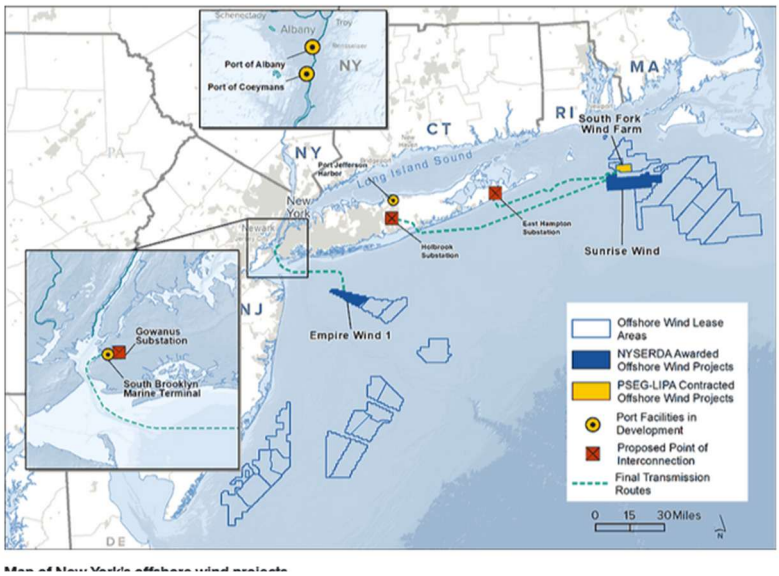
What Granholm also had, that the average American does not have when traveling, was an advance team, responsible for finding and securing charging stations for Granholm and her fleet of EV's. At one charging station in Grovetown, Georgia, her advance team realized there weren't going to be enough plugs to go around. One of the station's four chargers was broken, and others were occupied. An Energy Department staffer tried parking a nonelectric vehicle by one of those working chargers to reserve a spot for the approaching secretary of energy. In doing so, they boxed out a family attempting to charge their own EV, on a sweltering day, with a baby in the car. The family was so upset they called the police!

In April 2023, Granholm supported President Bidens plan to convert the entire U.S. military to all electric vehicles by 2030. "I do [support the President's plan], and I think we can get there, as well," "One of the things I found out as President of the United States, I get to spend a lot of that money. We're going to start the process where every vehicle in the

United States military, every vehicle, is going to be climate-friendly — every vehicle — I mean it. We're spending billions of dollars to do it."
President Joe Biden; Earth Day celebration, April 22, 2022

Note: At the end of the Biden-Harris administrations time in office, there were at least 640 civilian staff working on "environmental justice", either in a full- or part-time capacity in the Department of Defense according to the agencies 'online scorecard.'
Thank goodness this madness will finally come to an end!

The Biden administration executive orders affected by President Trumps new orders are limited to federal policies and plans and don't impact projects already approved by the federal government and funded by state taxpayers or private developers. Offshore wind projects already approved by Virginia, Maryland, New Jersey and New York won't be affected by the executive orders.



Map of New York's offshore wind projects.

To date, NYSERDA has issued four offshore wind solicitations. Currently, New York has one operating offshore wind farm, the South Fork Wind Farm (132 MW), powering about 70,000 homes, and two projects in development, Empire Wind 1 (810 MW) and Sunrise Wind (924 MW). https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/NY-Offshore-Wind-Projects

The New York State Energy Research and Development Authority (NYSERDA) was tasked by then Governor Andrew Cuomo to solicit bids for renewable energy projects that would help New York state to achieve the 70% renewable energy production by 2030 (70x30 Plan) that was mandated under the 2019 *Climate Leadership and Community Protection Act.* NYSERDA has issued four offshore wind solicitations to date.

2018 Solicitation – NYSERDA executed contracts with Equinor Wind US LLC for the 816 MW Empire Wind Project* and Sunrise Wind LLC* (a joint venture of Ørsted A/S and Eversource Energy) for the 924 MW Sunrise Wind Project.

2020 Solicitation – NYSERDA executed contracts with Equinor Wind US LLC for the 1,260 MW Empire Wind 2 Project and the 1,230 MW Beacon Wind Project.

2022 Solicitation – NYSERDA selected three offshore wind projects: Attentive Energy One developed by TotalEnergies, Rise Light & Power, and Corio Generation (1,404 MW), Community Offshore Wind developed by RWE Offshore Renewables and National Grid Ventures (1,314 MW), and Excelsior Wind developed by Vineyard Offshore (1,314 MW).

2023 Solicitation – NYSERDA executed contracts with Empire Offshore Wind LLC for the planned 810 MW Empire Wind 1 Project* and Sunrise Wind LLC* (developed by Ørsted and Eversource) for the planned 924 MW Sunrise Wind Project.

* These projects were originally awarded by NYSERDA in 2019. (See 2018 Solicitation) The developers, Equinor and BP, terminated the contract Offshore Wind Renewable Energy Certificates (ORECs) agreements in January 2024, citing losses due to "commercial conditions driven by inflation, interest rates, and supply chain disruptions" as the reason for cancelling their contracts. Since the Public Services Commission refused to grant developers a rate increase in November 2023, they cancelled the contracts, rebid the projects at higher prices in January 2024 and were awarded new contracts at significantly higher rates in February 2024. The increased costs for construction of these projects will *still* be paid for by increased electricity costs for New York utility customers in future years even though the PSC denied rate increases for them.
Ref: Addenda #30 – January 2024 and Addenda #40 – February 2024

Offshore Wind Projects awarded by New York State and construction status:

1. South Forks Wind
   35 miles east of Montauk Point NY
   Ørsted North America Inc. and Global Infrastructure Partners' Skyborn Renewables
   132-megawatt capacity, 12 wind turbine generators
   Award Date: January 2017
   Start Date: February 2022
   Energization: March 2024
   South Forks Wind is New Yorks first operational offshore wind farm. An underground transmission line connects the offshore substation to the Long Island electric grid.

2. Sunrise Wind
   30.5 miles east of Montauk NY
   Ørsted North America Inc. and Eversource Investment LLC
   880-megawatt capacity, up to 122 wind turbine generators
   Award Date: January 2019
   Start Date: July 2023
   Energization: November 2026

   - ✓ October, 2023: Developers Equinor and BP request "better terms" (a 54% boost in pricing) for the Empire Wind 2 contract to reflect "inflationary pressures, supply chain issues and permitting delays." The NY Public Service Commission refuses to renegotiate terms.
   - ✓ January 2024 - The original developers took write-downs of up to $1.6 billion on losses due to increased costs, higher interest rates and supply chain disruptions.

- ✓ January 2024 - The developers sold their interest in in the project to Danish energy company Ørsted, subject to a successful re-bid and award in NY states 2023 solicitation. If not awarded at new pricing, the project would be cancelled.
- ✓ February 2024 – NYSERDA awards a new contract for the Sunrise Wind project to Ørsted and partner Eversource.
- ✓ June 21, 2024 - Sunrise Wind receives final approval of its Construction and Operations Plan (COP) from the U.S. Department of the Interior's Bureau of Ocean Energy Management (BOEM). This is the final decision needed from the federal agency to move the project toward the start of offshore construction.
- ✓ July 17, 2024 – Governor Hochul announces the start of construction on Sunrise Wind.

As of this writing, Sunrise Wind is on target to meet its revised completion date of mid-2026. Trenching and conduit installation to the onshore converter station and substation is in progress and mobilization continues for the start of offshore turbine installation.

3. Empire Wind 1
   15 miles south of Long Island NY
   Equinor and BP (British Petroleum)
   816-megawatt capacity, 54 15-MW wind turbine generators, 61% capacity factor
   Award Date: January 2019
   Start Date: 2023
   Energization: 2027
4. Empire Wind 2 (Empire Wind 1, phase 2)
   15 miles south of Long Island NY
   Equinor and BP (British Petroleum)
   1,260-megawatt capacity, 84 15-MW wind turbine generators
   Award Date: March 2021
   Start Date: 2024
   Energization: 2028

   - ✓ October, 2023: Developers Equinor and BP request "better terms" (a 54% boost in pricing) for the Empire Wind 2 contract to reflect "inflationary pressures, supply chain issues and permitting delays." The NY Public Service Commission refuses to renegotiate terms.
   - ✓ January 2, 2024 - Equinor and BP write-down a combined $840 million in losses on New York offshore wind projects.
   - ✓ January 3, 2024 - Equinor and BP announce termination of the Empire Wind 2 project.
   - ✓ January 2024 - Empire Wind 1 was re-bid in the fourth Offshore Wind Solicitation.
   - ✓ February 29, 2024 – Governor Hochul announces conditional award to Equinor, Eversource, and Ørsted for Empire Wind projects.
   - ✓ June 4, 2024 - Governor Hochul announces the finalization of new contracts for Empire Wind 1.
   - ✓ September 9, 2024 - Vestas announces an 810 MW offshore order from Equinor to power New York's Empire Wind 1 offshore wind project. The order includes 54 V236-15.0 MW turbines and marks Vestas' first order in the U.S. for an offshore platform and its industry-leading, type-certified V236-15.0 MW turbine… Turbine delivery is expected to begin in 2026 with completion scheduled for 2027.

- ✓ January 2, 2025 – Equinor announces securing of a financing package for Empire Wind 1 of over $3 billion. The expected total capital investments, including fees for the use of the South Brooklyn Marine Terminal (SBMT), are approximately USD 5 billion including the effect of expected future tax credits (ITCs).

As of this writing, construction is underway in the redevelopment of the Brooklyn Marine Terminal as project hub for all offshore wind projects. Initial undersea construction work for turbine foundations and undersea cabling will begin in mid-2025, with turbine installation and work on the Brooklyn sub-station expected to begin in the spring of 2026. Final commissioning of the project is still planned for 2027.

5. Beacon Wind 1
   60 miles east of Montauk NY
   Equinor and BP (British Petroleum)
   1,230-megawatt capacity, 78 wind turbine generators
   Award Date: January 2022
   Start Date: 2025
   Energization: 2028

6. Beacon Wind 2
   60 miles east of Montauk NY
   Equinor and BP (British Petroleum)
   1,200-megawatt capacity, 77 wind turbine generators
   Award Date: January 2022
   Start Date: pending
   Energization:

   - ✓ October, 2023: Developers Equinor and BP request "better terms" (a 54% boost in pricing) for the Beacon Wind contract to reflect "inflationary pressures, supply chain issues and permitting delays." The NY Public Service Commission refuses to renegotiate terms.
   - ✓ January 2, 2024 - Equinor and BP write-down a combined $840 million in losses on New York offshore wind projects.
   - ✓ January 25, 2024 - Norway's Equinor said on Thursday it had entered an agreement with BP to independently pursue separate wind projects under its bid for New York's offshore wind auctions. BP agreed to assume complete ownership of the Beacon Wind offshore projects.

   As of this writing, Equinor and BP have not received final approval of the Construction and Operations Plan (COP) from the U.S. Department of the Interior's Bureau of Ocean Energy Management (BOEM) for either the Beacon 1 or Beacon 2 projects. These will likely be subject to the new "pause" on offshore wind development.
   https://www.offshorewind.biz/2023/10/13/new-york-rejects-bids-to-renegotiate-offshore-wind-contracts/
   https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations/2023-Solicitation#ORECRFP23-1
   https://www.workboat.com/wind/the-offshore-wind-shuffle-developers-swap-ownership-submit-new-bids
   https://www.utilitydive.com/news/offshore-wind-new-york-developers-rebid-equinor-bp-orsted-eversource-rwe-national-grid/705852/
   https://www.politico.com/news/2024/02/29/offshore-wind-costs-new-york-projects-00144143#:~:

7. Attentive Energy One
   47 miles southeast of Long Island NY
   TotalEnergies, Rise Light & Power & Corio Generation
   1,404-megawatt capacity, 90+ wind turbine generators
   Award Date: November 2023
   Start Date: pending
   Energization:

   ✓ April 18, 2024 – NYSERDA announces that no final agreements could be reached with the three projects that received provisional awards in October 2023 and cancels the project contract for Attentive Energy One. Turbine manufacturer GE Vernova and LM Wind Power abandoned plans to build the 18-megawatt wind turbine which was the product used by developers in the third offshore wind solicitation bid.

8. Community Offshore Wind
   56 miles southeast of Long Island NY
   RWE Renewables & National Grid
   1,314 megawatt capacity, 80+ wind turbine generators
   Award Date: November 2023
   Start Date: pending
   Energization: 2029

   ✓ April 18, 2024 – NYSERDA announces that no final agreements could be reached with the three projects that received provisional awards in October 2023 and cancels the project contract for Community Offshore Wind. Turbine manufacturer GE Vernova and LM Wind Power abandoned plans to build the 18-megawatt wind turbine which was the product used by developers in the third offshore wind solicitation bid.

9. Excelsior Wind
   24 miles southeast of Long Island NY
   Equinor and BP (British Petroleum)
   1,314 megawatt capacity, 80+ wind turbine generators
   Award Date: November 2023
   Start Date: pending
   Energization: 2029

   ✓ April 18, 2024 – NYSERDA announces that no final agreements could be reached with the three projects that received provisional awards in October 2023 and cancels the project contract for Community Offshore Wind. Turbine manufacturer GE Vernova and LM Wind Power abandoned plans to build the 18-megawatt wind turbine which was the product used by developers in the third offshore wind solicitation bid.

On July 17, 2024, NYSERDA launched New York's fifth competitive offshore wind solicitation, ORECRFP24-1.
Note: The "OREC" refers to "Offshore Wind Renewable Energy Certificates." The "RFP" stands for, "Request For Pricing."

NYSERDAS 2024 wind solicitation drew "re-bids" for three already canceled offshore wind projects: Attentive Energy One, Community Offshore Wind and Excelsior Wind. (See above) as well as a proposal for one new offshore wind program, Long Island Wind.
> Attentive Energy 1, if successfully awarded (again), at a significantly increased contract value, is scheduled to begin construction in 2028 with installation of HVDC cabling and equipment in 2031 and offshore wind turbine installation in 2032-2033. Final commissioning and energization is expected to happen in 2033.
> Community Offshore Wind, if successfully awarded (again), at a significantly increased contract value, is scheduled to begin construction at some yet to be identified future date.
> Excelsior Wind, if successfully awarded (again), at a significantly increased contract value, is scheduled to begin construction in 2027 with the installation of HVDC cabling and offshore wind turbine installation in 2029-2033. Final commissioning and energization is expected to occur in 2031.

Note: All three of the above projects were re-bid at smaller megawatt capacities from the original 2022 bid proposals due to changes in the turbine selections available at this time.

The Long Island Wind bid proposal submitted by Ørsted North America Inc., proposes a new offshore wind farm, approximately 43 miles from Montauk, New York and 28 miles form Martha's Vineyard. The megawatt capacity and construction timeline is unknown. The "Public Version" of bid applications, pricing submitted, and schedules are highly redacted, so the public may never know how much more New Yorkers will be paying for their electricity in the years to come. (see bid documents below)

If the Trump Department of Energy is serious about accelerating domestic oil and gas production and potentially permanently 'pausing' all wind lease sales and permitting for offshore wind farm development and construction, these projects may never be built.

What will this do to the looming shortfall of electricity generation in New York state?
In Addenda #70 – December 2024, I detailed the most recent NYISO *Power Trends 2024* report which again emphasized the "Declining reliability margins" and the need for new electricity generation, due to large-scale retirements of fossil fuel generating sources.
"For summer 2024, the NYISO expects 34,913 MW of resources available to meet 31,541 MW of forecasted demand under normal conditions. Under extreme summer weather conditions, however, forecasted reliability margins could potentially be deficient without reliance on emergency operating procedures… With increasing winter peak loads and consideration of limitations on gas availability, there may be insufficient generation to serve forecasted demand for expected weather while maintaining required operating reserves."

Progressive Democrat policy makers in New York State have gone all in on renewable energy generation as the solution for reducing greenhouse gas emissions and "solving" the problem of climate change. Their blind allegiance to the "religion of green", is going to have major effects on the residents and ratepayers in future years.

Attentive Energy bid documents

1.4 Cost Effective Renewables for New York City

To deliver on the Climate Act goals and a generational opportunity to transform the power sector, New York State needs offshore wind that is cost-effective and low risk. AE1 is able to provide cost-effective offshore wind through several unique characteristics. [redacted]

As detailed above, AE1 offers a nameplate capacity of 1,275 MW and will deliver clean energy into the heart of New York City via the Ravenswood Site in Queens. AE1 will transform the Ravenswood Site into a clean energy center and provide a model for the environmental justice goals of the Climate Leadership and Community Protection Act (the "Climate Act"). AE1 will also enable a Just Transition for Ravenswood's existing union workforce, providing a green workforce with union jobs. The Project is matured and derisked, having already achieved a major New York State permitting milestone. Under this Submission, Attentive Energy offers NYSERDA the competitive bid options summarized in Table 1-2.

[redacted]

5.1 Summary

Our objective is to accelerate and sustain the offshore wind industry in New York, by delivering our Project on time and without unforeseen complications. Community Offshore Wind recognizes that project scheduling is a critical component to achieving this, and we present in this section our project scheduling and status which highlight our:

- **Highly experienced team leveraging best-in-class planning and methodology:** Our scheduling team is composed of experienced individuals through our parent companies RWE and National Grid, who have advanced over 19 offshore wind farms as well as high-voltage direct current (HVDC) projects to commercial operation. We use this experience to benchmark our project schedule to previous projects and implement lessons learned, resulting in achievable schedules to achieve our proposed commercial operation date (COD).
- **Detailed and achievable project schedule:** Drawing on our extensive project development experience, our team has prepared a detailed and achievable project schedule to help ensure structured, seamless, and on-time project implementation. Our plan considers critical path elements and adjusts for boundary conditions, including adverse weather and vessel speed limits, limiting unforeseen delays. As part of our overall project schedule, we have prepared a design and project timeline that meets the ORECRFP24-1 objectives, including the New York Independent System Operator (NYISO) interconnection process.
- **Progress made toward key milestones, including steps to mitigate delay risks:** We kicked off our Project with the acquisition of our lease area, and we have already completed several site investigation surveys [redacted]

In addition, we are open to exploring with NYSERDA project schedule optimization within New York's offshore wind portfolio.

A high-level summary of the Community Offshore Wind project schedule [redacted] is provided below in Figure 5-1.

[redacted]

Excelsior Wind bid documents

Table 5.1-1 Project Proposals

Proposal ID	Delivery Point	Technology	Commercial Operation Date (COD)[1]	Interconnection Cost Sharing	[redacted]	Schedule Section
Required Proposals						
EW-A	[redacted]		[redacted]		[redacted]	[redacted]
EW-B	[redacted]		[redacted]		[redacted]	[redacted]
Alternate Proposals						
EW-C	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
EW-D	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
EW-E	[redacted]		[redacted]		[redacted]	[redacted]

Notes:
1. In this section, the Uniondale Delivery Point refers to the proposed expansion of the existing 138/345 kV substation in Uniondale, referred to by NYISO as the East Garden City 138/345 kV substation.
2. COD is defined as the date on which Excelsior Wind is fully operational.

[redacted]

PUBLIC

Long Island Wind bid documents

1.0 Executive Summary

1. Project Overview – All Proposals

Table 1.1 – Project Overview

Contract Tenor	[redacted]
Offer Pricing	[redacted]
Location	OCS-A 0487 and OCS-A 0500 Distance from Shore: Approximately 43 miles from Montauk, NY, 28 miles from Martha's Vineyard, MA Viewshed Impacts: Negligible to New York – see Section 6.2.8.5, Visibility Study
Generation Facilities and Injection Points	Location of Injection Point(s): Zone K [redacted]
Timeline	Anticipated Award: November 2024 Expected Commercial Operation: 2032 (Sunrise XL), 2033 (Long Island Wind)

2. Required and Alternate Proposals

[redacted]

[redacted]					
[redacted]					
[redacted]					
[redacted]					

[redacted]

Ørsted
Long Island Wind 1

NYSERDA – 2024 Offshore Wind Solicitation ORECRFP24-1 (Closed)
https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations/2024-Solicitation

Addenda #74 – February 2025 [Part 1]
Ref: Addenda #44 – April 2024, Addenda #47 – June 2024, Addenda #66 – October 2024
SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all
SDG 13 – Take urgent action to combat climate change and its impacts*

➢ Ch 9. Progressive States Climate Policies

I've written before about the climate policies of New York and California, the two most Progressive states in the country. California has passed a series of bills aimed at both reducing greenhouse gas emissions and moving state energy consumption away from fossil fuels; goals that I believe are impractical and will never be successfully met.
Ref: Ch. 8, Ch. 9, and numerous Addenda's that followed

In 2016, California Democrats passed Senate Bill 100, the *California Renewables Portfolio Standard Program: emissions of greenhouse gases*. The renewables mandate that SB100 replaced required that the total kilowatt-hours retail sellers of electricity (utility companies and independent electricity providers) sold to end-use customers achieve 50% of retail sales by December 31, 2030 to be from renewable sources. SB100 revised the targets to achieve 50% of retail sales from renewable resources by December 31, 2026, and to achieve a 60% target by December 31, 2030, and 100% of total sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Well, 2026 is right around the corner, so let's see how California is doing on their target goals. As of calendar year 2023 (most recent data from the Energy Information Administration) total electricity generation and consumption in California is as follows:

2023	GWh	Pct. Prod.
Natural Gas	94,192	43.68%
Coal	257	0.12%
Fuel Oil	36	0.02%
Waste Heat	206	0.10%
Petroleum Coke	-	0.00%
Total Fossil Fuel	**94,690**	**43.91%**
Nuclear	**17,714**	**8.22%**
Solar PV	39,420	18.28%
Hydroelectric	31,919	14.80%
Wind	13,920	6.46%
Geothermal	10,999	5.10%
Biomass	5,037	2.34%
Solar Thermal	1,923	0.89%
Total "Real" Renewables	**103,218**	**47.87%**
Total In-State Electric Generation, 2023	**215,623**	
Net Electricity Imports	65,518	
Total Electricity Consumption, 2023	**281,141**	
Electricity Imports, % of Tot Consumption	23.30%	

eia U.S. Energy Information Administration

Renewable electricity generation targets:
33 percent by December 31, 2020,
50 percent by December 31, 2026,
60 percent by December 31, 2030,
100 percent by December 31, 2030

In 2020, Californias “renewables portfolio” was 82,926 GWh of wind, solar, hydro, geothermal and biomass generation; 43% of all electricity generated “in-state” and 30.2% of all electricity consumed in the state. If only in-state generation is used, then California would have exceeded the renewables target. But since SB100 stated that “total retail sales of electricity” was the benchmark that the renewables portfolio had to meet, California was short of the target by 7,556 GWh. The COVID-19 pandemic slowed adding new renewable power sources and it wasn’t until 2022 that California finally met the target goal for 2020.

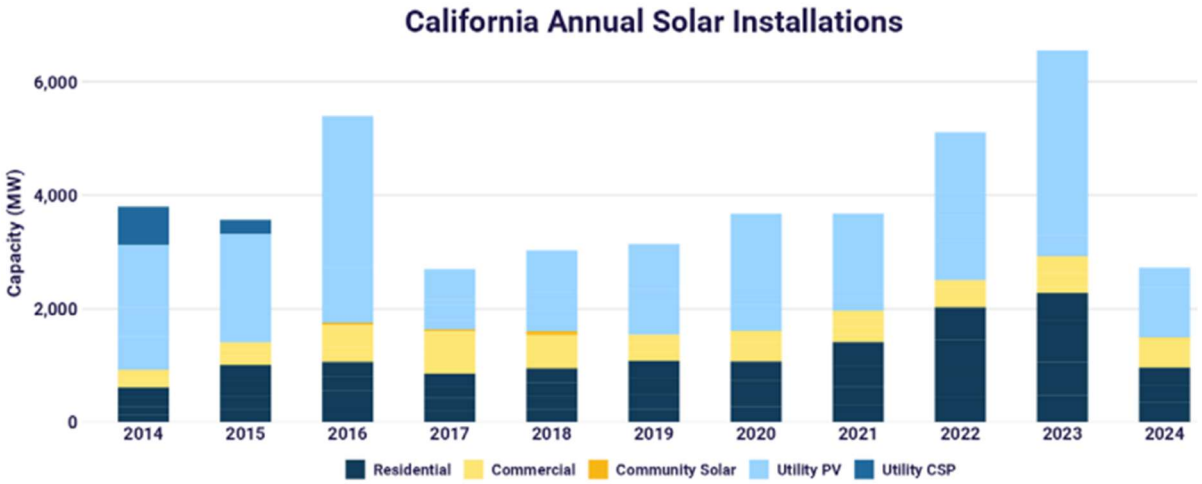
But despite the big push by Democrat policy makers to meet the December 2026 renewable portfolio goal, “clean electricity” generated from wind farms is going backwards in California. In 2018, wind turbine installations provided 14,087 GWh of electricity to utility customers, 7.2% of all the in-state electricity generation. By 2023, wind generation had fallen to 13,920 GWh, 6.4% of all in-state electricity generation. California, the state that pioneered wind power in the 1970s and early 1980s, has decommissioned more than 10,000 wind turbines over the past three decades. Wind turbines have a life span of between 20 and 30 years, something that the “clean, green” electricity advocates don’t publicize. As turbines age, components fail more frequently and need to be replaced, constant exposure to sun, rain, wind, lightning strikes and bird strikes result in structural deterioration and higher maintenance and repair costs, until they become economically unfeasible. At that time the mechanical and electrical components of the turbines are removed and recycled. But the turbine blades, hundreds of feet long, made of fiberglass, carbon fiber or epoxy resins, cannot be recycled. They are cut into small sections and buried in landfills, something else “clean green” electricity advocates don’t want you to know.

The Alta Wind Energy Center, also known as the Mojavi Wind Farm, is the third largest onshore wind energy project in the world and the largest installation in the United States. Located in Kern County, California, the project sits on 3,200 acres of land, adjacent to wind farms constructed in the 1970s and 1980s. At a total cost of around $2.87 billion, the total AWEC project comprises installation of up to 600 wind turbines and supporting facilities. AWEC is supposed to deliver up to 830 megawatts of “clean, green energy”, enough to power approximately 257,000 homes.
Note: There are 14.76 million housing units in California according U.S. Census Bureau data, so this $2.87 billion, 3,200 acre renewable energy project can power just 1.7% of all housing units in the state, with NO allowance for power for commercial businesses or industrial facilities.

The Alta wind farm became fully operational over a three year period from 2011 to 2014. At the rated lifespan of 20-30 years, this means the first 100 of 600 turbines will have to be decommissioned and replaced between 2031 and 2041. Think about that for a minute… Right at the time when 50% of all electricity is mandated to be generated from renewable power sources, the owner Terra-Gen Power, will have to begin replacing turbines at an additional cost to themselves and California ratepayers.

Alta Wind Energy Center, Kern County California: : 830 MW electricity generation.
Project land requirements: 3,200 acres. Project Cost: $2.87 billion. Produces "clean energy" for up to 257,000 homes.

"Clean electricity" from solar installations not only stalled in 2024, it lost ground. According to the Solar Energy Industries Association which tracks solar projects around the country, California only installed 2,700 MW of solar in 2024, down from 6,200 MW in 2023. Utility scale solar installations were one-third of 2023 installations, and residential installations were about 38% of that in 2023.



Source: Solar Energy Industries Association (SEIA), State Solar Spotlight – California, 2023

Note: California is the nation's third largest electricity consumer: it imports more electricity than any other state. In 2023, 23% of all electricity sold by retail sellers to utility customers in California was imported from other states. The "Western Interconnection electrical grid" connects California with Oregon, Washington, Canada, Idaho, Montana and Wyoming to the north and Nevada, Arizona, New Mexico Colorado and Utah to the south and east. Five of these states; Oregon, Washington, Montana, Wyoming and Arizona are net exporters of electricity. Two states, Idaho and California, are net importers of electricity. The other four states are borderline generators for their own use with little spare capacity to export to other states. Canada is also a net exporter of electricity into the electrical grid, but it too has a mandate to achieve net-zero greenhouse gas emissions by 2050.

Out of the imported electricity, it is estimated that a little more than 30% was generated from renewable sources while the balance of imports are from fossil fuel generation, mainly natural gas. If net electricity imports of renewable sources are included, then Californias 2023 renewables portfolio was 44% of all electricity consumed. But, it is not a safe bet that these imports will be available in the amount needed by California in the future.

Four of the five states that are net exporters of electricity have renewable portfolio standards or clean energy standards similar to what California has. As these states also systematically decommission fossil fuel generation plants, they will require more and more of those exports to provide for their own residents. California will have less availability to import electricity from other states and their own energy reliability will deteriorate.
The California Energy Commission published its annual assessment of the state's situation; *Energy Resource and Reliability Outlook*, *2024* in August 2024. In the Executive Summary, the Commission staff stated: "Over the next five years, California electric utility resource plans are projected to meet grid reliability planning standards for the state." From there, the report began to sound less optimistic.

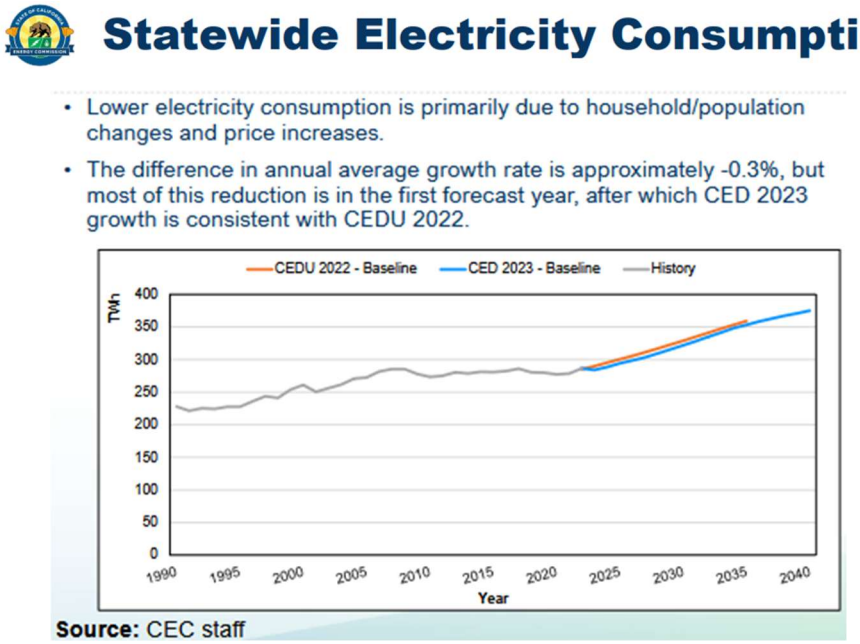
"As California is part of a larger Western Interconnection and is a net importer of electricity, the conditions in the rest of the West have the potential to impact California's electric reliability. Under 2024 normal operating conditions, the Western Interconnection is projected to have sufficient supply and transfer capability…"
The report then modeled the probability of electric system reliability and resource adequacy under three scenarios. The first two scenarios assumed historical levels of electricity imports from other states. Those two scenarios "successfully met reliability targets for the entire study period."

The third scenario assumed no imports would be available, the same situation I previously commented on, as well as failure to achieve target levels for the "renewables portfolio".
"… the third scenario, which assumed no imports, could meet reliability targets only after 2026. If there was a 40 percent reduction in new resources, this scenario failed to meet targets in any year."
The report shows that natural gas generation will continue to be a critical factor in maintaining system reliability for years to come.

➢ *Ch 8. 2050 Net-Zero Emissions; Impossible!*
Renewable Power Sources are NOT reliable

The "clean energy" goal set by the Democrat legislature in 2018 is for 100% production by renewable power sources by 2045. As of the end of 2023, 47.87% of all electricity generated in-state was produced by renewables. (Nuclear is excluded, Democrats want to close down the last remaining nuclear plant in California as soon as possible and not replace it)

In 2018, total in-state electricity generation was 195,234 GWh. Renewable sources generated 85,428 GWh or 43.75% of all electricity produced and 29.88% of all electricity consumed. In the five years since California Democrats set the "clean energy" goal, generation by renewables has increased by 20.18%, an additional 17,790 GWh of electricity. But… California is still in the process of transitioning from fossil fuel powered vehicles, trucks, buses, heating, etc. According to the California Energy Commission *2023 California Energy Demand: Consumption and Sales Forecast Results*, statewide electricity demand is projected to increase by more than 31% by 2040, as increased electrification takes place.



Statewide electricity consumption is forecast to increase by 1.86% annually, reaching about 384 TWh or 384,000 GWh by 2040.

At a continued increase of 1.86% annually, this will equal 421,065 GWh by 2045, a total increase of 139,925 GWh over 2023 consumption levels.

If California is to be truly, 100% renewable energy independent (no imports included), it has to add 139,925 GWh of "clean" renewable electricity generation by 2045 to account for future demand *and* replace the existing 112,405 GWh of electricity currently generated by fossil fuel and nuclear sources.
That's a total increase of renewable power source generation of 252,330 GWh over a 22-year period, or 11,470 GWh per year, an average annual growth of 4.08% to meet the 100% renewables portfolio targets set in 2018. Yet both wind and solar generation fell significantly in 2024.

Does anyone else see the problem with this besides me??

The environmental politics of California has resulted in not only the closure of coal and oil-fired power plants, but also nuclear plants and "clean energy" provided by hydroelectric sources. In 2017, hydroelectric power plants generated 43,312 GWh of electricity, or 21% of all electricity generated in-state. In 2023, hydroelectric power plants generated 31,919 GWh of electricity, or under 15% of all electricity generated in-state. Part of the decline is due to ongoing drought conditions that have drained reservoirs feeding hydroelectric plants. But Californias environmental politics have also had a major contribution to the decline, forcing the decommissioning of numerous dams that provided "clean green" hydroelectric power to California.

In 2023, California began demolition of four hydroelectric dams on the Klamath River. The project was touted by Governor Gavin Newsom as, "a monumental achievement—not just for the Klamath River but for our entire state, nation and planet. By taking down these outdated dams, we are giving salmon and other species a chance to thrive once again" Five dams on the Klamath once generated 169 MWh of electricity. Demolition of four of the dams was completed in 2024 and the fifth has had capacity severely reduced.

Progressive Democrat politicians have pinned the future of renewable electricity in California on solar generation, due to the naturally sunny climate of the state. Construction projects have added 14,365 GWh of Solar PV generation since 2018, but more projects need to be added in coming years to meet projected demand.

Desert Quartzite, a 300 MW / 150 MW solar-plus-storage project in Riverside California, that came on-line in February. The project was built on 3,000 acres of federal land leased by the Bureau of Land Management. The installation is expected to generate enough electricity to meet the consumption needs of more than 163,000 average California homes.

Desert Quartzite solar project, Blyth, California: 300 MW electricity generation, 150 MW storage.
Project land requirements: 3,000 acres. Project Cost: $1 billion. Produces "clean energy" for up to 120,000 homes.

Note: There are 14.76 million housing units in California according U.S. Census Bureau data, so this $1 billion, 3,000 acre solar project can power just 0.8% of all housing units in the state, with NO allowance for power for commercial businesses or industrial facilities.

EDF Renewables, the developer of the project, used approximately 461,500 solar panels that have a listed life span of 30 years. The power generation of solar panels "degrades" a little bit each year, producing less and less electricity as time goes on. At the end of their 30-year life span, the Desert Quartzite installation will generate only 259 MW of electricity and the replacement of those 461,500 solar panels will have to begin at an additional cost to the developer, and to California ratepayers. The replacement cost of the panels won't be limited to just purchases of new panels and their installation, it will also include the removal and recycling of the old panels. An August 2021 article by MIT Technology Review detailed the issue of recycling of solar panels, with the headline reading "Solar panels are a pain to recycle…" The article stated that currently, only about 10% of panels in the US are recycled as there are no mandates by federal or state governments that mandate their use, and recycling the devices is currently much more expensive than just discarding them. Obviously, there will be changes to the problem of recycling in the future as critical metals in the solar panels; aluminum, silver, and silicon, become scarcer and more expensive.

- *Renewable generation is not the only issue*

The California Public Utility Commission (CPUC) outlined a projected need for 50% of all electricity to be generated by solar in 2045. Using my base line calculation of total consumption of 405,714 GWh, if California still imports about 65.5 GWh of electricity from other states, solar generation will have to provide 202,824 GWh of electricity by 2045. That's 163,404 GWh (314%) more than generated in 2023.

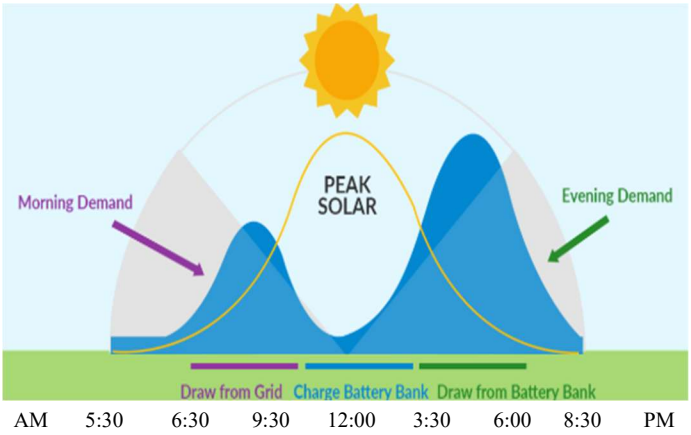
Again, does anyone else see the problem with this besides me??

But electricity generation by renewable sources is only one part of the solution to replacing fossil fuel generated electricity in California. As I noted before, California is an ideal location for solar power generation due to the abundance of sunlight. But solar panels need *direct sunlight* (peak sun) to produce the maximum solar output, and just a small amount of shade on a solar PV (photovoltaic) panel can affect its power output. Since solar panels are connected in series (one-to-another) any one cell that's affected by shade can weaken the other cells, reducing the overall power level of the entire group of panels (array).

IF… total electricity generation by solar PV is 202,824 GWh in 2045, and
IF… 50% of all electricity produced and consumed in California is from solar PV,

> What happens when the sun begins to set and the PV panels begin to generate continually less electricity for those alleged 120,000 homes?

> What happens during the 12-13 hours between sunrise and sunset, when electricity generation from those 3,000 acres of PV panels is **zero**?

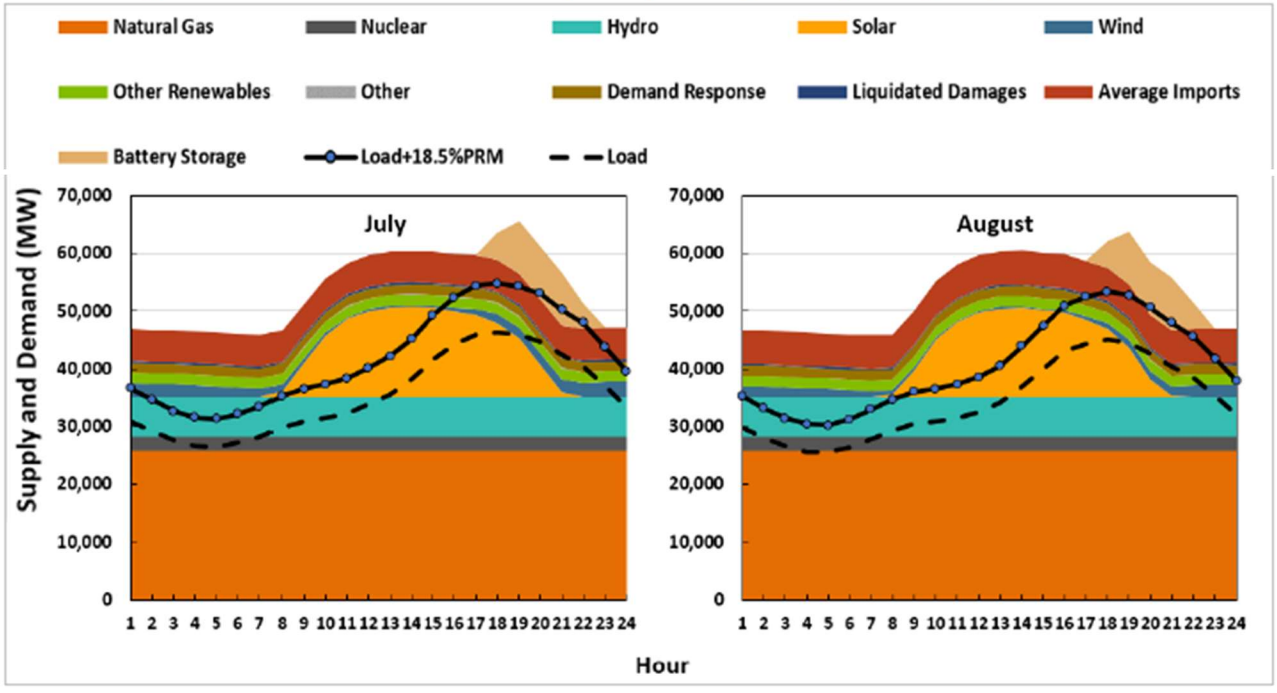


Riverside California
5:30 AM – sunrise, solar generation begins
7:30 AM - morning demand ramps up, people are getting ready to go to work, school, etc. buildings are heating, cooling and consuming electricity.
9:00 AM - people are at work and school, home electric demand is substantially reduced.
3:30 PM - afternoon heat, people leaving schools and offices, home demand ramps back up.
6:00 PM - buildings close, demand begins to drop.
8:30 PM – sunset, solar generation ends

Riverside California has peak sun for an average of 6.2 hours per day. This varies depending on the month of the year, from an average of 4.3 hours per day in December and January, to a average high of 7.6 hours per day in June, July and August.
The Desert Quartzite solar farm will generate its full capacity of 300 MW for roughly seven and a half hours per day during the middle of the summer, a time when air conditioning is running at full capacity to overcome temperatures in the high-80s to mid-90s. As cooling for schools and businesses is ramping up in the afternoon, the sun is dropping below peak sun hours, and electricity production begins to fall. There is less electricity available when the residents of California need it the most.

California ISO 2024 Summer Loads and Resources Assessment

Figure 1.6 Multi-hour stack analysis for peak days in May through August[24]



Source: California ISO (Independent System Operator) 2024 Summer Loads and Resources Assessment. May 8, 2024
https://www.caiso.com/Documents/2024-Summer-Loads-and-Resources-Assessment.pdf

Figure 1.6 (above) from the 2024 Summer Loads and Resources Assessment, shows the load (demand) on the electric grid ramping up during peak days in the summer months of July and August, when temperatures reach the high 80s to mid 90s.

* Demand begins to increase around 5:00 in the morning as residents wake up and get ready for the day ahead. (hours 5 through 7, 5am to 7am)

** Demand continues to climb through the morning hours as businesses open, lighting, power and air conditioning loads increase. (hours 7 through 9, 7am to 9am)

*** Demand continues to increase during the afternoon hours, as temperatures climb, and air conditioning works harder to overcome rising temperatures inside houses and buildings. (hours 13 through 16, 1pm to 4pm)
While electricity generation by existing solar installations increases during peak solar hours, its not enough to keep up with demand. All other fuel sources, including natural gas and imports, must be utilized to keep the grid in balance and maintain reliability of the system.

**** Demand continues to increase as many people leave work and head home at the end of the day, but offices and businesses remain open. (hours 16 through 19, 4pm to 7pm)
The demand for electricity is greatest during these hours, even as "peak-solar" has long passed and the sun is setting, decreasing the available output from solar installations like Desert Quartzite.

*** Demand begins to fall as the sun sets, temperatures start to go down and businesses close. (hours 19 through 22, 7pm to 10pm)

Demand continues to fall as people shut off appliances and go to bed. Cooling is still required to overcome residual heat left from the afternoon hours. The temperature typically remains above 85° during summer months, even after the sun sets. I remember flying into Phoenix Arizona during July years ago, getting off the plane at 10pm and the thermometer at the airport still reading over 90°.

During those peak afternoon hours, not even all the existing in-state generation sources plus imports will be enough to maintain grid balance and reliability. Electricity from battery storage resources must be "discharged" into the grid. In this scenario, the discharge must last for a period of six hours, until demand falls enough to be covered by existing generation sources.

The battery energy storage system (BESS) used for the Desert Quartzite solar farm features a four-hour discharge capacity at 150 MW. That means that the storage system can supply one-half the rated capacity of the entire solar installation for a period of *only* four hours.
As fossil fuel powered generation continues to increase, and as environmental policies result in the dismantling of more hydroelectric dams, and as California pushes to close its last nuclear power plant, the inventory of renewables will continue to increase. Reliable fossil fuel power supplies will make up a smaller part of electrical grid generation. Unreliable renewable power supplies will make up a larger part of electric grid generation.

Battery storage will have to increase, to compensate for the imbalance.

Addenda #74 – February 2025 [Part 2]
Ref: Addenda #55 – August 2024, Addenda #61 – September 2024
SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all
SDG 13 – Take urgent action to combat climate change and its impacts*

Battery energy storage continues to be a pivotal technology supporting the integration of renewable energy and providing capacity at peak demand. Specifically, energy storage can address the intermittency issues associated with solar and wind power by storing energy that might otherwise be curtailed and delivering that energy during periods of high demand. The rapid expansion of energy storage has occurred across residential, commercial, and utility sectors in California, providing grid stabilization, peak-shaving, and time-shifting capabilities.
California Energy Resource and Reliability Outlook, 2024

According to the California Energy Commission, total baseload electricity consumption in California will be 421,065 GWh in 2045.This future demand assumes an annualized growth of 1.86%. It does ***not*** take into consideration future growth of data centers added to the electrical grid.
In November of 2024, the California Energy Commission released another report titled, *Data Center Forecasts*. In this report, their "models" project an average annual growth of data center electricity demand of between 6.0% and 8.7%. This would add between 27,197 GWh and 46,122 GWh of demand on the electrical grid, on top of the existing 421,065 GWh by 2045. This goes to show how disingenuous data from both the EIA and California Energy Commission estimates are.

If this revised estimate is correct, then California must add between 19,697 and 38,622 GWh of generation capacity by 2045 to meet data center demand. This is on top of the baseload generation demand increase of 139,925 GWh and the replacement of the existing 112,405 GWh of electricity currently generated by fossil fuel and nuclear sources.
In all, California now needs to add between 272,026 and 290,952 GWh over the next 22-years to meet the 100% "renewables portfolio" mandate from 2018, an increase of as much as 4.7% per year, for the next 22 years**!** But with that increase in generation, California also has to increase energy storage proportionately.

As of October 2024, the California Energy Commission reported having a total of 13,391 MW of energy storage capacity installed. The state projects it will need 52,000 MW of battery storage by 2045, an increase of more than 288% over the next twenty-one years.
Note: 13,391MW of backup storage in 2024 is equal to a backup capacity of 4.68% of total consumption. Desert Quartzite has 150 MW storage capacity for 300 MW of total generation, a backup capacity of 50% of total generation. Hmmmmmmmmm??

The Moss Landing Power Plant was a natural gas-powered generation plant. Brought online in 1950, the plant provided 613 MW of electricity. Two additional units were added in 1964, bringing total generating capacity to 2,113 MW. After a series of renovations at the facility, the Moss Landing Power Plant became the largest power plant in California in 2002, with a generation capacity of 2,560 MW. By 2018, the new owner of the plant decided that the plant could no longer operate profitably, and they announced they were going to convert it to an energy storage facility. The conversion to lithium-ion battery energy storage began in 2019, and by August 2023 the facility had grown to a total storage capacity of 750 MW / 3,000 MWh.

At 3 pm on Thursday, January 16, 2025, a fire broke out in one of the buildings containing battery storage systems. The building's fire suppression system failed to put the fire out, leading to the evacuation of around 1,500 residents of the surrounding area. Fire crews responding to the blaze did not attempt to extinguish the fire, instead waiting for it to burn out due to the extreme heat generated by the burning lithium-ion batteries.
Authorities lifted the evacuation order Friday evening, claiming that there was "no threat to human health", even though the fire continued to burn and smoke, and fumes still rose into the air. Residents were "advised" to close their windows and turn off their air conditioning. Six days after the blaze started, the fire had finally burned itself out, but pockets of heat were still being monitored using drones.
There had been two previous "high temperature" safety incidents at the plant, but no fires had started.

Moss Landing Energy Storage Facility Fire, January 16, 2025.

Black smoke from the burning batteries led to elevated levels of heavy metals, nickel, manganese and cobalt, in the environmentally sensitive marshes around the plant, and residents reported experiencing skin, eye and respiratory irritation.

The fire at Moss Landing is a huge setback for renewable energy in California, as almost half (300 MW) of the facilities' battery storage capacity was destroyed in the blaze. The cleanup and rebuilding process is likely to take several years. During this period, the energy storage capacity of the plant has been significantly reduced, as has the ability to provide grid balance and reliability during the times that unreliable solar sources are not working.

Moss Landing is not the only energy storage facility that has had a fire.

On May 15, 2024, a fire broke out in one of the seven battery storage buildings at the Gateway Energy storage facility in East Otay Mesa, San Diego. The fire destroyed 50 MW of lithium-ion battery storage and took seven days for the fire to burn out due to continuous reignition from the batteries. Eleven days later, firefighters were still monitoring the smoldering remains of the building. The building had to be demolished, and all debris and batteries had to be disposed of while being treated as hazardous materials. The storage facility took two years to construct and bring online. After the fire, officials said the one building could be rebuilt and brought back online sometime in 2025.

On April 19, 2019, an explosion and fire occurred at an Arizona Public Service battery storage facility in Surprise, Arizona. The final incident report stated that an equipment failure in one of the lithium-ion battery modules caused a "thermal runaway" in a rack of batteries. Despite circuit breakers being opened, and the fire suppression system being activated, the module continued to overheat, damaging other modules in adjacent racks and explode, injuring eight firefighters. Fortunately, the system that was affected was a small 2 MW storage assembly, self-contained in a 50' x 13' container. Other containers with similar systems were not affected by the explosion. However, if the metal storage container had burned like the building in Moss Landing, the fire could have jumped to the two adjacent battery storage containers.

Industry experts claim that "battery safety has come a long way" since the Moss Landing Energy Storage Facility was built, and repeat fires are "unlikely." But the underlying problem is still the battery energy storage systems themselves. The Electric Power Research Institute (EPRI) released a 2024 'White Paper' on their *Battery Energy Storage Systems (BESS) Failure Incident Database*. The Introduction of the report stated, "While recent fires afflicting some of these BESS have garnered significant media attention, the overall rate of incidents has sharply decreased, as lessons learned from early failure incidents have been incorporated into new designs and best practices."

The statistic quoted in the report is that the BESS failure rate globally has dropped 97% over the last five years. Even so, the number of incidents continued to rise from four in 2020 to fifteen in 2023. In the United States, six battery failure events occurred in 2022 and seven in 2023. Half of all incidents globally, occurred here in the United States. The report says the "root causes" of BESS failures are a combination of poor design, manufacturing defects, incorrect installation or commissioning procedures or operational failures.

Ref: Insights from EPRI's Battery Energy Storage Systems (BESS) Failure Incident Database, Electric Power Research Institute, May 2024

All of these causes eventually come back to human error, whether in design, manufacturing, construction or operation; that is something no one can eliminate with 100% certainty. Fires and/or explosions will occur again in the future, there is no way to prevent that from happening, and grid balance and reliability *will* be affected.

Addenda #75 – February 2025
Re: Ch. 9, Progressive States Climate Policies
SDG 13 – Take urgent action to combat climate change and its impacts

Even before politicians in California mandated net-zero emissions and a 100% renewable energy portfolio, developers seized on the push to cut greenhouse gas emissions and convert from fossil fueled power plants to renewable sources. In 2010, construction began on a solar thermal power plant built on 3,500 acres of public land near Ivanpah, California. Project developers BrightSource Energy and Bechtel, were provided with a $1.6 billion loan guarantee by the Obama administration in 2011, and the plant was completed in 2014 at a cost of $2.18 billion.

Instead of PV solar panels collecting sunlight and converting it into electricity, nearly 350,000 heliostat mirrors the size of a garage door, were focused on a series of receivers located on 459-foot towers. The reflected sunlight was used to heat water in boilers the towers contained, making steam to drive turbines that created electricity. Over time, improvements and cost reductions to PV solar panels made electricity generated by the plant uncompetitive. In addition, the plant never produced the amount of electricity it was designed to generate. The solar thermal energy only resulted in half the facilities generation of electricity. Burning natural gas to heat water in the boilers created to balance.

In January 2025, Pacific Gas & Electric terminated its contracts to purchase electricity from the Ivanpah plant. At the same time Southern California Edison announced it was in talks to buy out the remaining fourteen years of its contract with the facility. If the PG&E and S.C.E. agreements are approved by regulators, the plant will be decommissioned. There is no estimate of what this will eventually cost California ratepayers.
The $1.6 billion loan paid by the Obama Department of Energy has not been fully repaid.

Ivanpah Solar Power Facility, San Bernadino county, California.

392 MW electricity generation capacity.

Project land requirements: 3,500 acres.

Project Cost: $2.18 billion (and counting).

Designed to produce “clean energy” for up to 140,000 homes.