

Killing the Competition

The Nuclear Power Agenda to Block Climate Action, Stop Renewable Energy, and Subsidize Old Reactors

The electric utility industry has begun an aggressive push to change energy policy in the United States to favor nuclear power. Led by the country's largest nuclear generators, Exelon and Entergy, this campaign represents what would be the single largest change in energy policy in twenty years. While their intent is to make nuclear the preferred energy source, the changes they seek necessarily go far beyond that. They would also support coal and natural gas-fired electricity generation, and block the growth of renewable energy and attempts to address climate change.

Exelon and Entergy see sustainable energy solutions—renewable energy, efficiency, conservation, etc.—as a long-term threat to their profits. This is not because of excessive regulations or safety requirements on nuclear power: the industry has not had to implement a single safety upgrade due to the Fukushima meltdowns and faces less regulatory enforcement than it did twenty years ago. The closure of a record number of reactors since 2013 has exposed fundamental economic problems facing the industry, and a growing number of nuclear plants simply cannot compete with modern, efficient, cost-effective energy resources.

The industry's campaign is an attempt to "fix" this problem and restore the economic viability of nuclear power for the next 20 years or more. But in effect, these corporations would have us sacrifice our best opportunity to create millions of jobs, revitalize our economy, and rise to the challenge of addressing climate change—just to keep old, obsolete, uncompetitive nuclear reactors in business.

This agenda would be unpopular at best, so Exelon and Entergy have focused on drumming up fears of job losses, power shortages, and carbon emissions if some of their unprofitable reactors were to close in the coming years. They have only discussed their agenda in vague terms, and disclosed particulars in piecemeal fashion. Like the Manhattan Project that gave birth to nuclear technology, they are counting on people not putting the pieces together so they can see the full picture. The purpose of this brief is to complete that picture, and enable America to see the nuclear industry's plan in full and to understand the implications.

Nuclear's Economic Problem

In order to survive, the nuclear industry must remain economically competitive or prove that it is necessary and should be propped up. But if uncompetitive reactors close and more of our energy needs are met by economically and environmentally sustainable solutions, the rationales offered for producing electricity by splitting atoms would lose relevance.



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The industry's economic problem is actually quite simple:

- Running nuclear reactors is becoming more expensive as they age.
- Electricity markets generally favor the lowest-cost energy sources.
- Energy prices have fallen to levels lower than the costs of running reactors.
- Energy efficiency has reduced growth in electricity demand.
- The costs of renewable energy sources are falling dramatically.

By contrast, market prices for electricity are well below \$50 in many regions—and as low as \$30 or less in some. Some reactors may close before the industry can push through the changes it wants, but that is because those reactors are the most uneconomical plants in regions of the country where there is more than enough electricity supply.

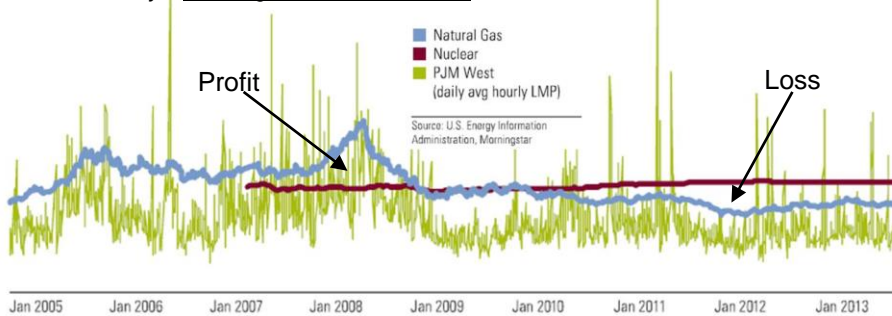
Stacking the Deck: Dereg 1.0

The nuclear industry has already been rescued once at the expense of consumers and new industries. In the 1990s, reactors

were beginning to close with increasing frequency. Nine reactors closed out of 112 during that period, in most cases due to a combination of safety violations and maintenance expenses, which would have required larger investments than state utility commissions were willing to approve.

Nuclear Costs vs. Market Prices for Electricity and Natural Gas

Chart courtesy of *Morningstar Utilities Observer*, November 2013.



This all adds up to a long-term picture in which nuclear power generators simply can't make enough money from running reactors to justify their cost. Over half of operating reactors are over 35 years old,¹ and are getting more costly to maintain. The Nuclear Energy Institute (NEI) reports that costs are rising faster than the rate of inflation. In 2012, the average cost was \$44.17/megawatt-hour (MWh), more than 11% higher than in 2010.²

But costs also vary a great deal depending not just on the reactor's age, but on other basic factors. For instance, NEI reports that single-reactor nuclear plants cost \$50.54/MWh to operate in 2012, compared to \$39.44 for multi-reactor plants; similarly, smaller reactors also cost more per unit of electricity than larger ones.

The utility industry supported deregulation as a way out. Utility commissions agreed to bail out \$110 billion in nuclear construction debts, allowing utilities to transfer reactors debt-free to new "merchant" power companies that bought them at far below their original cost. Other federal and state agencies changed or created rules that boosted nuclear financially. As a result, reactors generated profits as market electricity prices rose—until recently.

Some of the policy changes that boosted nuclear under deregulation include:

Liability-free Asset Transfers

- Stranded cost bailouts
- Below-market reactor sales

- Tax-free transfer of billions in decommissioning funds

Electricity Markets

- Low Energy Efficiency: constantly rising demand
- Pre-Fracking Natural Gas Market: skyrocketing prices during peak periods
- Low Levels of Renewable Energy

Nuclear Safety Regulations

- Relicensing: 20-year permit extensions
- Power Uprates: 5,400 MW in power increases for existing reactors
- “Risk-Informed” safety regulation: lax regulations & enforcement
- High-Burnup Fuel: fewer refueling outages, worse radioactive waste

The end result: reactor closures literally stopped for nearly fifteen years (see chart below). In fact, 2000-2010 was the first decade in the history of nuclear power when not a single reactor closed in the U.S.

But that all changed by 2013. Five reactor closures were announced in a single year, the most ever. Safety and the changing economics of energy caught up with nuclear power’s aging fleet of power stations, and exposed fundamental problems for the technology.

The Nuclear Salvation Agenda

Replacing outdated, uncompetitive, unnecessary energy sources with modern, lower-cost solutions is one of the benefits deregulation was supposed to deliver. And that is, in fact, what is happening. Sustainable energy solutions—renewables, efficiency, demand response, etc.—are growing the most rapidly, and coal and nuclear power plants are closing.

To reverse this trend, the industry needs to accomplish several things:

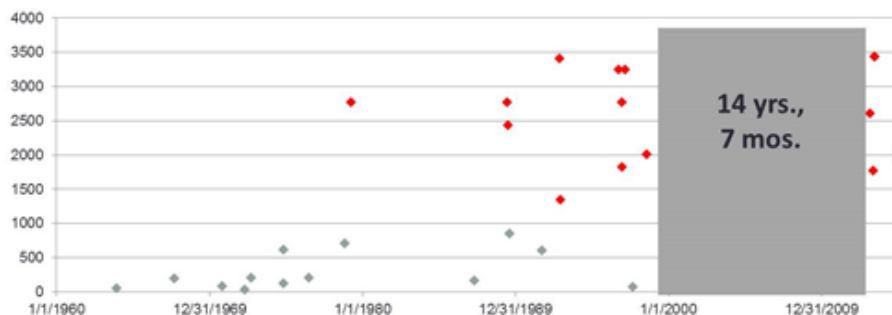
- Reduce competition from lower-cost alternatives.
- Restore electricity demand growth.
- Create preferences for inflexible, baseload generation.
- Create new subsidies for old reactors.

These changes would do more than save nuclear power. They would lock us into a 100-year-old energy system, increase the cost of energy, and make it impossible to reduce carbon emissions.

The industry has settled on a three-part strategy to accomplish this:

- Repeal or weaken renewable energy and efficiency programs
- Include subsidies for nuclear in carbon reduction programs.
- Rig energy markets to guarantee higher prices.

Nuclear Reactor Closures by Date and Generation Capacity (MWt)



Red = modern, full-size reactors. *Grey* = early, small reactors.

Attacks on Renewables

The nuclear industry is supporting, and in some cases leading, attacks on policies and programs that support the development of renewable energy and

energy efficiency programs. These efforts are gaining momentum. While they did not meet with much success initially in 2013, several have in 2014. Indiana repealed its energy efficiency standard, Ohio suspended its renewable energy and efficiency standards for two years, Oklahoma imposed a tax on net metering, and Illinois killed a strong renewable energy bill.

The industry absurdly claims subsidies for renewables are unfair and put nuclear at a disadvantage. This, despite nuclear receiving

massive subsidies throughout its history, even today.³ There is a difference, though: after six decades, nuclear is still too expensive and requires *even more* subsidies to survive, whereas subsidizing renewables is having the intended effect of lowering their cost to the point where—in just a few years—subsidies will not be necessary.

Exelon

Exelon has been a leading opponent of the **Production Tax Credit** for wind power for several years. Due to the extent of its work to

Sustainable Energy in the Crosshairs

Federal Programs

Policy/Program	Purpose	Status
Renewable Energy Production Tax Credit	Supports deployment of new renewable generation with tax credit for electricity output.	Expired in 2013 Renewal stalled
Residential Energy Efficiency Tax Credit	Improves energy efficient housing stock with tax credit for retrofits and upgrades	Expired in 2013 Renewal stalled
Commercial Building Tax Deduction	Incentivizes businesses to improve efficiency by 50% or more	Expired in 2013 Renewal stalled
Energy-Efficient Appliance Manufacturing Tax Credit	Encourages efficiency increases in residential appliances	Expired in 2013
Advanced Energy Manufacturing Credit	Encourages energy efficiency in manufacturing	Funding exhausted in 2013
Residential Renewable Energy Tax Credit	Tax credit for homeowners who install solar, geothermal, small wind, or fuel cells	Expires in 2016

State Programs

Policy/Program	Purpose
Renewable Energy/Portfolio Standard	Requires that renewable energy sources comprise a minimum percentage of utilities' and/or retailers' energy purchases
Efficiency Portfolio Standard	Requires that utilities meet a certain level of projected demand through energy efficiency
Net Metering	Requires utilities to credit customers with solar PV (or other distributed generation) at the retail rate
Community/Third-Party Net Metering	Opens access to net metering for people without viable space for solar PV (or other distributed generation) on their own home through co-ownership
Community Choice Aggregation	Permits municipalities to become their own energy suppliers and to finance efficiency and renewable energy programs through ratepayer charges
Solar PV tax/fee	Discourages solar installations by imposing annual fees that raise the cost to homeowners and diminish the value of investments

end the PTC, the American Wind Energy Association removed Exelon from its Board of Directors and ended the corporation's membership in 2012. Exelon is also blocking **renewable energy standards** in Illinois. In 2014, Exelon used the threat of nuclear plant closures to kill a strong renewable energy bill, by arguing that wind power is the primary reason that several of its Illinois reactors are uneconomical.⁴

Entergy

In 2013, the corporation led one of the first major attacks on solar power, pushing Louisiana regulators to let it pay lower rates for net-metered solar.⁵ Though the measure was eventually defeated, Entergy is changing its strategy: now it intends to be "proactive" in taking control of state policies on renewable energy.⁶ Entergy is even opposed to other energy efficient solutions, such as co-generation (AKA, combined heat and power, CHP).⁷

FirstEnergy

Ohio became the first state to suspend both its **renewable energy and efficiency standards** in 2014. FirstEnergy, which owns four reactors in Ohio and Pennsylvania, was a primary backer of the bill.⁸ The corporation praised its passage, criticizing "the state's costly energy efficiency and renewable energy mandates." Just two months earlier, FirstEnergy criticized *low* energy prices for threatening the viability of its nuclear plants.⁹

Nuking the Climate: New Subsidies for Old Reactors

While trying to cancel incentives for renewables, the nuclear industry is pushing for new subsidies for existing reactors. Their intent is to create policy schemes that allow nuclear plants to sell emissions credits to coal and gas plants, keeping both afloat, locking in

a century-old electricity system and stifling the growth of new technology. The resolution Exelon promoted in Illinois spells out the scheme quite clearly:

*[W]e urge the United States Environmental Protection Agency (EPA) to immediately adopt rules that treat low-carbon resources, like nuclear power plants, equally, regardless of age or fuel source; provide flexibility to the State; and require actions to secure the continued operations at Illinois' nuclear power plants as a compliance mechanism to meet any new federal GHG regulations and, further, to adopt rules that allow the State to offset and balance emissions from fossil fuel electric generation with emissions-free nuclear generation ...*¹⁰

There are several mechanisms through which the industry can create new subsidies. Some would directly divert subsidies from climate solutions to nuclear. Others would simply provide a cost advantage in the market and stifle renewable energy development.

EPA Carbon Pollution Rule

The Environmental Protection Agency issued a draft rule on carbon emissions from existing power plants in June 2014. The rule would classify nuclear power as a low-carbon energy source, credit new and existing reactors toward states' emissions goals, and authorize states to provide subsidies and incentives to preserve and develop nuclear capacity. The rule requires states to submit plans for achieving the goals, and gives them wide latitude in doing so.

"Clean" Energy Standards

The industry would have states revise their Renewable Energy Standards (RES) or Portfolio Standards (RPS) to include nuclear

under a new “Clean” Energy Standard. These programs require utilities or other end users to purchase a certain amount of their energy from renewable sources, and provide subsidies to renewables through the sale of “renewable energy credits” (RECs). Including nuclear in such programs would flood states with more credits than could be sold, blocking renewables from further growth and diverting all future subsidies to nuclear.

Carbon Emissions Trading

The EPA rule also encourages states to implement “cap and trade” programs to limit emissions, similar to the Regional Greenhouse Gas Initiative (RGGI) established by ten states in the Northeast. RGGI auctions off emissions credits to carbon emitters, then directs the revenues to support renewable energy, efficiency, and conservation programs. Such programs can also permit plants to purchase “offsets” to count against their emissions. Including nuclear in these programs would have a similar effect as “Clean” Energy Standards.

System Benefits Charges

Several states include a charge on consumers’ utility bills that goes into a fund to support efficiency and renewable energy projects. The rationale is that such programs benefit all users by supporting the most cost-

“How much would it cost?”

The draft EPA rule suggests states consider a subsidy of **\$6/MWh** to save the 6% of nuclear capacity it believes is at risk of closure (about 5,700 MW), **totaling \$270 million/year**. That money could build enough wind power—*completely unsubsidized*—to replace any at-risk nuclear generation within 10 years.

However, the rule gives states so much latitude to craft their own programs, it may open the door for much more. Should states include all nuclear, it would amount to **\$47.3 million/year** for a typical 1,000 MW reactor. If all states opted to subsidize nuclear that way, it could total as much as **\$4.6 billion/year**.

effective energy resources. States could select any policy rationale for supporting an energy source, such as system reliability (e.g., “baseload”) or job retention. The EPA rule also opens the door to states to take such measures to prevent reactor closures.

Above-Market Contracts

States can also enter into power contracts with nuclear generators at above-market rates. Some reactors already operate under such agreements, and many reactors in deregulated markets did so

for several years after they were sold or transferred by utilities to merchant operators. While Exelon has stated it does not prefer this option in Illinois, it is pursuing it in New York, as is FirstEnergy in Ohio. The result would be subsidies far greater than those contemplated in the EPA’s carbon rule.

In both cases, ratepayers could be saddled with paying rates of \$60/MWh or higher, more than 50% above recent market rates. FirstEnergy has petitioned the Ohio Public Utility Commission for a contract committing utilities to buy electricity from its Davis-Besse reactor and two coal plants at an average price of \$65/MWh, \$26 above recent market rates¹¹ – a premium to ratepayers of \$182 million/year.¹² In the case of Exelon’s Ginna reactor in NY, a rate of \$60/MWh would cost ratepayers an additional \$111 million/year.¹³

Rigging the Markets: Dereg 2.0

Just as important to the nuclear industry as creating new subsidies is rigging electricity markets. This is also the area least familiar to the public. States that deregulated electricity generation established organizations called “independent system operators” (ISOs) that are responsible for running both the electricity transmission system and the wholesale market for power and other “energy products.” These regional organizations are governed by the Federal Energy Regulatory Commission (FERC), which sets policy nationally and must approve market rules.

The industry is pushing for changes at both the FERC and ISO levels, exploiting the occurrence of natural gas shortages in the winter of 2013-14 to do so. FERC commissioners have publicly expressed interest in helping “get nuclear through this stressful period economically” and “increase the revenue stream for nuclear units while maintaining the valuable environment benefits that they have.”¹⁴

Exelon, Entergy and their peers claim markets do not “value” nuclear sufficiently for its supposed benefits. In addition, they blame market rules for allowing renewables to underbid them and for permitting efficiency and demand response to compete with electricity generation. From the standpoint of running the grid, generation, efficiency, and demand response all contribute to balancing supply and demand, but the nuclear industry thinks the markets should primarily support electricity sales.

Beyond that, though, they want to place baseload power sources first in the markets. These changes would, essentially, reshape the markets as a venue for ensuring that nuclear, coal, and natural gas remain the

mainstays of the U.S. power supply, limiting the growth of new technologies and sustainable energy solutions.

Capacity Markets

The ISOs operate a kind of secondary market to ensure there is enough power generation capacity. These “capacity markets” pay generators for promising to be available 1-3 years in the future. Exelon and Entergy want to rig the rules to increase the subsidies they receive. Some options include:

- Limit eligibility for capacity markets to baseload generators.
- Exclude variable or seasonal resources, like demand response.
- Create new “products” based on nuclear characteristics, such as on-site fuel guarantees.

Narrowing access to the capacity market to baseload sources would both raise the auction prices and block new competition.

Wholesale Markets

The industry wants to restructure the markets for electricity sales to benefit baseload generation, as well. The rules governing the wholesale markets are just as byzantine, and the specific solutions the industry wants vary from ISO to ISO. The broad strokes of what they want to accomplish are:

- Allow baseload sources to sell first.
- Set a price floor for baseload generation.
- Protect baseload sources from negative prices.

Below is a chart of specific market changes and objectives Exelon and Entergy have said they are seeking from various ISOs. This list is what is known as of June 2014, and will be evolving as the industry negotiates with regulators. Some changes could be initiated through the ISOs, though all would need to be approved by FERC.

Nuclear as Baseload Power

Nuclear and coal power plants are typically classified as “baseload” electricity sources. They are typically large power plants designed to run at maximum power, 24 hours per day, but cannot adjust their output quickly enough to be useful in meeting hour-by-hour (or minute-by-minute) fluctuations in electricity demand. Ensuring that electricity supply constantly matches changes in the amount of demand is the key to ensuring a reliable electricity system.

In power industry terms, the “load” is the amount of electricity demand at any given time, and the minimum amount of power demand from day-to-day is called the “base load” because it is considered to be constant; in contrast, the “peak load” is the maximum amount of demand, generally provided by “peaking” or “peaker” power plants that can ramp up or down rapidly.

Utility companies decided decades ago to build their electricity systems (“grids”) around large “baseload” plants, complemented by peaking plants—but the important thing has always been the ability to match supply to demand. The baseload model is just one way to do it, and is based on technology that is becoming obsolete and increasingly uneconomical.

Because they are inflexible, baseload plants are actually an impediment to building a low-carbon energy system. For instance, when wind is plentiful, the combination of renewable and baseload power can exceed demand—requiring some power sources to be turned off. Since nuclear and coal plants can neither adjust their output to follow changes in demand—nor can they operate profitably that way—it is usually renewable energy sources that are turned off.

Wind and solar are “variable” energy sources, but the amount of power they produce is predictable within well-known seasonal and daily ranges. The same level of reliability and stability can be achieved with renewables. Solar and wind broadly complement each other, since wind tends to be more plentiful in times of the year when solar is less so. Other low-carbon energy sources, such as hydro, geothermal, biomass, and tidal power, as well as efficiency and “demand response” fill in and provide backup, the same way peaking plants do now.

Smart grids enable real-time tracking of power output and two-way communication between electricity consumers and producers to take the “guessing” out of the system. Advances in battery technology will make energy storage cost-effective enabling us to engineer the electricity system entirely around renewable energy sources—and make “baseload” power plants obsolete and unnecessary.

Types of Power Plants

Baseload: Power plants that operate inflexibly at a fixed level of power output.

Peaking: Power plants designed to ramp up and down rapidly to meet demand. Mostly gas- and oil-fired plants, but can include hydro and energy storage.

Load-Following: Intermediate peakers that run for longer periods, ramping up and down more gradually as changes.

Variable: Renewable sources like wind, solar, and tidal, whose output fluctuates based on natural energy systems.

Demand-side: Energy resources that can help balance load by controlling demand, such as efficiency and “demand response”, that is, programs through which consumers agree to cut their power use when needed.

Key Policy Fights and Actions

The nuclear industry has made notable progress advancing its agenda this year, surprisingly so to some observers. Attacks on renewable energy policies at the state level in 2013 met with little success: for example, taxes and rollbacks on net metering in Arizona and Louisiana largely failed, as did an attempt to cancel Kansas’ renewable energy standard. However, with a more aggressive campaign and threats of reactor closures, job losses and rolling blackouts, the industry has managed to achieve several things already this year:

- **Federal Sustainable Energy Programs:** Renewable Energy PTC and several efficiency incentives expired in 2013, renewals and extensions blocked so far in 2014
- **EPA Clean Power Plan:** incentives for new and existing nuclear included in draft carbon rule, possible amendments

- to expand nuclear incentives
- **FERC market rules:** Commissioners testified before Congress and opened dialogue with NRC about need to preserve nuclear, recommended states subsidize existing nuclear as “clean energy”
- **Indiana and Ohio:** Efficiency and renewable energy standards cancelled or suspended.
- **Illinois:** Renewable energy bill defeated; pro-nuclear resolution passed; technical and economic studies ordered to develop potential “clean energy standard” policies to subsidize nuclear
- **Massachusetts:** Bill to raise net metering cap to 1,600 MW scuttled
- **Oklahoma:** Solar tax enacted

These incremental advances demonstrate the powerful sway the nuclear industry can exercise in the policy-making process, at both the state and federal level.

Yet the industry has yet to lock in any of the

Known Market Rule Changes Promoted by Exelon and Entergy

Market Rule Change Proposal	ISO-NE*	NYISO	MISO	PJM
Baseload resource / Price stability	X	X	X	X
On-site fuel supply	X	X	X	X
Greenhouse gas emissions	X	X	X	X
Day-ahead and real-time pricing data	X			
Uplift charges	X			
Winter reliability program market-based, applies to all fuel types	X		?	?
Apply minimum offer price rule (MOPR) to preclude uneconomic market entry	X	X	?	?
Subject new/ repowered projects to market treatment		X		
Support Lower Hudson Valley capacity zone ¹		X		
Transmission line expansion		X	X	X

* ISO-New England, New York ISO, Midcontinent ISO, and PJM Interconnection, respectively.

major policy changes and market reforms that are the cornerstone of its agenda. While their PR and lobbying efforts have grabbed the attention of policymakers and regulators, much of the industry's agenda could be controversial due to its impact on electricity rates, renewable energy industries, and climate policy. Below are some of the key policy and regulatory fights that are critical for deciding the fate of the industry's agenda.

Renewable Energy Subsidies

The main target of the industry's attack on the Renewable Energy Tax Credit is wind power. The recent fights over the PTC have led to great volatility in wind development, falling from a record of 12,000 MW in 2012 to less than 1,100 MW in 2013, and back to an expected 12-14,000 MW in 2014.¹⁵ Because the 2012 extension enabled projects to qualify as long as they were in development by the end of 2013, robust growth is expected to continue through 2015. The strong commercial viability of wind power has enabled it to continue growing despite the on-again-off-again availability of financial incentives, but if renewal of the PTC continues to be blocked, and new incentives are created for nuclear, the market dynamics could change sufficiently to slow wind development substantially, which would also affect the rate of innovation and cost improvements. The marginal price differences between wind and natural gas could cause investors to shift more of their dollars in the direction of developing natural gas plants.

That would serve the nuclear industry's needs, as well, since they rely on the volatile price of natural gas to raise average electricity prices and ensure the profitability of nuclear reactors. Construction of more gas-fired plants will heighten that dynamic, despite the vast increase in natural gas supplies with the

advent of horizontal hydraulic fracturing. The rapid expansion of solar PV--especially when paired with grid-based energy storage--could create a countervailing market dynamic, by reducing the level of peak electricity demand. As Exelon indicated in early 2014,¹⁶ expect the industry to make preventing the renewal of the Residential Renewable Energy Tax Credit in 2015-16 a top priority, as well as increased attacks on state net metering programs.

EPA Carbon Rule

The industry considers the incentives for preserving and developing nuclear power EPA evaluated in the draft carbon pollution rule to be insufficient. They are lobbying the agency to expand the rule to cover all existing reactors, not just the 6% of each state's existing nuclear capacity EPA considered. At a meeting with industry in June 2014, Administrator Gina McCarthy reportedly said she is considering their recommendations and may issue an amendment to the rule evaluating more generous incentives for existing reactors.¹⁷

If not through that mechanism, the agency could wait to do so until issuing the final rule in June 2015, and/or simply clarify that states have the latitude to develop proposals as they deem appropriate when implementing the rule in 2016. Such plans could include "clean" energy standards, direct subsidies, above-market contracts, allowing nuclear to sell emissions credits through cap-and-trade programs, or other incentives. Ensuring that support for nuclear is removed from the rule and, instead, requiring that closed reactors be replaced with renewables, efficiency, and other sustainable solutions would be the more sensible and cost-effective path to meeting climate action targets.

FERC Market Rules

FERC commissioners have expressed support for the nuclear industry and its goal of preserving existing reactors in multiple forums: a May meeting with the Nuclear Regulatory Commission,¹⁸ where the topic was the foremost item on the agenda¹⁹; testimony before Congress in July²⁰; and in public statements issued to the media and published on the FERC website.²¹

Commissioners and staff have indicated they are looking into ways to value the baseload characteristics of nuclear, but there could be obstacles.

The industry is seeking fundamental shifts in how electricity markets have functioned, among them, that market rules have largely been “fuel-neutral”: not granting preference to any one type of generation over another; in fact, treating non-generation resources like demand response the same as electricity from a power plant. Markets have tended to grant preference to resources based on cost, hence the industry’s opposition to wind power which can underbid nuclear whenever there is wind blowing. Granting preferences to baseload generation or other characteristics particular to nuclear would be a very large change affecting the entire market structure, and could meet with controversy among other industry stakeholders. Hence, the industry is also likely to pursue narrower and more nuanced rule changes that begin to reorient markets gradually.

Ultimately, all of the energy market rules the industry is seeking must be approved by FERC. However, there are multiple paths to get there. Rule changes can be initiated at FERC either by the commission, by petition, or through the stakeholder process. Rule changes can also be initiated at the Regional Transmission Organization (RTO) level, and

How Market Rules Can Help Nuclear

A case in New York illustrates FERC’s ability to deliver market changes that benefit the nuclear industry. The New York Public Service Commission has filed suit against FERC to overturn its decision to create a new capacity market zone,²² which primarily benefits the Indian Point Nuclear Power Plant and affects the fortunes of two others.

The case is significant because successive governors, including current Gov. Andrew Cuomo, have stated their desire to close Indian Point, which is owned by Entergy, and the Cuomo administration has begun taking steps to ensure grid reliability in preparation for that. In their suit, the PSC claims the capacity zone unduly raises electricity costs for local ratepayers (by 10-18%, on average),²³ and that NYISO and FERC did not consider the cost impacts and the reliability measures the state is already implementing.

Under the new capacity zone, already-profitable Indian Point will earn at least \$70 million in additional revenue each year simply for being operational,²⁴ the primary impact of which will be to bolster Entergy’s efforts to continue operating the reactors and to provide additional revenue to support plant upgrades and the rest of Entergy’s troubled merchant nuclear business. The ostensible goal of capacity markets is to incent new generation and reliability upgrades, but their track record in doing so is unclear at best²⁵; they do, however, reward quite handsomely *existing* power plants in areas with transmission constraints, like Indian Point.

The outcome of the PSC’s challenge could affect the future operation of Indian Point, as well as Entergy’s struggling FitzPatrick and Pilgrim reactors, which are dependent on Indian Point’s profitability.

then submitted to FERC for approval. In either case, rules would be issued by FERC and passed down to the RTOs for implementation.

Illinois: Renewable Energy Standard

The resolution passed by the Illinois House of Representatives, HR 1146, has set the stage for the first and most direct debate over the industry’s agenda. The resolution directed state agencies to investigate several issues core to Exelon’s campaign and report to the legislature by January 2015: the benefits of nuclear power, the economic and climate change impacts of reactor closures, the feasibility of new transmission capacity to permit greater exports of nuclear-generated electricity, etc.²⁶

The legislature is expected to take up measures to subsidize nuclear early next year.²⁷ In fact, the deal Exelon made in 2014--to scuttle the renewable energy bill²⁸ in exchange for suspending any reactor closures for one year²⁹--ensures that the legislature must act. Media reports predict legislators will propose measures to subsidize all of Exelon’s reactors, rather than the three or five Exelon has threatened to close.³⁰ HR 1146 presages an intent to incorporate nuclear into a “clean” energy standard, and to permit nuclear to trade emissions credits with

coal and gas generators.

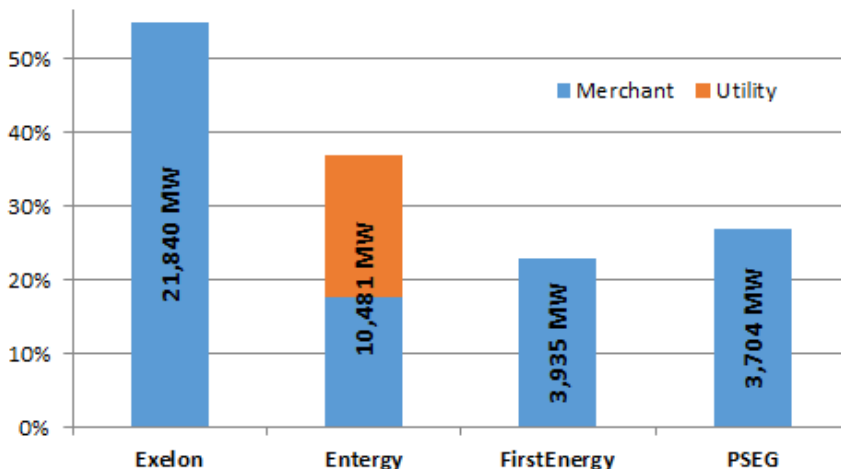
Such measures would limit the growth potential for renewables in Illinois, as well as deliver benefits solely to Exelon, likely making it offensive to environmentalists, consumers, and electricity generators alike. If Exelon is successful, it could set a precedent and create a model for other states to follow. However, despite Exelon’s political influence in the state, enacting an odious corporate welfare bill could prove more difficult than blocking a bill in one chamber and passing a resolution in the other.

Maryland-DC: Exelon-Pepco Acquisition

Exelon is attempting to acquire a large mid-Atlantic utility, Pepco Holdings, Inc. (PHI, or Pepco). The move is widely understood as an attempt by Exelon to hedge its exposure to risk on the nuclear side of its business by increasing its guaranteed revenues from utility ratepayers. Pepco owns utility companies covering Washington, D.C., and parts of Maryland, Delaware, New Jersey and Virginia. Acquiring Pepco would make Exelon both the largest utility company in the U.S., with nearly 10 million ratepayers.

In addition, it would establish the corporation as the dominant interest in PJM, the nation’s largest electricity market. Exelon is the largest electricity generator in PJM, and all of its utility service territory would be within PJM, as well. The corporation’s ability to influence decisions about PJM market rules, as well as state policies on renewable energy, efficiency, distributed generation, etc., would be virtually unprecedented under deregulation. In effect, it would extend the level of influence over

Nuclear as Portion of Total Generation Portfolio



energy policy Exelon enjoys in Illinois to at least two other jurisdictions, including the nation's capitol.

Maryland and D.C. regulators have fended off such mergers in the past, as when Baltimore-based Constellation attempted to acquire Pepco in 1997³¹ and FPL Group (now NextEra) attempted to acquire Constellation in 2006.³² A rejection of its bid to buy Pepco could have larger implications for Exelon, affecting investor confidence, exposing limits to its political influence, and most importantly, cutting off its strategy to increase its utility revenue to balance nuclear losses.

Ohio: Nuclear-Coal Un-Deregulation

In August, FirstEnergy filed a petition with the Ohio Public Utilities Commission (PUC) explicitly linking the continued operation of coal and nuclear power plants, in an arrangement that also poses significant anti-trust issues. FirstEnergy is also implicitly asking the PUC to lock in preferences for baseload generation over and above any consideration of carbon emissions or accommodation of sustainable energy solutions. Dubbing its proposal "Powering Ohio's Progress," FirstEnergy CEO Anthony Alexander stated, "Ohio's economic security and quality of life is highly dependent on maintaining a diverse mix of baseload coal and nuclear power plants."³³

The corporation is asking the PUC to authorize a 15-year contract that would require its Ohio utility companies to purchase electricity--at cost--from its Davis-Besse Nuclear Power Plant, its Sammis coal plant, and two coal plants it co-owns with the Ohio Valley Electric Corporation, all part of FirstEnergy's merchant power division. UBS Investment Research reportedly estimates the average price for electricity under the

arrangement at \$65/MWh, about \$26 higher than the average market price for electricity. While the utilities would be responsible for resale of the electricity at whatever price the market bears, ratepayers would have pay the full cost of operating the plants, plus a 11.15% return on investment.

The arrangement would set a concerning precedent under deregulation, and would effectively reintegrate these plants into a vertical monopoly. The Ohio PUC rejected a similar arrangement proposed by AEP Corp.,³⁴ and FirstEnergy may have difficulty convincing policymakers that the plants warrant such extraordinary support, having cleared the most recent PJM capacity market auction.³⁵

New York: Ginna Nuclear Plant

In July, Exelon petitioned the New York Public Service Commission (PSC) to force Rochester Gas & Electric (RG&E) to enter into an above-market contract for power from Exelon's Ginna Nuclear Power Plant. Exelon notified the PSC that it would consider closing Ginna without such relief, and presented a report by the NYISO and RG&E indicating there would be grid reliability problems if Ginna were to close.³⁶ The case is the first in which a merchant nuclear generator has sought such relief, and could set precedent for other reactors in New York, and possibly other states.

The proceeding is still at an early stage, and Exelon has not proposed a specific power contract rate, nor divulged Ginna's operating costs it wishes to have covered. However, the petition does state that Ginna suffered losses of \$100 million from 2012-13, under the previous power contract with RG&E.³⁷ The rate Exelon was paid under that contract was higher than the average market price for

electricity in the Rochester area in recent years, so it would appear that the cost of operating Ginna is substantially greater than that of competing generation sources in the region. It may well be possible to address any reliability concerns arising from Ginna's closure more cost-effectively.

Putting It All Together

These reforms would have far-reaching impacts on the U.S.'s energy future. Rigging the markets for baseload power plants would boost nuclear, coal, and natural gas, and enable fossil fuel generators to afford the emissions credits they would buy from nuclear to comply with carbon regulations. In total, nuclear would create multiple new and increased revenue streams, throw a regulatory lifeline to coal and natural gas, and block the growth potential of renewables. In such a market, energy efficiency could even become a benefit to nuclear, coal, and gas by limiting the need for new generation sources.

The last time such sweeping energy policy changes were made—the move to utility deregulation in the 1990s—the public was largely kept in the dark about the implications. That move sustained nuclear and coal

Nuclear Information & Resource Service (NIRS)

We are a national nonprofit organization serving the grassroots anti-nuclear, sustainable energy movement. Founded in 1978, we work for:

- A nuclear-free, carbon-free sustainable energy future.
- Nuclear safety, security, and non-proliferation.
- Environmentally just and scientifically sound solutions to radioactive waste.
- Public awareness of and protection from the dangers of radiation.

The Broad Nuclear Attack on Renewables

Direct Attacks	Federal	State
Production & Investment Tax Credits	X	X
Renewable Energy Standards		X
Efficiency Portfolio Standards		X
Net Metering Limits		X
Connection Taxes & Fees	X	X
Indirect Attacks		
EPA Rule Manipulation	X	X
Wholesale Market Rules	X	X
Favor Baseload in Dispatch Order	X	X
Above-market Contracts		X

generation and ushered in a massive increase in use of natural gas to generate electricity. It also delayed the development and growth of renewable energy for well over a decade after the Kyoto Treaty made climate action a recognized global priority.

The truth is, we can address climate change and meet our energy needs, affordably and sustainably, but we can't do it simply by paying more to prop up the same energy sources that have created the problem. The sustainable energy technologies we need to build a carbon-free energy system have arrived, and they are cost-effective. But we do need to make a choice.

Doing so would give us the opportunity not just to address climate change, but also to revitalize our economy and create millions of jobs in new industries. That is what the nuclear industry is afraid of: that America will realize how little nuclear has to offer, and decide to move in a new direction.

Research and Writing by Tim Judson, Executive Director.

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