Existing Building Memorandum Suggestions

Senator Lynn Findley

Building Performance Standards

Areas of concern that require consideration: The proposal covers existing buildings and requires increasingly stringent sanctions. The average size of buildings constructed before 1960 (26% of the commercial building stock) is 12,000 square feet; buildings constructed between 1960 and 1999 (55%) average 16,300 square feet; and buildings constructed in the 2000s (18%) average 19,000 square feet.

- Washington's law covers buildings 50k square feet for commercial buildings. Considering this would only cover the sector's largest buildings, this may be mildly palatable but still adds increased cost to businesses.
- Maryland's covers buildings over 35 k square feet (not historic properties, elementary or secondary schools, manufacturing and ag buildings). **Creates stringent caps that continually increase.** Covered buildings are required to reduce direct emissions 20% below 2025 by 2030 and achieve net-zero direct emissions by 2040.

The financing schemes to fund these upgrades vary. The BPS in New York City is estimated to have the potential to create a $20 billion retrofit market and lead to the creation of more than 140,000 jobs by 2030. **Translated, that means the building owners will be expected to pay $20 Billion for retro fits.** New York City is home to 4.3 million jobs so this optimistic projection means that the BPS is expected to add 3.3% more jobs to the city. Nationwide, an estimated 875,000 Americans work in "green jobs" – jobs to do with the environment, sustainability, renewable energy, conservation, and recycling. The argument that green jobs will be created at significant levels has never come to fruition.

Washington offers incentive program offerings from local utilities targeted to covered buildings. This is precisely what the ETO does.

In evaluating performance standards, the following should be considered:

We Need "Blueprint Pathways" to Achieve the Carbon and Energy Targets. A willing building owner should have easy access to an investment strategy to reach compliance. What is a 10-year investment plan for a building that aims to significantly reduce energy consumptions and carbon emissions? How much should be invested? What years should investments occur? When are returns expected?

We Need Options for "Lost-Cause" Buildings. There will be buildings with no fiscally viable path to the targets. Owners of multiple buildings might have portfolio compliance pathways. Regulators will need a slate of penalty and incentive options.

We Need Plans for When Investments Fail. Investments may fail to yield the promised savings. If an owner invests in good faith and savings don't materialize, regulatory fines may be counterproductive.

We Need Measurable, Obtainable and Accountable Objectives.

Benchmarking and Disclosure

Benchmarking energy use provides a mechanism for measuring how efficiently a building uses energy relative to the same building over time, similar buildings, or modeled simulations built to a certain standard or code. Disclosure to a state or local government is often required to facilitate market transformation by informing prospective purchasers or renters but also to inform policy decisions.

Areas of concern that require consideration: Cities including Portland, Milwaukee and Hillsboro all require sellers to obtain and disclose an energy score at the time of sale. If benchmarking and disclosure were limited to precisely this point then the proposal has merit. Currently a home energy audit in Oregon is between $125 and $250. However, this is an added, though minimal expensive, that will increase the cost of housing for very negligible benefit.

Otherwise, benchmarking is required of Building Performance Standards and must necessarily be used in the ratcheting down of building's energy use. The problem with Benchmarking thus becomes Mission Creep where things like home energy scores become used for a Building Performance Standard schemes.

Change Energy Trust of Oregon's Mission

Areas of concern that require consideration: Energy Trust is an independent nonprofit organization that offers cash incentives and services for qualifying energy-efficiency and renewable power projects to homeowners, commercial businesses and industrial and agricultural businesses.

This mission is precisely what other points on this list are calling for more of (Promote Heat Pumps; Promote Energy Efficiency and Heating/Cooling Upgrades; Promote, Incentivize and/or Subsidize Air Purification Systems; Upgrades to and Increasing Supply of Affordable Housing). Why would we change the mission of ETO when we want to do more of the things that they are doing?

The proposed change to the Energy Trust of Oregon's (ETO) mission to lead with greenhouse gas (GHG) emissions reductions and equity instead of leading with fuel-neutral energy efficiency is counter to the remaining proposals for existing. Energy efficiency savings directly reduce GHG emissions. More importantly, the ETO is not intended to be a player in power generation and thus should have limited ability to directly reduce GHG emissions. The ETO is a at its core an energy efficiency organization whose goals are found throughout this policy proposal. Focusing solely on GHG emissions is not constructive.

Considering the need for expanded efficiency programs throughout the state of Oregon, the need for the expansion of the ETO or similarly situated organizations would be merited. However, the ETO is an independent non-profit whose ability to expand may be limited.

Building Electrification Study

Areas of concern that require consideration Where are we going to get that electricity? We've banned new Natural Gas plants, coal plants are gone, we're requiring imported energy to be renewable and we are actively dropping dams. On top of this depleted supply situation, proposals like the Building Electrification study seek to dramatically expand electrical demand that our grid is not in any way positioned to handle.

California, a state that has been aggressively weaning its power grid off of fossil fuels, is now working on adding several natural gas-fired plants in an effort to keep the lights on this summer. The California Department of Water Resources is in the process of procuring five temporary gas-fueled generators that have individual capacities of 30 megawatts. The units will be installed at existing power plants and are expected to be operating by the middle of September.

Existing studies of the Northwest Power Grid exist that demonstrate the precarious nature of Oregon's supply and demand. Included below is Steven's Wright's recent paper detailing a potential looming energy imbalance:

Steve Wright, former BPA administrator (2000-2013) and Chelan County PUD GM (2013-2021), examines resource adequacy in the Northwest, through conversations with regional experts and reviewing several Resource Adequacy (RA) assessments. He notes regional progress in addressing RA, notably including development and near-implementation of the Western Resource Adequacy Program. But he sees an increasingly challenging landscape for regional RA, including forecasts for growing load-resource imbalances, difficulties in building new power supply and transmission in support of reliability, and the lack of a currently commercially viable "Holy Grail" clean, flexible cost-effective resource.

The bottom line: Resource adequacy in the Pacific Northwest looks even more challenging than it did three years ago when what has become the Western Resource Adequacy Program was initiated. Its's a darn good thing WRAP continues to move forward because it will provide a perspective on the regional state of affairs for resource adequacy, something we have never had with granularity. Hopefully, it will be a catalyst for actions that increase supply and manage demand.

Western Energy Crisis Impact

With apologies to those who have heard this from me before, the most scarring impactful moment of my career was being on the front line during the 2000-2001 Western energy crisis. At its core was a supply and demand problem.

Most memorable from that time were the public meetings where people from all walks of life made essentially the same comment/question. "I was just living my life. I didn't do anything wrong. So why is my job/disposable income/services/environmental protection being eliminated when it was your job [looking at an electric executive or elected official]

to be managing the electric system?" Our response as an industry was fairly unsatisfactory to the public: We are doing everything we can now, but we have limited options in the midst of a crisis due to the timeline challenges of adding supply or reducing demand. We wished more had been done in advance, swearing we would learn and not let it happen again. Since then, I have tried to a keep a focus on the risk of committing déjà vu.

I would add that, from my perspective it is necessary to get the balance right between clean, affordable and reliable electricity, because systems of balance will tend to move back toward balance. By that I mean pushing too for on any of the three legs of this stool causes a public reaction that counteracts progress made. For example, a very clean system that lacks affordability and reliability will cause a reaction that creates greater focus on reliability and affordability.

Assessments of Northwest Reliability

My starting point for assessing the current state of Pacific Northwest reliability is an E3 study released in January 2019.

Conducted for a group of consumer-and investor-owned utilities, the study investigated the impacts of accomplishing a menu of aggressive carbon-reduction goals in the electric sector. It proved prescient in terms of identifying the risk of two types of outages – afternoon ramps on solar-dominant systems (like the August 2020 California outages) and extended-duration high or low temperature energy shortfall outages (like Texas in February 2021).

The study concluded that beyond aggressive renewables and conservation development, thousands of megawatts of new firm, flexible generation (i.e. natural gas-fired) and multiple transmission lines would be needed to maintain reliability under even modest carbon-reduction plans (by 2018 standards) and multiple more 100 percent carbon-reduction goals. Importantly, the study concluded that substantial resource additions are needed in the 2020's as coal-fired resources are retired. The study built on PNUCC and Northwest Power and Conservation Council work that come to similar conclusions.

How have things changed in the last three-and-a-half years that would alter the study conclusions? While many ideas are being tested, no new miraculous clean, firm, flexible, cost-effective capacity has arrived to address the loss of dispatchable generation. Battery prices have declined (at least until recently), but the performance characteristics-particularly with respect to duration-have not demonstrably changed.

Also, state climate policies are more rigorous in the Northwest than the baseline the study anticipated, although well within the range of scenarios considered. The biggest change is likely the movement toward massive electrification and more load growth not in load forecasts back then.

The bottom line is the load/resource balance is likely more challenging than in 2018, while the improved options to address reliability changes would not move the needle enough to substantially alter the conclusions.

NERC recently released its 2022 Summer Reliability Assessment, and – as has been widely reported – it's quite pessimistic.

All the Western U.S. has reliability risk defined as "high," while parts of the Midwest are even more at risk, defined as "elevated."

The reasons for the distinction between high and elevated levels of risk are difficult to discern. For example, California is shown as being at the same level as the rest of the West. That does not seem right, as California is sending very strong signals about being short this summer, more so than any other Western region. But the more important point is likely that the Western region is more fragile than at any time since the late 1990's.

PNUCC's 2022 Northwest Regional Forecast, which relies on utility forecasts, underscores this point. It points to a load-resource balance increasingly out of equilibrium as times goes on. A continuing trend in the Pacific Northwest is less focus on and more attention to capacity deficits that are predicted to reach about 6,000 MW by 2032 in winter and summer, without the addition of firm resources.

The new BPA 2022 White Book projects regional energy surpluses through 2030, assuming 100 percent of uncommitted independent power producer resources stays in-region, but deficits if the IPP resources are exported. Capacity deficits begin in 2024 and stretch to 3,000 MW by 2030 if all IPP resources stay in-region, and roughly match the PNUCC forecast if IPP resources are exported.

Essentially, the PNUCC and BPA forecast say the region is short without identifying specifically how the shortage will be alleviated. This is the traditional approach – leaving it to the utilities to run their integrated resource plans to identify new resources and make commitments. The energy deficits may be manageable, given the broad support for large-scale additions of renewable resources, although hopefully this is being testing against 25-degree temperature excursion scenarios in either direction (e.g. , a 2021 Texas-type weather anomaly, which has happened before in the Pacific Northwest). The magnitude of deficits and focus on capacity are relatively new, raising questions about where the supply additions or demand reductions will come from in an environment increasingly unfriendly toward traditional forms of flexible capacity. The deficits within the near-term planning horizon are particularly troubling given the challenges of building infrastructure.

Which brings us to WECC's most recent resource adequacy assessment. WECCC displays a significant shortage over its five-to-10-year planning horizon and includes what should be chilling language: It concludes that even if all planned resources are build by 2025, ALL its subregions would fall below the 1-to-10-year planning standard. Entities need to take actions beyond those currently planned for 2025, and given planning horizons for new resources, this will be extremely challenging. "If current long-tern issues are not addressed immediately, they may become insurmountable when the become near-term issues," WECC states. It also points out the increasing incidence of widespread weather patterns reducing the likelihood of subregions being able to rely on imports. In other words, don't count on you neighbors to cover your planned shortages.

Seeking the "Holy Grail" Resource

WECC in its clean-energy sensitivities study outlines the challenge by adding what we might call the "mystery resource" to get loads and resources into balance. In WECC parlance it's referred to as ECF, the Emerging Clean and Flexible Resource. ECT is the Holy Grail we all seek – a carbon-free resource that operate like a gas-fired combustion turbine. There are lots of ideas about where it might be hiding (long-duration batteries, hydrogen, flywheels, etc.) But nothing is close enough to commercial viability today to provide a specific name. Having just attended the American Public Power Association annual conference, the issue I heard most frequently discussed was how to maintain reliability until the "mystery resource" appears.

This is the great challenge. It has become politically unacceptable to propose new natural gas-fired plants. Hence, we move forward toward aspirational goals that are increasingly near-term without a clear plan that assures reliability. I have learned from many years of experience, though, that conventional political wisdom can change on a dime based on circumstances. You buy the adult beverages and I'll tell the stories about how the politically impossible became possible overnight.

In fact, there is a very recent example. Take the extraordinary positions of California Gov. Gavin Newsom. First, he expressed interest in keeping the Diablo Canyon nuclear plant open past its planned 2025 shutdown, due to reliability concerns. But more shocking is the creation of a $5.2 billion "strategic electricity reliability reserve" fund of which 80 percent of the dollars can be used for fossil fuel-fired generation, what has now been approved by the California Legislature. Apparently the 2020 outages have created electorate pressure that comes into sharp focus in an election year. This appears to acknowledge that the existing planning studies, and more importantly the political system's response to the planning studies, have not created adequate reliability, forcing the state to step in using public dollars for resources that previously have been deemed politically unacceptable.

Let's hope that focus on the need for cost-effective flexible generation can be created in the Northwest without suffering through outages first, and that the region avoids California's predicament.

'Mystery Loads'

But solving for mystery generation should not be our only concern. There is also a risk of "mystery loads." These are large loads owned by entities wanting to procure their own power supply, and hence do not fit neatly into traditional utility planning. Living in East Wenatchee, Wash., I know there is a 180 MW server farm under construction within 5 miles of my house that is not in regional load forecasts. Recent local newspaper reports indicate massive plans for additional expansion on the Chelan County side of the Columbia River. I hear talk of potentially a gigawatt of new service in the Umatilla, Ore., area and of a large cryptocurrency mine in Pend Oreille County, Wash. These are ones I know about, but certainly are not in current regional electricity plans.

Representatives of these server farms are very prickly about not wanting their growth plans publicly discussed until absolutely necessary. From a regional planning standpoint, that means the process of knowledge of the load to operations can be a year or less. These are gigantic loads that rival the size of an aluminum plant. I am unaware of server farms willing to operate at other than high-capacity factors. The question becomes: How many megawatts of the "mystery loads" are out there? At least some, maybe all, plan to take service from the market along with developing unique additional clean generation. Given the regional and Westside load forecasts, that would suggest these loads are at high risk of curtailment or leaning on the system. Of particular concern will be their impact on projected capacity deficits. Are the owners of these loads willing to modulate production to reflect hourly surpluses and deficits in wholesale power markets? We may not know until the moment of tight supply conditions.

Renewable, Transmission Challenges

And then there is the question of renewable resources that are known. Most of these are on the east side of the Cascade Range. As Randy Hardy, energy consultant and former BPA administrator, has repeatedly pointed out, some new transmission will need to be built to connect east-side resources to west-side loads. When one flies from Wenatchee to Seattle across many miles of wilderness in the North Cascades, that appears a very daunting environmental task. The lack of even an announced plan undergoing initial review for cross-Cascade transmission suggest a long timeline to more capability for megawatts flowing east to west.

And the east-siders, at least the ones in my general neighborhood, seem to be getting more concerned about renewable development impact on views, rural lifestyles and even endangered species protection for assets designed to benefit west-siders. The more thousands of acres proposed for development, the more likely these concerns will increase.

So, while the need for new renewable generation and transmission is increasing, the environment affecting construction timelines appears to be pushing in the opposite direction.

The bottom line is that, as a region we have known for at least three years that we have a serious resource adequacy problem. In the last few years, we have encouraged substantial electrification, committed to retiring more dispatchable generation while exploring even more, are subterraneously adding large new loads without associated plans for reliable generation, and are increasingly counting on aspiration "mystery resources." There is no clear plan for cost-effective, adequate additions on a realistic timeline. It feels like letting the kids play day after day while they assuring they will get their homework done on time.

Political Focus Needed on Building Supply

We need the kind of strong political focus on building supply to meet demand that is being put into issues like removing the lower Snake River Dams. We need reliable, cost-

effective, clean, flexible capacity that does not exist today. This is made clear in the recent E3 study of the lower Snake River dam removal, which in order to avoid extremely costly overbuild of renewable resources to meet infrequent but important capacity needs relies on hydrogen generation technology that is currently unproven and not commercially available. We need success in building new renewable and transmission as precursors to further exacerbating the planned load/resource balance. Anyone doubting the political wisdom of this approach to assure supply and demand are in balance can look back 20 years, or south in the past month or so.

The Importance of Implementing WRAP

All of this brings home the importance of implementing WRAP. The Western Power Pool has done an outstanding job of getting WRAP nearly to the point of implementation. It was heartening at the recent Northwest Public Power Association annual meeting to hear John Haarlow from Snohomish County PUD announce that a panel comprised of Debra Smith from Seattle City Light, Elliot Mainser from the California ISO and Mark Holman from Powerex was in violent agreement that the highest priority is completing and implementing WRAP.

The national and regional evidence points toward this being the right conclusion. The Pacific Northwest is getting this done more correctly than any other region of the country by making resource adequacy the highest priority while also advancing short-term market development.

My only caveat is that the current WRAP addresses only one of the two primary risks to reliability – the need for firm, flexible capacity to address the evening-ramp risk as the sun goes down. But we know that the system is also constrained by energy production during multiday temperature excursions (high of low). The decision to prioritize and get a limited resource-adequacy standard in place was a good one. But as soon as reasonably possible, attention should turn to establishing an energy standard as well. In fact, from a consumer perspective, the energy shortage that occurs over multiple days under extreme circumstances is the most troublesome. The WPP has committed to continuously improving the WRAP, providing the avenue for enhancements.

Resource-adequacy standards alone, however, do not increase supply or reduce demand. They send a signal to markets (capital and political) as to the level of need, the potential for price volatility and the risk of reliability constraints. The goal of resource adequacy is to send a planning signal that will cause actions to increase supply or reduce demand. In California, the planning function has become more relevant only after widespread outages occurred. Let's hope the Northwest will learn from our neighbors. We need to create a political environment that both implements resource adequacy standards and takes action on the signals before the outages begin.

The Pacific Northwest electric community should be proud of the progress made to address resource adequacy. But success – whether in sports, business or elsewhere – can be a source of pride while also leading to striving for continuous improvement.

When one looks at the landscape of readily available information on resource adequacy, loud alarm bells should be ringing. Much needs to be done.

Align Energy Efficiency Programs with State's Climate Goals

Areas of concern that require consideration: This is a push to put into legislation the mandates of EO 20-04. Recent Supreme Court ruling against the EPA limited the agencies' ability to create laws regulating emissions beyond what is dictated in legislation. In Oregon, DEQ argues that the state's climate programs "are all based on authority granted by the Oregon Legislature". This is only partially true. Most new climate programs like the Climate Protection Program (The new Cap and Trade) are based solely upon Governor Brown's EO 20-04. Barring actual legislation, the Supreme Court's ruling could put the Climate Protection Program and all similar executive agency schemes based on EO 20-04 in peril. This course of action would severely limit any incoming Governor's attempt to reign in the provision's of EO 20-04 through Executive action.

Considering the history of Cap and Trade in Oregon, any attempt of reviving this through legislation would not doubt lead to the same outcomes as was seen in 2019 and 2020.

The policy proposal would be to enact the energy use targets in EO 20-04 in statute. The Executive Order "establishes science-based GHG emissions reduction goals and calls for the State of Oregon to reduce its GHG emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050." ***In addition, the Executive Order directs state agencies to take certain actions.***

Current Statute:

468A.205 Policy; greenhouse gas emissions reduction goals. (1) The Legislative Assembly declares that it is the policy of this state to reduce greenhouse gas emissions in Oregon pursuant to the following greenhouse gas emissions reduction goals:

(a) By 2010, arrest the growth of Oregon's greenhouse gas emissions and begin to reduce greenhouse gas emissions.

(b) By 2020, achieve greenhouse gas levels that are 10 percent below 1990 levels.

(c) By 2050, achieve greenhouse gas levels that are at least 75 percent below 1990 levels.

(2) The Legislative Assembly declares that it is the policy of this state for state and local governments, businesses, nonprofit organizations and individual residents to prepare for the effects of global warming and by doing so, prevent and reduce the social, economic and environmental effects of global warming.

(3) This section does not create any additional regulatory authority for an agency of the executive department as defined in ORS 174.112.

Proposed:

(1) at least 45 percent below 1990 emissions levels by 2035

(2) at least 80 percent below 1990 emissions levels by 2050

Current:

(1) at least 75 percent below 1990 levels by 2050

This is only a **5%** reduction by 2050. The real goal here is to implement the State Agency actions.

Further Enhance the Efficiency of Appliances and Equipment

Areas of concern and require consideration: Make the ETO statewide. The Oregon Department of Energy consistently updates appliance standards to reflect National and regional updates. HB 2062 (2021) already handed the Department of Energy the ability to adjust these appliance and equipment efficiency standards without Legislative approval.

Advanced Metering Infrastructure (AMI)

Areas of concern that require consideration: This is only truly relevant in water heaters. In Oregon, ODOE established a demand-response ready requirement for electric storage water heaters as a product standard, first in rule (OAR 330-092-0020(16) in 2020) and then in statute through House Bill 2062 (2021) to extend the requirement. All water heaters manufactured after the effective date will need to meet the standard in order to be sold in Oregon.

Heating/cooling and industrial energy consumption are a function of weather and work schedule. What's the point of electric metering an Air Conditioning unit/Heat Pump when energy demand is high but so is the need to heat/cool a building at that specific point in time?

An argument could be made for overnight electric vehicle charging.

Knowing when and how much energy a consumer is using at any point in one thing. Being able to "meter" the consumers from using their appliances at will is another. This sets the stage for government-controlled rationing. Recently Spain enacted private building temperature mandates. Under a decree that applies to public buildings, shopping centers, cinemas, theatres, rail stations and airports, heating should not be set above 66F and air conditioning should not be set below 80F. With advanced metering, the utilities would simply be able to control these settings for their users.

Hybrid vs. All-Electric Model

Areas of concern that require consideration: In dual-energy, or hybrid, systems, fossil fuel (e.g., natural gas) is replaced with electricity, but can still be relied on during periods of very cold weather or when there are peak demands on the electric systems. The model they are basing

this on is the Hybrid-fuel system in Quebec whose stated goal is to phase out natural gas and replace it with electricity. This is the problem of Mission Creep where you call for hybridization and it leads to the complete phasing out of NG.

Where are the credible studies that say Oregon is anywhere near ready to phase out NG? There isn't. Quite the opposite. The actual studies from WRAP, NERC and the PNUCC show that current loads are incredibly delicate and projected loads (even without the increased Electrification policies proposed) will not be able to be supported by the power generation systems. This also does not take into account the decommissioning of current fossil-fuel based power supplies that will leave the grid with even less output.

Enacting Residential Property Assessed Clean Energy (PACE)

Areas of concern that require consideration: Make things more complicated and expensive so that things will be cheaper and more efficient?

The loans taken out for efficiency upgrades stay tied to the property. Upon selling the property the debt remains on the land itself. This creates a system where the property owner is buying things on the credit card, and when they sell the property they are also handing over their credit card debt to the new owner. Proponents argue that this will increase the condition/value of the building, but new buyers will have to actually pay for these increases; the market assessment of the property is not accurate due to the attached debt which is essentially a lien against the property.

Oregon has enacted commercial PACE authorization, but local governments must separately authorize the program for use in their area for commercial use. So, this seems like a local control issue. Notably, this local provision is inherently limited by Ballot Measure 50 which requires that local option levies, in elections other than general elections, be approved by a majority of voters with at least 50 percent of all registered voters actually voting.

Residential PACE projects may include the replacement of failing heating and cooling systems and water heaters; air and insulation; ENERGY STAR appliance; and water conservation. This basically falls into the Mission of the ETO.

Promote Heat Pumps

Areas of concern that require consideration: This is already done unless there is discussion surrounding additional funding mechanisms. A similar program in Colorado authorized a sales tax credit. This mechanism is completely unworkable in Oregon.

SB 1536 (2022) establishes the Heat Pump Deployment Program to provide grants to support the purchase and installation of heat pumps; establishes an advisory council, Heat Pump Deployment Fund, and Residential Heat Pump Fund; and authorizes ODOE to make available

rental housing grants for upgrades to support rebates for heat pump purchases and installations.

Promote Energy Efficiency and Heating/Cooling Upgrades

Areas of concern that require consideration: This is literally the job of the ETO.

Promote, Incentivize, and/or Subsidize Air Purification Systems

Areas of concern that require consideration: This exists due to HB 2842 (financial assistance for communities affected by environmental pollution) and SB 1536 (funds and facilitates clean air filtration systems statewide).

Upgrades to and Increasing Supply of Affordable Housing

Areas of concern that require consideration: The arguments for this relate only to efficiency upgrades and repair and rehabilitation of residential dwellings which are already found in HB 2842.

Part of the proposal calls for the remediation of low-quality and condemned properties, purchase and transition of housing stock into affordable housing, providing land banking and land trust strategies. This is government buyout of private holdings for the express purpose of gentrification NOT affordable housing stock.

WHATS LACKING?

1. Producing green hydrogen and bioenergy that can become part of the electrical grid may help cities or states become less reliant on imported fossil fuels and diversify its fuel sources**.** We need to further incentive these technologies.
2. Studies/projections of the actual electricity grid going forward. This includes projected demand and current supply in conjunction with the projected supply and demand due to proposed policy mandates.