

Addenda #15 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Mark Mills: Oil Will Power the Global Economy for Another Century

Financial Sense podcast, November 10, 2023

<https://www.financialsense.com/podcast/20740/mark-mills-oil-will-power-global-economy-another-century>

Mark Mills: Oil Will Power the Global Economy for Another Century



Physicist Mark Mills, is a senior fellow at the Manhattan Institute and former White House Science Office consultant under President Reagan.

He details why renewable power will not replace oil and natural gas for decades, the coming scarcity of rare earth materials required for electrification, the energy footprint of mining rare earth materials for renewables, and the amount of power required for the production and ongoing charging of EV's.

Low global copper supply imperils climate goals, Freeport CEO says

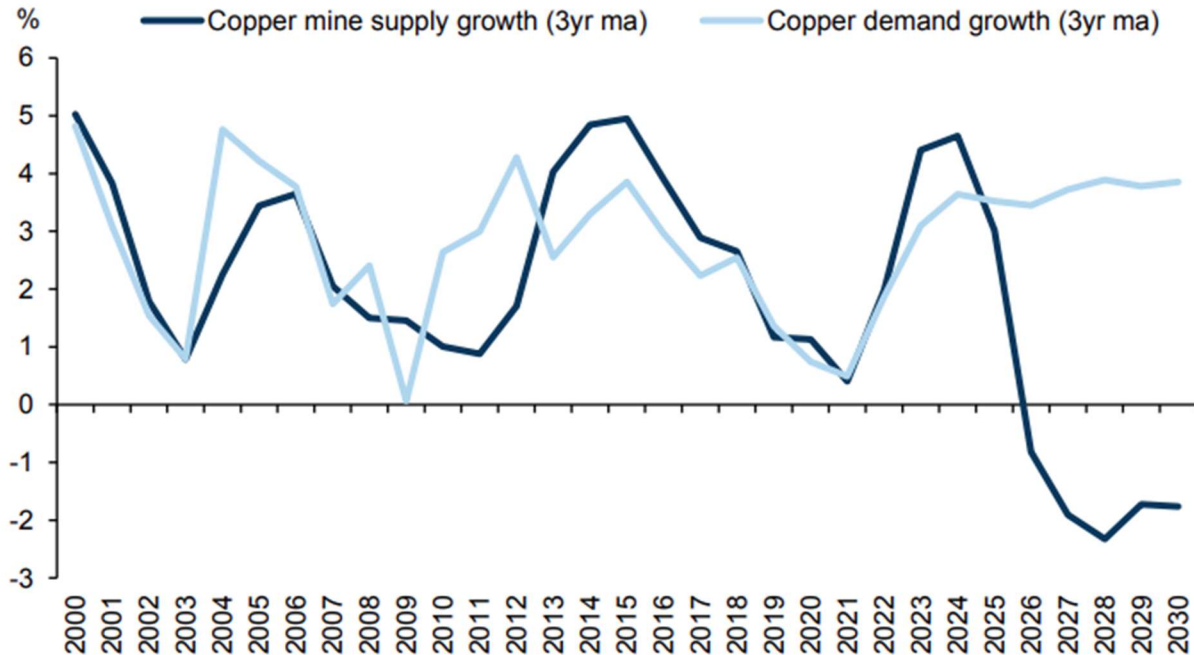
Reuters, October 21, 2023

"Low global supplies of copper - a key metal used in wiring, electric vehicles and other electronics - will crimp global climate ambitions unless regulators green light more mines, the chief executive of Freeport-McMoRan Inc. said on Thursday. The warning comes as global leaders plan to discuss climate mitigation efforts later this month at the COP26 conference, even as some host communities and environmentalists increasingly oppose new mines for so-called strategic metals. "There's going to be a time when the world is going to be very short of copper, Freeport CEO Richard Adkerson told investors... Supply is a real issue for this industry."

"In an early warning sign, stockpiles of available copper in the London Metal Exchange's global warehouse system fell last week to levels not seen for more than 25 years. Governments in Peru and Chile - the world's two largest copper producers - have recently threatened to increase mining taxes and regulations."

"U.S. President Joe Biden's administration on Wednesday took steps to block a Minnesota copper mine from Antofagasta Plc, the latest in a string of mining projects his administration has moved against. Adkerson, who also chairs a global mining industry trade group, described the political situation in Washington as a "head-scratcher."

"Biden officials understand the importance of copper to climate goals, Adkerson said, but are not likely to lessen mine permitting standards "because that just runs against the grain of their political situation."



Note: Freeport-McMoran is a major copper mining and production company, headquartered in the U.S. In a recent interview, their CEO talked about the coming shortage of copper worldwide.

Issue #1: Copper miners have endured a six-year long bear market of low demand and low prices, so they have not invested in exploration of new copper sources. With interest rates continuing to rise, miners are reluctant to go into debt for new mining projects.

Issue #2: The permitting process for new and existing mine expansion. It takes 2-4 years to expand existing mining projects, and 6-8 years to get a new mining project to the production phase. IF the government cooperates and doesn't bow to the demands of environmentalists. Strangely, environmentalists don't want drilling for oil and fossil fuel burning vehicles. They also don't want miners to extract copper and lithium out of the ground.

Issue #3: The coming demand for copper to electrify society by 2030 - 2050. The CEO sees copper demand exceeding supply by 2025, and as a result, copper futures price rising almost 90% from \$8,000 per metric ton today to \$15,000 per metric ton by 2025.

What do you think that will do to the price of EV's .

Issue #4: Chile, Peru, China and the Democratic Republic of the Congo produce 53% of the worlds supply of copper. All have political, economic and human rights problems. The U.S. produces 6% of the worlds copper supply, and we have our own political, economic and environmental issues. The supply is not "stable" for continued growth of production.

Addenda #16 – November 2023

Re: Ch. 15, Sustainable Living (Other Progressive Sustainable Living Ideas

SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

NY gov drops plan to overrule local zoning amid Dem fears for 2024 elections

Fox News; December 4, 2023

New York Democratic Gov. Kathy Hochul confirmed she is dropping an initiative to pass legislation mandating the Empire State expand its housing growth in individual communities as Democrats head into an election season that could prove contentious.

Hochul attempted to rally the legislature to pass her "New York Housing Compact" earlier this year, which aimed to build 800,000 new homes and affordable housing over the next decade. The plan would have handed the state new authority to override zoning laws in towns that did not want to comply with expanding housing options.

The plan, however, failed in the legislature this spring, after lawmakers, most notably in New York City suburbs, railed against Albany having a say in how municipalities build and regulate housing.

On July 18, 2023, Governor Hochul announced her plan to tackle New York's "housing crisis". Technically there is no housing shortage in NY, but in reality, higher rents have caused people to leave large urban areas like NY City and move to the suburbs in search of lower cost housing. What New York does have is a shortage of affordable housing.

At the same time that apartment and home rental prices were surging, house construction has lagged in many areas of the state. This is partly due to the slowdown of construction during and immediately after the worst of the pandemic, caused by both a worker shortage and skyrocketing costs of building materials.

It is also partly due to two other factors: restrictive zoning policies and over-regulated permitting processes.

Over the years, many municipalities have enlarged the amount of land a home can sit on.

This in the effort to not have single-family residences built too close together.

Minimum lot sizes have come under increasing scrutiny in recent years as an impediment to homeownership and a significant contributor to decreasing housing affordability.

Social Justice critics claim that larger lot sizes and a resulting increase in property prices are a "prime enabler of exclusion" by municipalities having these rules. In some ways, this is true. People tend to want to live in neighborhoods where not just anyone can be their neighbor. We don't want apartment buildings or multi-family homes that may come with increased rates of crime, or Section 8 recipients who can't or won't maintain their homes as neighbors, causing our own property values to fall.

Does that make those of us who feel this way biased?

Is this really "racist" exclusionary zoning?

Progressives embrace the concept of “high density housing” in order to implement sustainable living. They want people to live on top of each other (literally) in order to use less land, less infrastructure, less traffic, and less “environmental destruction”.

Municipalities led by Progressive embracers of Agenda 2030 are eliminating single-unit-only zoning, and legalizing duplexes and triplexes instead. Minneapolis became the first major city to do so in 2018. Oregon followed making this mandatory state-wide in 2019.

Governor Hochul attempted to follow the lead of Oregon by signing an Executive Order to create the “Pro-Housing Community Program” in July 2023. Executive orders mean no public comment period, no legislative discussions, no homeowner/taxpayer voting. Hochul’s program “rewarded” communities that agreed to cooperate by increasing the number of housing permits issued, and providing the state with “key information” including local zoning codes, zoning maps, and housing permit records. (Data collection)

“Pro-Housing Communities” would get priority on key discretionary funding programs from the program, as well as funding for construction through tax-exempt agency bonds, low income housing credits, and subsidy loans.

This is another example of how the tax dollars from all New Yorkers are being prioritized for use in programs that many taxpayers will not see any benefit from. We are subsidizing Agenda 2030 SDG 11 from our pockets without even realizing it.

So few municipalities bought into the governor’s vision, which included re-zoning single-family lots to allow multi-family dwellings and apartments, that she came up with a new plan to “encourage” cooperation (read: compliance). She wanted lawmakers to pass a bill that would give the state authority to override local zoning laws where municipalities do not cooperate with her vision sustainable construction.

If a locality fails to remove zoning restrictions, developers would be allowed to bypass local officials entirely and get their projects approved through the state.

Hochul’s plan, the New York Housing Compact, would require (mandate) all cities, towns, and villages to achieve new home creation targets on a three-year cycle.

Governor Hochul Announces Statewide Strategy to Address New York’s Housing Crisis and Build 800,000 New Homes NY State of the State Press Release, January 10, 2023

After 3 years, in localities that do not meet growth targets or do not take steps to implement Preferred Actions, proposed housing developments that meet particular affordability criteria, but may not conform to existing zoning, may take advantage of a fast-track housing approval process if the locality denies the permit. The appeal can be made to a new State Housing Approval Board or through the courts. Appealed projects will be approved unless a locality can demonstrate a valid health or safety reason for denying the application.

And there you have it: Governor Hochul’s plan is to take away the authority and jurisdiction of your elected officials, and give it to the courts or state board driven by a progressive left ideology. Can you say... totalitarianism?

Addend #17a – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Re: Ch. 17, SDG Enforcement by Global Organizations

Global Roadmap for Accelerated SDG7 Action in Support of the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change U.N.

United Nations SDG7 Global Roadmap press release, September 2021

A global roadmap setting out milestones needed to achieve a radical transformation of energy access and transition by 2030, while also contributing to net zero emissions by 2050, was issued on 3 November by UN Secretary-General António Guterres, as an outcome of the High-level Dialogue.

A report of the Dialogue was also issued, giving more detail on the roadmap's recommendations as well as statements and commitments made at the Dialogue.

On 24 September 2021, over 130 Heads of State and Government, high representatives and multi-stakeholder leaders gathered for the High-level Dialogue on Energy to promote implementation of the energy-related goals and targets of the 2030 Agenda for Sustainable Development.

Without urgent action, however, the world will fall short of achieving SDG 7. We must dramatically accelerate our efforts. This global roadmap for accelerated SDG 7 action in support of the 2030 Agenda and the Paris Agreement calls for the following actions:

The U.N. “roadmap” called for “urgent action” on a radical transition to “decarbonized” energy systems; solar, hydro and wind. The U.N. also pushed for tripling global financial investments in renewable energy.

The global elites at the UN, decided for all the world, what should be done. Totalitarianism.

Global elites have long known that the United States is a major obstacle to implementing any kind of totalitarian world government. Consider the following organizations that have these ambitions:

- the United Nations (*We want the world our children inherit to be defined by the values enshrined in the UN Charter*),
- the Atlantic Council (*Driven by our mission of “shaping the global future together”*),
- the World Governments Summit Organization (*a global, neutral, non-profit organization dedicated to shaping the future of governments*) or
- the World Economic Forum (*to shape global, regional and industry agendas*)

Every organization knows the U.S. must be a willing and active participant, in order for them to achieve the aims of their agendas.

- In 1992, the Bush administration signed U.N. Agenda 21 in 1992. (Note: Bush was a globalist who negotiated for NAFTA before he was voted out of office in 1993)

- In 1993, President Bill Clinton issued Executive Order 12852, establishing the Presidents Council on Sustainable Development *“to advise him on sustainable development and develop bold, new approaches to achieve our economic, environmental, and equity goals.”*
- In 2015, the Obama administration signed U.N. 2030 Agenda for Sustainable Development. (Note: Obama was a globalist and a progressive environmentalist)

We reaffirm our unwavering commitment to achieving this Agenda and utilizing it to the full to transform our world for the better by 2030.

Neither agenda was ever discussed by, voted on or approved by our elected officials in Congress. They are **not** legally binding.

Only progressive Democrats controlling Congress, voting for Green New Deal style legislation, or progressive Democrat presidents issuing executive orders, can implement policies envisioned by the global elites. G.H. Bush being an exception, of course.

- In 2023, the Biden administration approved a U.N. “political declaration” to accelerate action to achieve the 17 goals *“which aim to drive economic prosperity and well-being for all people while protecting the environment.”*

Note the phrase, *“which aim to drive economic prosperity”*

Global public debt has increased by 400% since 2000. Low interest rates following the Dot-Com bust and 9/11, enabled above average economic expansion and debt accumulation. The 2007 housing crash and 2008 financial crisis brought trillion-dollar stimulus programs. The 2020-2021 COVID pandemic brought more trillion-dollar stimulus programs and Central Bank money printing.

While debt has increased drastically, global economic growth measured by GDP has lagged significantly. Global debt hit a record high of \$307 trillion in June 2023. The United Nations Conference on Trade and Development reported that world output growth for 2023 is projected to be one of the lowest growth rates in recent decades.

At the September 2023 SDG Summit, U.N. Secretary-General Guterres stated, *“This is not the time for short-term thinking or knee-jerk fiscal austerity that exacerbates inequality, increases suffering and could put the SDGs farther out of reach. These unprecedented times demand unprecedented action...”*

Through his statement, Guterres is admitting two key points.

#1 – Global elites are not concerned about continued global debt accumulation. In fact, Guterres urges even more deficit spending to achieve those SDG’s.

#2 – Excessive debt results in lower economic growth. In order to meet payments on this debt, countries will have no choice but to reduce spending on everything from social programs to government funded jobs and business expansion.

Slowing growth and a likely 2024 recession pose grave threats to achieving Sustainable Development Goals. This cannot be allowed to happen!!

The alternate to government mandates that has always worked in the past. A free and open capitalism market. Why?

1. Individual firms have incentives to be efficient and cost-effective: they operate on their own capital and that of their investors and shareholders. The money supply is not open ended.
2. Bureaucracy is kept to a minimum, and employment is based on performance and results. Employees and management can be terminated if they don't perform up to expectations.
3. Consumers decide if the products offered by companies fit their needs and are cost effective. If so, consumers will buy the product. If not, they won't. This leads to more innovation and pressure to reduce costs.
4. Incentives to be innovative and provide products consumers want leads to more product development, more choice of goods, economic growth and higher levels of employment.

When governments own the means of production and set prices, it invariably leads to a powerful state and creates a large bureaucracy which may extend into other areas of life. State-owned firms often tend to be more inefficient (e.g. less willing to get rid of surplus workers and fewer incentives to try new innovative working practices.)

Here are a few examples of what the private sector has

1. Innovations by private sector business – fuel-efficient vehicles

In 1973, the member nations of the Organization of Arab Petroleum Exporting Countries (OPEC), initiated an oil embargo of nations who supported Israel during the Yom Kippur War. By the end of the embargo in March 1974, the price of oil had risen nearly 300%, from US\$3 per barrel (\$19/m³) to nearly \$12 per barrel (\$75/m³) globally.

In the US, prices were significantly higher.

Combined with peak oil production in the United States in the late 1960's, supply decreased while demand continued to increase. In 1972, the average price of gasoline in the U.S. was \$0.36 per gallon. (I remember that because it was the year I started driving)

By 1974 the cost had risen to \$0.53/gallon, and by 1980 the price of gasoline had breached the \$1.00 level, making the price of driving more burdensome for the American public.

At the same time, Japan was becoming the world's leading producer of smaller and more fuel-efficient automobiles. The American public was buying more and more Japanese imports to save on fuel costs because the U.S. auto industry failed to respond to the trend and continued to make larger "gas guzzlers" with V-8 engines.

In 1981 Chrysler introduced the K-car platform of vehicles to the public. They were the first auto manufacturer to produce entire lines of front-wheel drive, 4-cylinder engine fuel-efficient automobiles. Chrysler engineering was responsible for the smaller and mid-sized K-cars getting 26 mpg city / 41 mpg highway with manual transmission. I remember at that time the Ford Mustang I was driving was getting about 14 mpg.

Chrysler was responsible for the transition to more the fuel-efficient vehicles of today. And the research and development that made this possible was done by a private corporation, without mandate by the federal government, or hundreds of billions in stimulus spending.

Note: The government did give Chrysler a \$1.5 billion loan in 1979 when it was on the verge of bankruptcy. While this loan, in part, was due to Chrysler also being the provider of the Abrams M-1 tank used by the military, this cushion also enabled Chrysler to develop and produce the K-car and save a minimum of 360,000 direct jobs. Chrysler (unlike Proterra or Solyndra) repaid the loan seven years ahead of schedule.

2. Innovations by private sector business – the catalytic converter

As the American economy rapidly grew after the end of World War II, so did the number of vehicles on the road, and the resulting air pollution.

By the 1950s, smog and reduced visibility had become severe issues in cities like Los Angeles, and there was an urgency to find ways of controlling emissions of automobiles.

GM and Ford were working on the problem with modest results, but it was the Engelhard Corporation that developed the first catalytic converter in the late 1960's.

This innovation was responsible for a more than 90% reduction in vehicle emissions.

Widespread adoption of the converter was mandated by the federal government in 1975, but it was private research and development, private corporation initiative, and private money that enabled the production of this device that was responsible for cutting pollutants by more than 3 billion tons worldwide between 1975 and 2000.

Even though the number of miles driven increased, and the amount of gasoline and diesel fuel consumed increased by about 50% over the next 3 decades, emissions decreased significantly.

3. Innovations by private sector business – energy efficient lighting

Fluorescent lighting developed by GE in the 1930's, and by 1940 the T-12 fluorescent lamp had replaced the incandescent light bulb as the standard for commercial lighting.

One 2-lamp fixture using two 40-watt T12 fluorescent lamps, delivered 130% more illumination using 60% less electricity than two 1-lamp fixtures using one 100-watt incandescent bulbs. And the fluorescent lamps lasted much longer than incandescent bulbs. In the 1980's, T8 argon gas fluorescent lamps widely replaced T-12 lamps in commercial applications. One 2-lamp fixture using two 32-watt T8 fluorescent lamps, delivered 130% more illumination than a 2-lamp T12 fixture, and used 20% less electricity.

LED lighting was being experimented on during the 1960's but wasn't developed enough for full scale use until the early 2000's. LED fixtures were initially very expensive, but as costs came down, they became widely used in the commercial sector.

Today, an equivalent LED light fixture can deliver the same illumination level using 50% less electricity than the original T8 fixture, and they are specified on every commercial lighting project.

Private research, private development, private corporation initiative, and private money.

4. Innovations by private sector business – energy efficient electric motors

Since the invention of the electric motor in 1832, countless changes have made motors capable of doing more work while using less energy. Multi-speed motors were developed for certain installations, resulting in improved efficiency and reduced electric use.

In the 1980's and 90's, variable speed motors became more widely used in the industrial and commercial sectors. Variable speed motors start at lower speeds and reducing high electricity use to start the motor. As the speed increases (ramps up), the motor draws more power to operate, but can be programmed to run at the optimal speed for its use, resulting in the most efficient energy use for the job it is doing.

Private research, private development, private corporation initiative, and private money.

5. Innovations by private sector business – LEED building standards

The OPEC oil embargo and environmental movement motivated policy making in Washington in the 1970's, leading to the Energy Policy and Conservation Act of 1975 and the creation of the Department of Energy in 1977. Federal energy regulations and building codes began to be developed around increasing energy efficiency and reducing the use of fossil fuels.

In 1993, the American Institute of Architects (AIA) founded the U.S. Green Building Council. The purpose of the USGBC was to promote energy efficiency or “sustainability”, in new building construction and renovations. The USGBC created its own certification guidelines and certification for building sustainability in 1998, known as the LEED (Leadership in Energy and Environmental Design) green building rating system. Since 1998, International Building Codes and LEED have undergone numerous updates, all for the purpose of reducing waste of energy and construction materials and reducing energy use when buildings are operational.

There are different LEED ratings for each type of construction project. Standards for construction require a review every step of the project, from reducing waste during the design process and during construction, building design and insulation for air quality, reduced usage of water and electricity, and future maintenance. These standards also take into consideration impact on the surrounding environment and ecosystems during and after construction.

Private research, private development, private corporation initiative, and private money.

See, if left alone, private industry can and has developed thousands of products that operate more efficiently.

Addenda #18 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

UN Secretary-General issues new global roadmap to secure clean energy access for all by 2030 and net zero emissions by 2050

United Nations Development Programme, November 3, 2021

As pressure mounts for urgent climate action, UN Secretary-General António Guterres today issued a global roadmap to achieve a radical transformation of energy access and transition by 2030, while also contributing to net zero emissions by 2050.

The roadmap sets an aggressive timeline to ensure that 500 million more people gain access to electricity in a mere four years' time, by 2025, and 1 billion more people gain access to clean cooking solutions. This would require that annual investment in access to electricity and clean cooking increase to US\$ 35 billion and US\$ 25 billion, respectively. The required investment represents only a small fraction of the multi-trillion-dollar global energy investment needed overall, but would bring huge benefits to one-third of the world's population.

Secretary General Gutierrez wants urgent and radical transformation of global electricity production, that will cost trillions of dollars to achieve.

In chapter 5, I detailed how the urgency to address climate change and the U.N. Sustainable Goals came about.

U.N. climate scientists were then asked to find out what it would take to achieve this “ambitious” target [1.5 degree average annual temperature by 2100].

In 2018, the IPCC released its Special Report on Global Warming of 1.5-Deg C. The IPCC responded that this would require almost impossible policies to achieve... and would require annual average investments between 2016 and 2050, in the range of \$150 billion to \$1.7 trillion in 2010 U.S. Dollars.

In chapter 8, I laid out the case to support my opinion that construction of enough renewable power sources to meet the U.N.'s Net-Zero emissions goal by 2050, is impossible.

I gave examples of federal government mismanagement and cronyism in past green energy spending.

I detailed the total picture of energy transformation required that the United States alone would have to achieve to meet this goal.

I cited sources showing the shortage of critical rare earth metals that are needed to achieve this urgent transformation.

I gave actual examples of the massive amount of land space that will be required to install all of these solar, wind and storage projects.

I cited multiple instances where private landowners and communities have pushed back against these installations.

And I gave the reasons showing that the nation's electrical grid will not be able to support this dramatic increase in electricity transmission any time soon.

All of these things pose significant roadblocks for achieving the radical and rapid transformation of current energy production to renewables global elites are pushing on us.

The one thing I did not spend any time on is, what the effects of today's higher inflation and interest rates will have on the ability to complete these projects profitably by the developers. Or if financed by public money (contracted by individual states like New York), can they be completed without an excessive accumulation of debt.

Remember, we still live in a capitalist economy, where the bottom line is always an important factor in determining the business viability on these projects.

So, how is this working out for companies that have decided to jump into the renewables market?

Not so good for electric bus maker Proterra, that filed for Chapter 11 bankruptcy this summer, after receiving more than \$10 million in Covid-relief aid and incentives.

Not so good for the Southern Teton Area Rapid Transit company in Jackson Wyoming, where all eight electric buses are out of commission due to breakdowns and lack of parts'

Not so good for the Philadelphia Transit Authority whose entire fleet of 25 electric buses built by Proterra had to be taken out of service due to "maintenance issues"

Or for Ford Motor Company that lost \$2 billion on EV sales in 2022 and estimates losing another \$4 billion in 2023. And cut 1,000 jobs to offset losses.

Or for Lightning eMotors, manufacturer of electric vans, trucks and buses, which warned it will not be able to meet a December 2023 debt payment and could go bankrupt.

Or for EV maker Electric Last Mile Solutions, which filed for Chapter 7 bankruptcy in June.

Or for EV maker Rivian who loses more than \$32,000 on every vehicle sold.

Or for GM who says they're losing an undisclosed amount of money on every EV sold.

Ford hits the brakes on \$12 billion in EV spending because EVs are too expensive

The Verge, October 26, 2023

Ford is postponing \$12 billion in EV factory building, including a planned battery factory in Kentucky. The reasons given were an unwillingness by customers to pay extra for its electric vehicles. You see, they're too expensive, and now Ford's massive transformation into an EV company is now going to take a lot longer than before.

So far this year, Ford has lost \$3.1 billion on its EV spending and has said it's going to lose a total of \$4 billion for the year.

Ford's not alone in all this, of course. General Motors is pushing back production of its new slate of electric trucks and SUVs. Tesla CEO Elon Musk spent a large chunk of his last earnings call moaning about interest rates. It's rough out there right now.

So much for "affordable modern energy" as vehicle electrification is concerned...

EV Chargers: How many do we need?

Even with home charging, infrastructure will need to quadruple by 2025

Even when home-charging is taken into account, the United States will need to see the number of EV chargers quadruple between 2022 and 2025, and grow more than eight-fold by 2030...
S&P Global; January 9, 2023

'They have to do something about it': Why drivers say New York State needs more working EV chargers

Starting in 2035, all new cars sold in New York State must be fully electric. That means the number of EVs on the road will quickly climb - but even now current EV drivers say the state doesn't have enough working public chargers in many areas.

"We estimate 20-25 percent of the chargers one way or another are not in a position of full-functionality," said Paul Stasiak, the President of the Niagara Frontier Auto Dealers Association.
WKBW abc7 news, Buffalo NY; December 6, 2023

That's 20-25% of the 701 public EV charging stations just in Western New York *not* working at any one time.

Congress provided \$7.5B for electric vehicle chargers. Built so far: Zero.
The sluggish rollout could undermine President Joe Biden's reelection messaging promoting electric vehicles.

Congress at the urging of the Biden administration agreed in 2021 to spend \$7.5 billion to build tens of thousands of electric vehicle chargers across the country, aiming to appease anxious drivers while tackling climate change.

Two years later, the program has yet to install a single charger.

States and the charger industry blame the delays mostly on the labyrinth of new contracting and performance requirements they have to navigate to receive federal funds. While federal officials have authorized more than \$2 billion of the funds to be sent to states, fewer than half of states have even started to take bids from contractors to build the chargers — let alone begin construction.

Politico; December 5, 2023

"The nine most terrifying words in the English language are: I'm from the government, and I'm here to help"

President Ronald Reagan, August 12, 1986 press conference quote

Addenda #19 – November 2023

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“At home, President Biden signed into law the Inflation Reduction Act (IRA) to increase investments in clean energy technologies. Outside estimates report that the IRA has already created more than 170,000 jobs and will create 1.5 million over the next decade. And the IRA will expand clean energy supply, speed global adoption, and drive down technology costs by as much as 25 percent globally.”

White House press release “Fact Sheet”; September 9, 2023

The Biden administration never passes up an opportunity to boast how well the president’s renewable energy policy is working. If you listen just to the weekly press releases, you would assume that the U.S. is well on its way to meeting the president’s ultimate goal of net-zero emissions no later than 2050.

Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050

Published by the United States Department of State and the United States Executive Office of the President, Washington DC. November 2021.

Politicians and policy makers in Washington D.C. live in political, partisan class-oriented bubbles. These people typically have little interaction with the rest of society, the economy, or “normal” working class Americans. They don’t face the everyday struggles middle-and working-class households face.

More than half of all members of Congress are millionaires, and in 2020, there were 29,506 millionaire households in Washington D.C., one of the highest concentration of millionaires in the country. Contrary to the ideal of a government of and by the people, Americans are almost always governed by the very wealthy and privileged in Washington.

These elites believe everything they say is true, every policy they put forward is infallible and bound to succeed. However, if you pay attention to what is actually going on in the economy, the markets, and the energy industry, a totally different picture unfolds.

Rural communities push back against solar projects in Nevada

Similar opposition has formed against large renewable energy infrastructure proposals in California, Utah and Virginia.

Associated Press; November 30, 2021

Renewable Energy Projects Face Opposition in 49 States, Local Restrictions in 31 States

Columbia University Climate Law report; March 15, 2022

Upstate New York towns pushed back after state tried to speed the approval of wind and solar projects.

Lohud media; October 12, 2022

Green energy projects face stark environmental, local opposition nationwide

Green energy development is facing increasing grassroots opposition nationwide over concerns regarding projects' impact on the environment and local communities.

Fox News; October 13, 2022

Planet-Saving Wind Farms Fall Victim to Global Inflation Fight

As investment foundations crumble due to rising interest rates and higher materials costs, developers in the US are delaying clean-power projects like the 1.2-gigawatt Commonwealth Wind development near Massachusetts, which would be one of the largest wind farms in the country and capable of powering 700,000 homes... “Governments need to wake up to the reality that investments in offshore wind are not happening,”

Bloomberg; March 10, 2023

Solar Projects on Farmland Meet Community Opposition in the Midwest

Modern Farmer; April 20, 2023

Offshore wind projects nixed due to costs despite clean energy needs

Together, the three affected projects would have provided 3.5 gigawatts of power — more than 11% of the total offshore wind fleet currently deployed in the waters of the US and Europe... At least 9.7 gigawatts of US projects are at risk because their developers want to renegotiate or exit contracts to sell power at prices that they say are now too low to make the investments worth it.

Fortune; July 22, 2023

Stalled coastal wind power projects imperil Biden’s climate agenda

A grim financial outlook for the country’s offshore wind power industry is threatening President Joe Biden’s most important energy plans.

Politico; July 26, 2023

Offshore Wind Runs Into Rising Costs and Delays

Some troubled projects are raising concerns about the role to be played by offshore wind farms in tackling climate change.

New York Times; August 7, 2023

Biden’s offshore wind target slipping out of reach as projects struggle

President Joe Biden’s goal to deploy 30,000 megawatts of offshore wind along U.S. coastlines this decade to fight climate change may be unattainable due to soaring costs and supply chain delays, according to forecasters and industry insiders.

Reuters; September 15, 2023

These news articles tell the story of the real problems the green energy push faces here in the United States. From local communities and environmental groups pushing back on renewable projects (see page 32), to “supply chain” problems (lack of critical resources and parts – see page 26), to issues with the existing electrical grid (see page 33) and finally the increasing costs to finance and construct these renewable projects.

President Biden's Investing in America agenda is growing an American offshore wind industry that will create thousands of good-paying union jobs across the country, power millions of homes with clean electricity, and strengthen our energy security while reducing dangerous climate pollution.

American workers across manufacturing, shipbuilding, construction, and other sectors are building this new industry right now.

White House "Fact Sheet", Press Release, September 21, 2023

How have all those offshore wind projects touted by the president actually progressed?

July, 2023: Developer Avangrid agreed to pay \$48 million to dissolve its contracts to develop the 1,200 megawatt Commonwealth Wind offshore wind project, due to rising costs.

October 27, 2023: Equinor and BP are reassessing New York wind projects (Empire Wind 1, Empire Wind 2 and Beacon Wind) after they booked a combined \$840 million "impairment" on their U.S. offshore wind portfolios.

BP and its partner Equinor are assessing their next steps after the state of New York rejected the companies' request to revise upwards power supply contracts for their Empire Wind projects.

October 31, 2023:

Orsted, the world's largest offshore wind developer, pulled the plug on two offshore wind farms in New Jersey, Ocean Wind 1 and 2, taking a \$4 billion write-down on project losses. Orsted cited supply chain problems, higher interest rates and not being able to obtain the amount of tax credits the company wanted. New Jersey did approve a tax break for Orsted in July, letting it keep federal tax credits that otherwise would have gone to ratepayers.

November 16, 2023:

New York will issue a new offshore wind solicitation open to all bidders, including those with existing contracts, allowing the companies to re-offer their planned projects at higher prices and exit their old contracts.

European energy companies Equinor and BP have taken a combined \$840 million in write-downs on U.S. offshore wind projects that are not even completed, in part because their existing power sales contracts would not cover the cost of building and financing projects. Inflation, rising interest rates and supply chain problems have led to much higher costs than anticipated. Re-Bids are due in January 2024, and the revised costs to New York taxpayers will be significantly higher.

Apparently those sustainable offshore wind projects that are supposed to "*create thousands of good-paying union jobs across the country, power millions of homes with clean electricity, and strengthen our energy security while reducing dangerous climate pollution*" are not working out quite as planned either.

The reality of the situation does not seem to penetrate that bubble that the current administration governs in. Achievement of green energy goals of the United Nations and the president are seriously in doubt. And this was all apparent to anyone who took the time to seriously think about it.

Ironically, as developers were releasing the scope of problems and financial losses and considering pulling the plug on existing projects, New York governor Kathy Hochul invited said developers to rebid offshore wind projects... at lower prices!?

NY Regulators authorize offshore wind developers to lower bids
S&P Global, July 28, 2023

There were no takers to rebid projects at lower prices. Huh!!

You just can't make this stuff up!

News Flash!!

Scotland's Progressive Left government lied about the potential of renewable wind power...

SNP admits it overestimated Scotland's offshore wind capacity
yahoo! Finance, November 13, 2023

SNP ministers have quietly downgraded their claim that Scotland has a quarter of Europe's offshore wind potential to just seven per cent, in a major blow to their economic case for independence... Neil Gray, the Scottish energy secretary, wrote to a Holyrood committee with the revised estimate after SNP ministers were forced to admit that the 25 per cent figure they had used for years was false.

Note: SNP, the Scotland National Party, is self-described as being "Centre-left" and "social democratic".

Wait... governments *lie* to us?
Really?!

Many people have always known or suspected that governments lie. (I know, shocking, isn't it?) But even more so when there is something of such great importance at stake as green energy politics.

Addenda #20 – November 2023

Re: Ch. 20 Final Thoughts:

Who sets the administrations agenda? Who is creating the policies behind the agenda?

According to the U.S. Office of Energy Efficiency & Renewable Energy, hydropower accounts for 37% of U.S. renewable energy generation. Washington state generates 13% of the nation's hydroelectricity net summer generation. California is second with 13%, Oregon third at 10% and New York is fourth at 6%.

Since hydroelectricity is a renewable zero-emission power source, one would expect the Biden administration to support hydropower in his quest to achieve zero net emissions.

Biden admin quietly developing settlement with groups seeking to tear down key power source

Fox News November 22, 2023

The Biden administration is quietly discussing a potentially far-reaching settlement with environmental groups that advocate for tearing down four hydroelectric dams in Washington to protect salmon.

Federal attorneys representing the government said it had "developed a package of actions and commitments" and agreed to pause litigation with environmental activist plaintiffs in the case, according to court documents filed late last month. In the filings, jointly submitted by the federal government and eco groups, the parties said they could request a multiyear pause on the litigation to allow for the implementation of the package as soon as Dec. 15, 2023.

However, the filing failed to detail exactly what conditions were included in the secretive package developed. The groups involved in the case have vehemently argued in favor of breaching the four federally managed dams amid declining salmon populations in the lower Snake River, which winds through Idaho and southwestern Washington before feeding into the Columbia River and then into the Pacific Ocean.

Once again, Biden seems more concerned with bowing to pressures of environmental groups. Remember who helped set his administrations policy agenda before he even took office, it was Governing for Impact. (see Summary page 102)

The U.S. Army Corps of Engineers website gives a detailed descriptions on the Snake River dam system, built in the 1960's and 1970's, on its website.

<https://www.nww.usace.army.mil/Missions/Lower-Snake-River-Dams/>

Because of their locations, size and ability to help meet peak power loads, these four dams do much more than generate energy--they are key to keeping the system reliable and helping to meet its multiple uses — including supporting wind energy. The Snake River dams lie east of the other federal generators, so they provide a significant technical contribution to transmission grid reliability.

The website also details how cooling systems were installed to reduce temperatures, and fish ladders and spillways were modified to aid passage of upstream-migrating adult salmon on their way to their spawning areas.

So, it looks like the Army Corps of Engineers has done everything in its power to sustain the salmon population on the Snake River. But environmental groups still sued the Corps of

Engineers. The basis of the suit is that the dams are *increasing* the water temperatures, leading to reductions in the salmon population.

Historically, the Snake River is known to have experienced high summer water temperatures in years prior to construction of dams. In summer 2013, elevated water temperatures began to occur in Columbia-Snake basin river reaches with and without dams due to unusually hot weather dominating the basin. At Lower Granite Lock and Dam's adult fish ladder, longer-duration elevated water temperatures began to form a "thermal barrier" to upstream migrating salmon and steelhead, slowing and/or stopping adult fish migration upstream.

During 2015 fish perished throughout the West in rivers with and without dams due to elevated water temperatures.

If the Army Corps of Engineers is correct, dams have little to do with heating the river water. This is due to "unusually hot weather", which is associated with climate change, right? And isn't climate change caused by emissions from non-renewable power sources?

So shouldn't the Biden administration be more concerned with keeping the dams in operation since they are not emissions generating?

Additionally, the system of dams and locks on the Lower Snake River enables barges to move approximately 10-tons of cargo valued at over \$3 billion each year. Forty percent of the Nation's wheat transits through this system.

Reliable and sustainable energy is the reason for U.N. SDG #7, and these are critical aspects of the Snake River dams.

But none of this matters to environmental groups or climate alarmists. And apparently, none of this matters to the President of the United States either.

Addenda #21 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Two-thirds of North America could face power shortages this winter -NERC

Reuters, November 8, 2023

More than half of the U.S. and parts of Canada, home to around 180 million people, could fall short of electricity during extreme cold again this winter due to lacking natural gas infrastructure, the North American Electric Reliability Corp (NERC) said on Wednesday. In its 2023-24 winter outlook, the regulatory authority warned that prolonged, wide-area cold snaps threaten the reliability of bulk power generation and availability of fuel supplies for natural gas-fired generation.

"There is not enough natural gas pipeline and infrastructure to serve all the gas generation in certain big areas like PJM, MISO, New York, and New England"

How New York Just Took a Big Step Away From Fossil Fuels

The New York Times, October 27, 2021

A decision to reject upgrades of two gas-powered power plants was a big win for climate advocates and was endorsed by Gov. Hochul.

New York takes big step toward renewable energy in ‘historic’ climate win

The Guardian, May 3, 2023

New York state has passed legislation that will scale up the state’s renewable energy production and signals a major step toward moving utilities out of private hands to become publicly owned.

The bill, included in the state’s new budget, will require the state’s public power provider to generate all of its electricity from clean energy by 2030... This new legislation will require the state to phase out the six natural gas-fired plants that NYPA operates across New York City by 2030.

“The law is set to create tens of thousands of green jobs and "shut down some of the state's most polluting oil and gas plants—which are concentrated in working-class, Black, and brown communities”

Note: this is a statement by Public Power NY, grassroots movement, whose goal is to “nationalize” all utility companies in New York state; to “take our power back from corporate control”, and let the state government control the production, distribution and pricing of electricity.

Sounds a little like what Venezuela did with the country's oil industry in the 1970's. And look how that turned out... No new exploration for oil occurred, production deteriorated, revenues declined, leading to food and medicine shortages, hyperinflation and a deterioration of living standards for the people of the country.

Climate campaigners like Public Power NY pushed (not nudged) Hochul into including those provisions into the 2024 NY state budget.

Like our president, it seems at least some of our governor's agenda is also being crafted by extreme environmental groups.

New York postpones retiring four power plants to maintain NYC supply

Reuters, November 21, 2023

<https://www.reuters.com/business/energy/new-york-postpones-retiring-four-power-plants-maintain-nyc-supply-2023-11-21/>

The New York Independent System Operator (NYISO) said on Monday it will postpone the retirement of four floating natural gas-fired power plants by two years to keep the power supply reliable in New York City.

The four plants, owned by Astoria Generating Co, will stay operational beyond their planned retirement in May 2025, adding 508 megawatts (MW) to New York City's power reserves which otherwise be in a 446 MW deficiency.

"The reliability deficiency is being driven by increased demand for electricity, economic activity, and recent generator retirements per emissions requirements set forth by the New York State Department of Environmental Conservation (DEC)," the NYISO said.

DEC's "peaker rule," under which Astoria's four plans were going to shut down, has shut 950 megawatts of inefficient generation in environmental justice areas, with a provision to temporarily keep plants in operation to maintain reliable power supply.

NYISO did not get any other solutions to fully meet the deficiency but said the supply situation for New York City will improve after new power lines expected to enter service in spring 2026 will connect it to 1,250 MW of hydropower in Quebec.

NYISO now admits that the Climate Leadership and Community Protection Act *is* retiring reliable sources of power generation, but *is not* providing New Yorkers with enough reliable renewable energy transmission to replace the fossil fuel sources.

Rapid electrification is boosting power demand and straining the electric grid in New York state, as renewable resources struggle to replace fossil fuel that is being phased out, a June report by the grid operator found. The grid needs to triple its clean energy supply to meet the state's goal of an emission-free electric system by 2040, but geopolitical issues, permitting uncertainties and global supply chain constraints are impeding investments, the report said.

Note: Information taken from the "Initial Scenario" of the *Zero Emissions Electric Grid in NY by 2040* study.

In my opinion, this will continue to happen across the country, as municipalities realize the renewable energy timeline is not going to be met. Hopefully even the most progressive Democrat political leaders will recognize this and make the necessary adjustments to their climate goals.

If not, we the public, will be the ones to suffer the consequences.

Addenda #22 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Grid operator sounds alarm as coal plant shutdown threatens power for millions

Federal energy regulator said coal plant closure could be 'potentially catastrophic'

Fox Business, November 22, 2023

<https://www.foxbusiness.com/politics/grid-operator-sounds-alarm-coal-plant-shutdown-threatens-power-millions>

A power grid operator that serves millions of Americans across the mid-Atlantic is warning that a planned coal-fired power plant shutdown will severely threaten electricity supplies and occur before new power sources come online.

PJM Interconnection — which coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia, serving 65 million consumers — said the forthcoming shutdown of Brandon Shores coal power plant located outside of Baltimore will disrupt the reliability of the region's grid. The plant's operator, Texas-based Talen Energy, intends to deactivate the plant in June 2025 as part of a settlement with the left-wing eco group Sierra Club.

Ralph Alexander, the then-CEO of Talen Energy, said at the time that his company's move was part of its transition to green energy and its broader environmental, social and governance (ESG)-focused future. According to the company's current ESG commitments, it plans to entirely eliminate the use of coal in its wholly-owned generation facilities like Brandon Shores, which generate more than 5,000 megawatts of power nationwide.

"The PJM region and the state of Maryland are facing future reliability challenges as a result of the announced retirement of the Brandon Shores units," Jeff Shields, a spokesperson for PJM Interconnection, told Fox News Digital. "Specifically, PJM analyses showed that the deactivation of the Brandon Shores units would cause severe voltage drop and thermal violations across seven PJM zones, which could lead to a widespread reliability risks in Baltimore and the immediate surrounding areas."

"Therefore, there is an urgent need to upgrade the transmission system in order to maintain reliability and the flow of power to the 65 million people we serve," Shields said. "The chosen transmission solutions include in-service estimates in the 2027-2028 timeframe."

Note: The Sierra Club is one of the nation's oldest and largest environmentalist organizations. The group has recently risen in prominence as a political force, backing efforts to curtail the use of all fossil fuel energy sources and proven zero-emissions technologies. The organization also opposes the construction of hydroelectric dams and nuclear power generating stations, the two largest sources of zero-emission power in the United States.

In the 2022 election cycle, the Sierra Club gave \$286,996 in contributions to Democrat candidates, and \$0 to Republican candidates.

<https://www.influencewatch.org/non-profit/sierra-club/>

<https://www.opensecrets.org/orgs/sierra-club/recipients?id=D000000259>

PJM Interconnection operates the regional electrical grid serving thirteen states plus the District of Columbia, providing electricity to 65 million customers.

But utility companies under PJM's supervision "seriously lag" the rest of the country in adding renewable energy. In 2021 nationwide 12% of US electric energy was produced by wind and solar. Even a year later in 2022, PJM produced only 4.7% of the electricity it distributes by wind and solar. In 2022 PJM was the only regional transmission organization in the country to add more fossil fuel generation capacity than renewables, and their backlog of renewable power projects has progressed slowly.

https://en.wikipedia.org/wiki/PJM_Interconnection

Talen Energy's "ESG commitment" includes a 75% reduction in CO₂ emissions by 2030 and a total elimination of coal electricity generation.

65% of Talen Energy's electricity generation (8,100 MWh) comes from fossil fuel power plants, including 17% (2,105 MWh) from coal fired plants.

The ESG section of Talen Energy's website says they have plans to add 140 MWh of renewable generation *in the near future*. That's just 1.7% of the generating capacity they plan on closing to meet their CO₂ reduction goal!

Does anyone else see a problem with this?

Talen Energy's business decisions are directly influenced by ESG (Environmental, Social & Governance) metrics at the expense of their customers electricity production.

Once again, progressive Democrats are closing the barn door before all the horses are safely inside. Shutting down reliable electricity sources before unreliable ones are up and running.

Addenda #23 – November 2023

Re: Ch. 20 Final Thoughts:

Who sets the administrations agenda? Who is creating the policies behind the agenda?

John Kerry's office consulted with far-left eco groups on policy, banning fossil fuel investment: emails

Fox News, October 31, 2022

Special Presidential Envoy for Climate (SPEC) John Kerry's office exchanged emails with eco groups to schedule off-paper meetings on the key policy items last fall, according to documents obtained by government watchdog Protect the Public's Trust (PPT) and shared with Fox News Digital.

In the first instance, the Sierra Club, a major environmental group that advocates for an aggressive transition from fossil fuels, asked to meet with [senior policy advisor Jesse] Young to discuss a coal investment ban. The exchange took place in September 2021 ahead of the annual United Nations (UN) climate conference which Kerry, President Biden and other top U.S. officials attended.

"I think Biden has the executive authority to take a range of steps to end [new coal financing], starting with preventing US banks funding..."

In addition, a few months later, the Natural Resources Defense Council (NRDC) contacted Young to schedule an "ambition accelerator" meeting with multiple environmental groups pushing green transition policies.

And there you have it! The Biden administrations green energy policy being influenced by far-left environmental groups, pushing the president to use his “executive authority” to prevent funding of fossil fuel companies by U.S. banks. Just as in the decision to shutting down that coal-fired power plant in Maryland, the Sierra Club is again involved.

Note: It was at that November 2021 U.N. climate conference, also known as COP26, that President Biden pledged that under his administration, the United States would cut greenhouse gas emissions in half by 2030, and achieve a zero-emissions economy by 2050.

As soon as Biden took office, environmental groups began pressuring him to meet a \$2 billion commitment from 2014, and to commit \$6 billion in 2021 to the Green Climate Fund, a U.N. fund to help developing and poorer nations combat climate change. In April of 2021, President Biden announced a \$1.25 billion contribution to the GCF. House Democrats increased the contribution to \$1.6 billion for the FY2022 federal budget. Climate advocates called for the U.S. to pay 45% of the \$100 billion annual goal for all developed nations.

In April 2021, the president requested \$2.5 billion in the FY2022 federal budget to be paid for “international climate financing”.

Ultimately, only \$1.1 billion in spending was approved by a divided Congress.

U.S. International Climate Finance: FY2022, Congressional Research Service, March 17, 2022

In September 2021, prior to the COP26 meeting, President Biden pledged to double U.S. annual contributions to the GCF to \$11.4 billion by 2024.

In March 2022, the president requested a combined \$11 billion in the FY2023 federal budget to be paid for “international climate financing”.

The approved budget included just \$1 billion in direct financing for global climate payments.

U.S. International Climate Finance: FY2023, Congressional Research Service, October 3, 2022

In April 2023, the president requested a combined \$5.7 billion in the FY2024 federal budget to be paid to the GCF and other global environmental funds. The amount actually approved is still undetermined, as Congress could not agree on a fiscal year budget and instead passed a series of *continuing resolutions* and *omnibus appropriations bills* to fund spending.

U.S. International Climate Finance: FY2024, Congressional Research Service, April 24, 2023

In December 2023, the United States pledged \$3 billion to the Green Climate Fund at the U.N. COP28 climate summit in Dubai.

Sources said the pledge was subject to the “availability of funds”.

While the president appears to be attempting to make good on his public climate finance pledges, he knows that unless he has a Democrat majority in both houses of Congress, this level of foreign climate spending will never happen. President Obama also made bold climate finance pledges that were never approved either.

But, it makes the climate activist groups happy with him and angry with Congressional Republicans. And, it makes younger “Religion of Green” voter happy with him as well, resulting in votes in the next election.

US pledges \$3 billion for Green Climate Fund at COP28

Reuters, December 2, 2023

Addenda #24 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

The U.S. Power Grid

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Lack of ambition and attention risks making electricity grids the weak link in clean energy transitions

International Energy Agency, October 17, 2023

<https://www.iea.org/news/lack-of-ambition-and-attention-risks-making-electricity-grids-the-weak-link-in-clean-energy-transitions>

First-of-its-kind global study finds the world must add or replace 80 million km of grids by 2040, equal to all grids globally today, to meet national climate targets and support energy security... Efforts to tackle climate change and ensure reliable supplies of electricity could be put at risk unless policy makers and companies quickly take action to improve and expand the world's electricity grids, according to a special report released today by the IEA.

... the new report, Electricity Grids and Secure Energy Transitions, which offers a first-of-its-kind stocktake of grids worldwide, finds signs they are not keeping pace with the rapid growth of key clean energy technologies such as solar, wind, electric cars and heat pumps. Without greater policy attention and investment, shortfalls in the reach and quality of grid infrastructure could put the goal of limiting global warming to 1.5 °C out of reach and undermine energy security, the report warns.

In other words, the grid will not be capable of carrying the increased loads required by electrification of developed countries.

Achieving all national climate and energy goals will require adding or replacing 80 million kilometres of power lines by 2040 – an amount equal to the entire existing global grid... while annual investment in grids, which has remained broadly stagnant, needs to double to more than USD 600 billion a year by 2030.

Notice that the focus of this article is on the concern that the goal of limiting global warming is in danger, not that the electric grids will fail to carry the electricity required for an electrification of industry and the economy. The Agenda matters. The public doesn't.

NY's power grid is holding up. But officials are concerned for the future

North Country Public Radio, July 26, 2023

<https://www.northcountrypublicradio.org/news/story/48197/20230726/ny-s-power-grid-is-holding-up-but-officials-are-concerned-for-the-future>

While the state's power grid operator says there's enough juice to fuel demand right now, a recent report warns that supply might run short in the New York City area in two years.

Kevin Lanahan, who runs NYISO's government relations, said the most recent report, issued in July, finds that without a faster build-out of the power grid, New York City will have a deficit as

large as 446 megawatts in two years. That's the amount of power needed to run around half a million homes.

Here in New York state, utility companies have made commitments to upgrade the electric distribution and transmission grid in order to meet the renewable generation and greenhouse gas reduction goals of the Climate Leadership and Community Protection Act (CLCPA).

The “Phase 1” Local Transmission & Distribution Infrastructure upgrades will satisfy the “reliability, safety, and compliance” requirements for increased future electrical loads required by the CLCPA mandates, of the inter-state high-voltage grid system.

These 113 projects will cost NY rate payers \$6.8 billion to complete.

The “Phase 2” LT&D upgrades are at the “street and local level” for connection of new renewable sources to the grid, and distribution directly to utility customers.

These 71 projects will cost NY rate payers an additional \$9.777 billion to \$10.428 billion to complete.

Note: These projects are not fully “conceptualized” or designed at this time, so it is likely that the cost of Phase 2 is “understated”.

Appendix C to the Initial Report on the New York State Power Grid Study, Utility Transmission & Distribution Investment Working Group Study, November 2, 2020

First Governor Cuomo, then Governor Hochul have mandated an ever-stricter series of plans to reduce greenhouse gas emissions and electrify future residential, commercial and industrial construction, personal vehicles, school buses and lawn and garden equipment. This has resulted in billions in spending on upgrading the electric power grid as well as tens of billions more for smaller local level system and owner upgrades that will be required in the future to meet these “goals.”

Then, when the utility companies file for double digit rate increases to finance those projects, governor Hochul publicly berates the same utility companies for doing so.

"It's outrageous and unacceptable that utility companies are proposing the largest rate increase in recent history for more than 1.2 million consumers in Upstate New York. The Department of Public Service is legally required to review all proposed rate increases, and I urge them to scrutinize every number and word of this proposal to protect New York families from unjustified and unfair rate increases."

Statement from Governor Kathy Hochul on NYSEG and RG&E rate increase requests, May 19, 2022

<https://spectrumlocalnews.com/nys/rochester/news/2022/05/27/nyseg--rg-e-request-13-22--rate-hike--gov--hochul-responds>

In February 2022, ConEdison requested a 17.6% electric delivery rate increase and a 28.1% gas delivery rate increase.

Note: Con Ed is the utility that provides electric and gas service to NY City and Westchester

These rate increases were to support spending for capital improvements to the company's infrastructure required by climate legislation and mandates, to ensure "system integrity, safety and reliability."

In July 2023, the NY State Public Service Commission unanimously approved a new 3-year rate plan, cutting the 2022 rate request by 60%. The new rate schedule included of 14.7% for electricity and 21.7% for gas over three years

Note: Delivery rates are in addition to supply rates, which fluctuate based on costs to purchase or produce electricity.

New York Assembly Member Zohran Mamdani, who represents western Queens, told digital news media in NY that the new rates were "completely unacceptable and unconscionable." When you look on Mamdani's Assembly website, you see that he is the prime sponsor of the Clean Futures Act (A6761A) a ban on all new fracked gas power plants across the state, and lobbied hard for the Assembly to pass Assembly Bill A1466D, the Build Public Renewables Act (BPRA).

"On Thursday, 522 of my constituents woke up to no electricity. On Saturday, a New Yorker died due to heat exposure. On Monday, we marked the seventh consecutive day of 90 degree and above temperatures. The climate crisis does not abide by the legislative calendar, and neither can we. We must hold a special legislative session, pass BPRA, and finally provide energy to New Yorkers that is reliable, renewable, and at a reasonable cost."

In October 2023, the PSC also unanimously approved reduced rate increases for New York State Electric and Gas (NYSEG) of 22.1% for electricity and 6.1% for gas over three years, and Rochester Gas & Electric (RG&E) of 16% for electric and 10.9% for gas.

Governor Hochul was "grandstanding" in the lead up to her November re-election campaign. Hochul sends out press releases touting emission reduction rules and regulations but blames others when the real costs of her policies become known to her constituents. Assembly member Mamdani was also grandstanding, portraying himself as a champion of consumer protection and the environment, as the very policies he lobbies for are directly responsible for these rate increases.

So what will happen, is that more fossil fuel power plants will be taken out of service to appease environmental groups and green energy advocates, developers will continue to hedge on or cancel renewable power projects, and the utility companies won't complete scheduled projects on time to ensure reliable electricity distribution and transmission to customers. Just like the Talen Energy/PJM Interconnection case in Baltimore.

Addenda #25 – November 2023

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Permitting and grid interconnection delays mean it's highly unlikely that enough new generation will be added to meet the state's goal of having 100% zero-emission electricity production by 2040.

Utility Dive, April 19, 2023 Opinion

<https://www.utilitydive.com/news/new-york-climate-action-plan-reduce-electricity-grid-reliability/646199/>

The New York Climate Action Council, the state entity tasked with devising a plan to implement the 2019 Climate Leadership and Community Protection Act to combat climate change, issued its Scoping Plan in December 2022. The plan calls for hundreds of billions of dollars in state and ratepayer subsidies for renewable energy, battery storage and transmission lines, but it is clear that it is doomed to fail to achieve its goals of 100% zero emissions electricity production by 2040 while simultaneously supplying a reliable supply of electricity.

The Climate Action Council projects current electric load in New York to triple by 2040 due to the electrification of transportation and 100% building electrification. By 2040, when all electricity generation must be zero emissions, NYISO, the independent New York grid operator, states that at least 95 GW of new generation must be developed to make up for generation plant retirements and increased electrical demand. This goal is unrealistic and unachievable because the state only added 12.9 GW over the last 23 years, and it is highly unlikely that 95 GW of new generation capacity will be added in 17 years due to state permitting and grid interconnection delays.

The Climate Action Council's final Scoping Plan also reveals that New York will need 15 GW to 45 GW of new "zero emission dispatchable electric generation" by 2040 to meet increased electric demand and maintain electric system reliability. This is emission-free electric generation that can be dispatched, i.e., turned on, by NYISO at night or stormy conditions when there is no solar radiation or during calm wind conditions. But the Scoping Plan also admits that this 15 GW - 45 GW target "cannot be currently met" with existing technologies.

This dire prediction is confirmed by NYISO, which has issued reports stating that the New York grid may experience as much as a 10% deficiency, and possibly more, in generation capacity by 2040, and will require 32 GW of new zero-emission dispatchable generation by 2040 — which would almost double the current New York grid's 37 GW generation capacity.

NYISO also warns that such zero-emission dispatchable generation technologies "are not commercially available." Electricity shortages will occur if these new emission-free generation plants do not materialize in time as hoped for by the state. Hope is not an action plan to solve electric reliability deficits.

The Climate Action Council's climate plan — if fully implemented by the state as is currently being debated in the legislature — risks placing New York in an electricity shortage that could result in blackouts and brownouts. The New York grid operator pointed out that if existing gas-fired electric generation is shut before new resources come on line, there is a risk that NYISO will not be able to provide a reliable electric system.

Note: “Dispatchable Electric Generation” refers to battery storage capacity that can be used to provide power when renewable sources are not producing electricity.

Example: solar panels at night, on cloudy days, or when covered with snow



Example: Frozen wind turbines covered with ice.



Note: Researchers have found that icing has a major effect on wind turbines. Even under high wind conditions, iced wind turbines have been found to rotate much slower and even shut down frequently during the icing event, with icing-induced power losses of up to 80%.

Example: Not enough wind power to turn turbine blades



2021 European “wind drought” resulted in a decrease in wind speed of 5-10%. This reduced the output of electricity by 13-16%. The IPCC predicts a drop of 6-8% in average wind speeds across Europe by 2050.