

*Testimony of*  
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**“Climate Change: Preparing for the Energy Transition”**

Subcommittee on Energy and Mineral Resources  
U.S. House of Representatives, Committee on Natural Resources

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Economics is built upon comparative statics. Statics is the comparison of one economic equilibrium with another. While it is easy to say that one equilibrium is better than another, the question of how we make the transition is important. Thus, I want to acknowledge that this hearing is crucial to the nation’s economic well-being.

According to the proposed resolution, the Green New Deal seeks:

*(A) to achieve net-zero greenhouse gas emissions through a fair and just transition for all communities and workers;*

*(B) to create millions of good, high-wage jobs and ensure prosperity and economic security for all people of the United States;*

*(C) to invest in the infrastructure and industry of the United States to sustainably meet the challenges of the 21st century;*

*(D) to secure for all people of the United States for generations to come—*

*(i) clean air and water;*

*(ii) climate and community resiliency;*

*(iii) healthy food;*

*(iv) access to nature; and*

*(v) a sustainable environment; and*

*(E) to promote justice and equity by stopping current, preventing future, and repairing historic oppression of indigenous communities, communities of color, migrant communities, deindustrialized communities, depopulated rural communities, the poor, low-income workers, women, the elderly, the unhoused, people with disabilities, and youth (referred to in this resolution as “frontline and vulnerable communities”)*

Mandating “net-zero greenhouse gas emissions” over a ten-year period alone, however, will not ensure a smooth transition. Mandates will not curtail CO<sub>2</sub> emissions and encourage the push to renewables. Often, in fact, mandates instead produce perverse incentives.

The proposed mandate also runs counter to the other resolution goals regarding fairness and equality. The tension arises because the only way to achieve the mandate in such a short period of time will be to take rights and property from some citizens and reallocate that to others.

## **I. Green jobs will take a long time to develop and will involve handling toxic metals that are the dirty foundation of green energy**

### **A. Rapid development and planning for wind turbines, solar farms, and high-voltage lines will alienate local citizens and violate distributional justice**

Jobs related to green technologies will take a long time to develop. For instance, jobs related to wind turbine installations and high-voltage electrical infrastructure can only be made available after a long planning process.

A thirty-year old research agenda regarding opposition to wind projects by local citizens yields interesting insights into citizens’ thinking. A recent academic paper summarizing such research suggests that while, “North American support for wind has been consistently high,” the strict interpretation of opposition cannot be tied solely to NIMBY behavior by local residents or lack of concern for the environment.<sup>1</sup> Distance

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<sup>1</sup> Rand, Joseph and Hoen, Ben. “Thirty years of North American wind energy acceptance research: What have we learned?” *Energy Research & Social Science* 29 (2017), 135–148.

from turbines obviously matters, but its effect is unclear, and sound and visual impacts are tied to annoyance and opposition.

Less obvious, however, are conclusions that suggest that the strongest influences on successful placements relate to the process by which wind turbine sites are selected. Sound and visual impacts can be overcome if those aspects are not ignored, but are acknowledged. “Issues of fairness, participation, and trust during the development process influence acceptance,” and “[v]iewing opposition as something to be overcome prevents meaningful understandings and implementation of best practices.”<sup>2</sup>

All that said, however, the authors note that “[i]mplementation of research findings into practice has been limited.”<sup>3</sup> Similar research finds nearly identical intricacies to citing high-voltage transmission lines required for green energy installations.<sup>4</sup>

Those points are important because, “the ‘low hanging fruit’ wind sites (those that have good wind resources and are close to loads and transmission, yet far from communities) have largely been developed, implying that future wind development likely will happen increasingly near communities.”<sup>5</sup>

Up to now, considerations regarding reactions of local citizens to wind turbine placements and high-voltage infrastructure have not been a significant concern. The Green New Deal ten-year mandate, therefore, means that wind turbine installations and needed transmission towers will be coming to residents’ neighborhoods soon, regardless of local concerns. The proposed policy is almost *designed* to alienate local citizens in the name of unfunded Federalism. The costs of such policies – like those incurred by locals in the Camp Fire – will be borne by locals while the benefits will be enjoyed elsewhere. Such dispersion violates concerns of distributional justice and fairness, counter to the bill’s own stated goals.

B. Green energy curtails CO<sub>2</sub>, but increases concentrations of other pollutants that damage soil and water

While it is obvious that wind turbines don’t produce when the wind doesn’t blow and solar doesn’t produce when the sun doesn’t shine and many have suggested

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<sup>2</sup> Id.

<sup>3</sup> Id.

<sup>4</sup> Cain, Nicholas L. and Nelson, Hal T. “What drives opposition to high-voltage transmission lines?” *Land Use Policy* 33 (2013), 204– 213.

<sup>5</sup> Rand and Hoen (2017). For a more complete review of constraints to wind power development, see the U.S. Department of Energy, *Wind Vision: A new era for wind power in the United States*. 2015.

batteries as a solution, few have thought about where the batteries come from or the batteries' own impact on the environment.

Batteries pollute. Rechargeable batteries, including lead–acid, nickel–metal hydride, nickel–cadmium, and lithium-ion batteries, all contain toxic materials. “Spent rechargeable batteries contain heavy metal elements, including nickel (Ni), cobalt (Co), and [lead] Pb, which are hazardous to human health and the environment if disposed of inappropriately.... Ni, Co, and Pb are all classified as carcinogenic and mutagenic materials. In addition to heavy metals, the organic and strong acid/alkaline electrolytes of rechargeable batteries are also polluting.”<sup>6</sup>

So while the Green New Deal promises clean air, little attention is being paid to increased concentration of *other* pollutants in the quest to decrease CO<sub>2</sub>.

- C. Resources needed for green energy will require transportation and handling of toxic materials in high concentrations in trade with conflict nations worldwide

Large-scale battery production also consumes other scarce resources. Among the above-mentioned elements, “Co is considered strategically important because it is widely used in industry and by the military.”<sup>7</sup> Yet, Co, in particular, is in short supply and some two-thirds of that comes from one of the poorest countries in the world, the Democratic Republic of Congo, under contract to Glencore. Illustrating the Democratic Republic of Congo’s global influence, the *Financial Times* reported last week that Co prices “hit their lowest level in two years after a supply surge from the Democratic Republic of Congo,” after falling some forty percent since November 2018.<sup>8</sup> The Democratic Republic of Congo’s uncertain political environment, demanding increased royalties and taxes on international mining companies, has led mining companies such as Glencore to reduce their exposure to the sector.<sup>9</sup>

Resource pressures have led to increased concerns about materials recycling. Yet U.S. battery recycling programs are lax in comparison with those in the EU and China.<sup>10</sup>

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<sup>6</sup> Renjie Chen et al. “Toward sustainable and systematic recycling of spent rechargeable batteries.” *Chemical Society Reviews*, 47 (2018), 7239-7302.

<sup>7</sup> Id.

<sup>8</sup> Sanderson, Henry. “Cobalt hits 2-year low as DRC ramps up supply.” *Financial Times*, February 5, 2019.

<sup>9</sup> Sanderson, Henry and Hume, Neil. “Glencore to cut workers at key DR Congo copper and cobalt mine.” *Financial Times*, February 8, 2019.

<sup>10</sup> Renjie Chen et al. (2018).

It is important to recognize further that such recycling concerns are not only about the environment. The needs span all manner of green technologies not just batteries. “Wind power demands important amounts of rare earth elements (REE) like neodymium and dysprosium to build permanent magnets for electric generators and some studies have shown that demand of both elements might increase by 700% and 2600%, respectively, in the next decades. Additionally, solar photovoltaic demands high quantities of silver for electrical connections, and other materials like cadmium, tellurium, or indium are used for manufacturing p-n junctions in solar thin film technologies like CIGS or CdTe. Solar thermal power (STP) also requires silver for manufacturing reflectors or nickel and molybdenum for manufacturing high strength steel alloys needed in structures.”<sup>11</sup>

All of those are in short supply, but little of those are recycled. “[C]urrent recycling rates of some of these materials are almost negligible because more often than not the specific required recycling processes do not pay off. [Even where recycling is profitable], current recycling rates are still very low. For instance, less than 3% of the lithium contained in a battery is currently recycled.... [Still] only 42% of the total battery waste mass can be recycled with current available technology.... As a result, the concern regarding the impact of green technologies on raw material availability is becoming an important issue for countries aiming at guaranteeing their sustainability and for the development of green technologies.”<sup>12</sup>

There will be jobs. But these will be no better (and arguably, worse) than those in the existing fossil fuels sector. Those jobs will deal with the new pollutants from green energy sources. Even recycling programs – to the extent that those are mandated – will require handling concentrated quantities of heavy metals and other carcinogenic and mutagenic materials, risking human lives and soil and groundwater contamination. It would only make sense to put in place occupational safety rules to deal with new environmental hazards before mandating energy goals. Otherwise, we may repeat prior problems like those arising from black lung disease, asbestos exposure, birth defects and cancer arising from chemical and heavy metals disposal, and the failed remediation efforts of the EPA’s Superfund, all in the name of CO<sub>2</sub> reduction.

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<sup>11</sup> Valeroa, Alicia; Valerob, Antonio; Calvob, Guiomar; and Ortegoa, Abel. “Material bottlenecks in the future development of green technologies.” *Renewable and Sustainable Energy Reviews* 93 (2018), 178–200. (Citations omitted.)

<sup>12</sup> Valeroa et al. (2018). (Citations omitted.)

## II. The green brand is already being coopted

The Green New Deal sets as a goal “net-zero greenhouse gas emissions,” but does not define what that means. Green is already a marketing tool in many sectors and even where the term is defined, it leads people to charge high fees and do bad things in the name of “green.”

- A. Solar installations face a complex web of laws and regulations that are not being taken into account in the mandate

Take, for instance, the residential solar industry. Many homes have installed solar panels. But a large number of those have been bad deals for consumers and investors alike.

Solar contracts are causing a variety of frictions in the real estate industry, some of which may turn out to be systemic. For instance, the contractual arrangements surrounding the installations – often in the form of loans or leases and contracts to provide energy to the grid via net metering arrangements – may not transfer with the home because they are technically independent of the property upon sale. Ancillary negotiations can be necessary to effectuate such transfer, but those negotiations can delay closing and raise the costs of real estate transactions.

Consumer and business solar installation contracts are sold and securitized just like subprime mortgages, with the cash flows “sliced and diced” and sold to investors so that the company can sell more solar installations. In 2017, solar securitizations topped \$1.5 billion and in 2018, they topped \$2 billion.<sup>13</sup> The sector continues to grow rapidly.

In January 2019, Mosaic – which has over \$1 billion in securitizations outstanding – completed its largest solar securitization to date. Mosaic’s consumer loans are regulated by, “CFPB, FTC and various state agencies. Loans originated by Mosaic must comply with applicable federal and state law including (but not limited to): Truth in Lending Act (“TILA”); Truth in Advertising; Fair Credit Reporting Act (“FCRA”); Fair Debt Collection Practices Act (“FDCPA”); Equal Credit Opportunity; [and] Privacy and Data Security Laws.”<sup>14</sup> While securitization is not in and of itself bad, one of the key risk factors noted in Mosaic’s securitization is that the loans and leases can

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<sup>13</sup> Mendelsohn, Mike. “Raising capital in very large chunks: The rise of solar securitization.” *PV Magazine*, November 16, 2018.

<sup>14</sup> ABS New Issue Report, “Mosaic Solar Loan Trust 2019-1,” *Kroll Bond Rating Agency*, February 6, 2019.

contain unique features like payments that rise over time, which “may potentially invite the scrutiny of consumer protection regulators.”<sup>15</sup>

Green energy installations, therefore, intertwine with consumer protections and energy transmission regulations in a web of Federal and state combinations whose interaction will be affected by the proposed mandate. Mandating green energy without protecting consumers in those sectors, therefore, violates the notion of a “just and fair transition.”

#### B. Green bond funds sell at a premium and charge high fees for the brand

Although there is no established formal criteria for the qualification of a green bond, the development of the International Capital Market Association “green bond principles” has promoted a modicum of agreement in the sector.<sup>16</sup> Those principles, while voluntary, have formed a process around transparency and disclosure with four specific components, namely Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, and Reporting.

While green investment funds have proved popular with special interests they ignore simple marketing realities: when something is more popular it can be sold for a higher price. Existing fossil-free funds’ demonstrated performance history shows that the funds usually underperform even their own chosen benchmarks and charge high fees to investors. Like the tech bubble “glamour stocks” in the 1990s, a green investment bubble could arise that – when popped – could devastate the sector and forestall needed development of green technologies.

Despite such concerns, green bond issuance is growing rapidly. The World Bank reported that green bond issuance grew from almost nothing in 2012 to over \$150 billion in 2017.<sup>17</sup> After being initially led by supra-nationals like the World Bank and International Monetary Fund, volumes have shifted to, “a wide range of issuers including corporates, banks and local authorities. While 50% of supply has come in Euro-denominated format, other bonds have been issued in USD, GBP, SEK, CAD, AUD and others including PEN” (Malaysia).<sup>18</sup> Issue currency is dominated in some regions by USD because the U.S. is the largest investor country worldwide. For instance,

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<sup>15</sup> Id.

<sup>16</sup> <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

<sup>17</sup> The World Bank at

[https://www.ifc.org/wps/wcm/connect/news\\_ext\\_content/ifc\\_external\\_corporate\\_site/news+and+events/news/perspectives/perspectives-ilc2](https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/perspectives/perspectives-ilc2)

<sup>18</sup> Reichelt, Heike and Keenan, Colleen. *The Green Bond Market: 10 years later and looking ahead*. Washington, DC: The World Bank, December 2017.

over 85% of Latin American green bonds issued since the inception of the green bond market were denominated in USD.<sup>19</sup>

C. Green power isn't always green: offsets cannot be relied upon to decrease global CO<sub>2</sub> emissions

The troubling aspect of the USD concentration is that the U.S. is the key market for many of the green products produced by some nations. One of those products is CO<sub>2</sub> offsets.

If the proposed mandate of carbon neutrality cannot be met with production cuts, then achieving that goal will have to rely upon offsets. But offsets, at best, aren't locally green (merely reflecting somebody else's green achievements) and, at worst, merely reflect unjust enrichment and outright fraud.

For instance, in February 2016, the New York State Public Service Commission issued its "Order Resetting Retail Energy Markets and Establishing Further Process," which, in part, required that companies selling renewable energy packages to consumers actually obtain such energy from such sources rather than just using offsets purchased from the market.<sup>20</sup> While the issue remains unsettled, the point is that green energy should actually come from green energy sources, not just offsets purchased from somewhere else.

The reasoning behind the requirement is sound, because it is often not clear where the offsets come from or whether they are meaningful. For instance, EU Clean Development Mechanism ("CDM") projects are granted carbon credits based on the extent to which the project is expected to result in fewer emissions than would otherwise have occurred. "Companies, therefore, have an incentive to either inflate the estimate of

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<sup>19</sup> Mullin, Keith. "LatAm green bonds - Building Momentum." *Environmental Finance* (supported by the World Bank and the Swiss Federation).

<sup>20</sup> Giannasca, N. "New York Public Service Commission's ESCO order set for preliminary injunction hearing." *Energy and Environmental Law Blog*. May 4, 2016. "...to ensure that these products contribute to greater renewable energy achievement... energy labels are based on the environmental attributes of the energy purchased by the load serving entity *and are not affected by the separate purchase of Renewable Energy Certificates ("RECs")*. Currently, to meet this requirement the ESCO must guarantee that at least 30% of the energy provided to the customer will be generated by deliverable renewable energy resources, including biomass, biogas, hydropower, solar energy, and wind energy, and will include renewable attributes." [Emphasis added.]



emissions that would have occurred without the project or claim that the project will reduce emissions by more than it actually does.”<sup>21</sup>

According to Mason (2018):

*In order to constrain firms from mischaracterizing their projects, the CDM mechanism requires third-party validation and verification before a project receives carbon credits. Third-party verification is carried out by Designated Operation Entities (“DOEs”) certified by the CDM Executive Board. Even independent third party auditors, however, may be susceptible to bribes or collusion to manipulate the results.*

*In 2008 and 2009, respectively, the UN temporarily suspended two independent organizations – Norwegian company Det Norske Veritas and Swiss firm SGS – after ‘spot checks found flaws in their methodologies’. At the time, these two companies were dominating the validation/verification market (see Szabo, 2008). Investigations showed that both companies had approved projects without sufficient review.*

*The UN inspection found one company had a flawed review process, inadequate preparation and training of their auditing staff, and an overall failure to assign auditors with the proper technical skills. The other was suspended after an inspection raised concerns about staff qualifications and the quality of its internal reviews.*

*In a follow-up review in 2009, the five largest DOEs’ validation processes were scored on an A-to-F scale. None received a score higher than a D.*<sup>22</sup>

Even when they are valid, offsets are usually issued as part of a political process to spur economic development. Using offsets judged as a valid tradeoff for development in one country as a basis for achieving carbon neutrality in another runs the risk of “robbing Peter to pay Paul,” with no net decrease in global emissions.

### **III. Energy is Provided in a Complex International Marketplace**

The point of the above is that setting a mandate before setting the rules of the game – or even some of the rules of the game – is a recipe for disaster. That disaster will relate to highly complex markets that supply inputs to every home and business in America and the world. Such a disruption could have far larger effects n economic

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<sup>21</sup> Mason, Joseph R. “Financial regulation and fraud in CO2 markets.” *Research Handbook of Investing in the Triple Bottom Line*, Sabri Boubaker, Douglas Cummings and Doc Nguyen, eds., Cheltenham: Edward Elgar, 2018, 9-28.

<sup>22</sup> Id. (Citations omitted.)

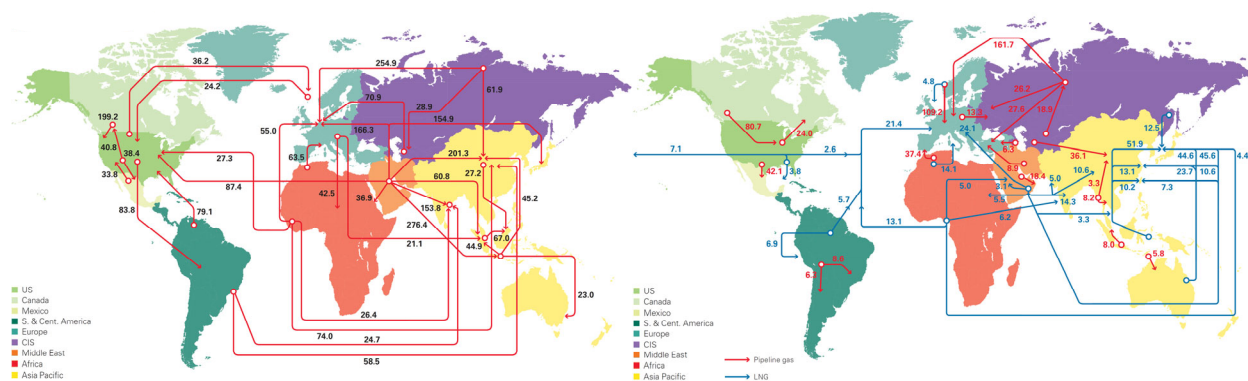
growth and green development than even the recent credit crisis. Sound rules, therefore, are more important than a blanket mandate.

The production and delivery of energy takes place within a complex system of three interacting layers: (1) the physical layer consisting of the hard assets used for production, transportation, and storage of primary energy sources, and for the transformation of one form of energy into another; (2) markets for energy that consist of interacting spot, forward, option and long-term structured transactions; and, (3) the system of national laws, regulations, and international treaties. Federal energy policy, market policy, and infrastructure policy, therefore, go hand in hand so that policies in one area affect the others.

#### A. Infrastructure policy will involve not just local, but global, decisions

Changes to Federal policy will affect not just local, but global energy infrastructure. Energy markets have evolved through history into a highly integrated, global system. In any such system, shocks such as the proposed energy mandate propagate across different geographic locations and specific commodity markets through very complicated and constantly evolving channels of transmission.

#### Major Oil (left) and Gas (right) Trade Movements, 2017



Source: BP Statistical Review of World Energy 2018

For instance, the graph above shows global oil and natural gas trade routes in 2017. If the U.S. uses less oil, those trade routes will change as other countries use the oil we produce as well as that which we choose not to import. Nearly every country views energy as a strategic resource. As a result, global treaties and trade relationships will affect such flows, necessitating negotiations and international diplomacy regarding such changes.

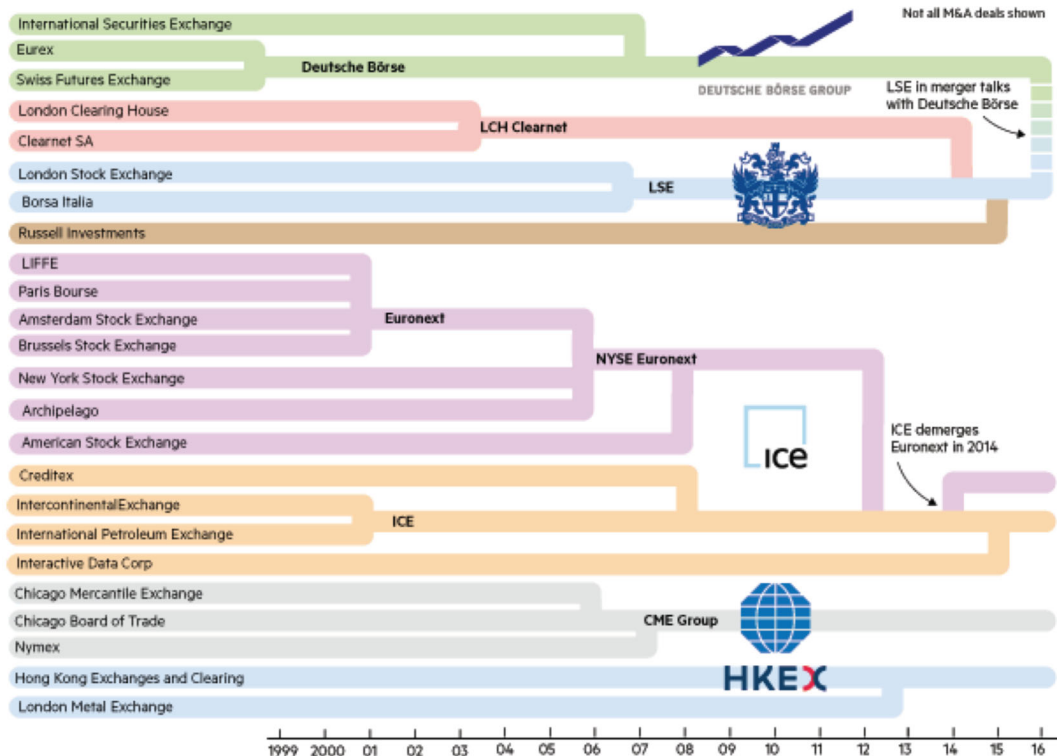
B. Market trading will require policy, too

Energy products are actively traded, in which the market transactions can be financial or physical. Financial transactions are settled in cash, while physical contracts are settled in delivery of the related commodity. Infrastructure is crucially related to delivery, in that delivery cannot occur without scheduling necessary infrastructure well in advance. Thus, there exists a fundamental interrelationship between infrastructure and markets.

In addition, there exist several market layers of derivatives products, including futures, options, and swaps that may be combined with each other in a wide variety of combinations. Those often trade in conjunction with a wide variety of weather derivatives that are associated with resource demand.

Such products are traded on organized markets around the world. Many such markets have consolidated in recent years, providing financial market efficiency by virtue of centralized trading that can more efficiently drive out price anomalies.

### Market Consolidation, 1999-2016



Source: Stafford, Phillip. "Rationale behind LSE-Deutsche Börse deal finally works." *Financial Times*, February 23, 2016.

Such consolidation, however, does not prevent market failures. Electricity markets, for instance, use complex arrays of products to trade around probable shortfalls in production and infrastructure.

Sometimes traders and markets get things wrong. For instance, last fall a trader on NASDAQ's Nordpool electricity market left the exchange holding over €100 million in trading losses.<sup>23</sup>

*Nasdaq said the size of his positions blew through several layers of safeguards designed to protect the clearing house from hefty losses.*

*The catalyst for the trading loss was a series of backfiring bets on the price difference between German and Nordic power markets, according to multiple sources in the industry. Mr Aas's trades were positioned for the gap between the two to narrow, but instead it widened sharply to a level 17 times larger than normal.*

*That move was triggered, in part, by a jump in the price of carbon allowances in Europe that have been the best performing commodity so far this year and a source of bumper profits for hedge funds and investment banks. Rising carbon prices, which are trading at a decade high, have dragged up natural gas and electricity markets in continental Europe.*

*At the same time, a forecast of wetter than previously anticipated weather in the Nordic region, where hydropower is a big contributor to electricity supplies, pushed prices on the so-called Nordpool market far lower.<sup>24</sup>*

There will be high-stakes trading in energy around the transition. Policy uncertainties, weather uncertainties, and market risks will commingle to create risky conditions in the very energy markets that U.S. consumers and businesses rely upon every day for their energy needs. A disruption to those markets can devastatingly cripple U.S. prosperity and economic security, two of the main goals of the resolution.

C. Different states will be affected differently

Disruptions to trade and costs will also be felt differently across the U.S. The mandate will require states to reduce fossil fuel use by 55% to 150% of their current consumption (see below). Such wide differentials will have varying effects upon states

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<sup>23</sup> Stafford, Philip and Sheppard, David. "Trader blows €100m hole in Nasdaq's Nordic power market," *Financial Times*. September 13, 2018.

<sup>24</sup> *Id.*

and their citizens, with states facing costlier transitions paying more of the price than others.

### Percent of Energy from Fossil Fuels, by State (2016)

Alabama	86.84%	Illinois	76.60%	Montana	86.41%	Rhode Island	88.45%
Alaska	96.75%	Indiana	89.00%	Nebraska	103.17%	South Carolina	62.23%
Arizona	83.47%	Iowa	68.50%	Nevada	75.11%	South Dakota	59.34%
Arkansas	84.30%	Kansas	80.25%	New Hampshire	87.17%	Tennessee	64.74%
California	73.52%	Kentucky	95.12%	New Jersey	70.12%	Texas	90.15%
Colorado	87.09%	Louisiana	88.99%	New Mexico	80.21%	Utah	100.42%
Connecticut	76.74%	Maine	63.87%	New York	104.04%	Vermont	70.86%
Delaware	82.23%	Maryland	61.86%	North Carolina	72.92%	Virginia	66.99%
Dist. of Col.	28.53%	Massachusetts	71.82%	North Dakota	68.17%	Washington	58.45%
Florida	81.64%	Michigan	81.86%	Ohio	113.88%	West Virginia	149.00%
Georgia	70.11%	Minnesota	73.37%	Oklahoma	79.82%	Wisconsin	77.70%
Hawaii	88.90%	Mississippi	94.87%	Oregon	91.45%	Wyoming	148.42%
Idaho	54.99%	Missouri	86.41%	Pennsylvania	61.57%	United States	80.89%

Source: U.S. Energy Information Administration at

[https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_sum/html/sum\\_btu\\_1.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_btu_1.html&sid=US)

The costs imposed upon individual states in the transition are a complex function of fossil fuel production, fossil fuel reliance, and infrastructure that supports the transition in any chosen geographical region. Any one state should not be penalized if sufficient regional infrastructure does not exist to support its own transition.

Because those costs are a complex function of local fossil fuel use as well as energy imports from other states, the sponsors of this resolution cannot, today, say which states will suffer worse losses than others and cannot, therefore, guaranty social or distributional justice (or even the basis by which such justice will be meted out).

#### IV. Summary and Conclusion

The New Deal created jobs that left a lasting imprint on American infrastructure, such as the San Francisco Bay Bridge, the Lincoln Tunnel, and the Hoover Dam. Those projects provided jobs in an environment of more than 20% unemployment, nationally. We don't have 20% unemployment today. According to Fed Vice Chairman Jerome Powell, "The U.S. economy is now in a good place. At the moment, unemployment is low, prices are near two percent inflation, so we're in a good place now."<sup>25</sup>

<sup>25</sup> Condon, Christopher; Oguh, Chibuikwe; and Boesler, Matthew. "Fed's Powell Says Economy in 'Good Place' With Low Unemployment," *Bloomberg*, February 6, 2019.

While unemployment may be high in some areas, those areas are not necessarily where any new jobs will be. Moreover, the skills required for any new jobs are not guaranteed to be associated with any skills possessed by workers displaced in the transition. Even assuming enough new jobs are created to make up for the old jobs, new jobs requiring different skills will render workers in the old sectors obsolete and leave a “lost generation” behind.

The proposed mandate is no foundation for a New Deal. The funding and aid provided in the real New Deal took place in a very different institutional environment.

The RFC – created by President Hoover as the main means of New Deal funding – was a flexible mechanism that ultimately allocated more than \$50 billion in stimulus money (about \$900 billion in 2017 dollars using a CPI-based inflator, \$2.1 trillion using the value of a consumer bundle, or \$13.2 trillion using the relative share of GDP<sup>26</sup>).

Such flexibility was crucial for success in a time of economic emergency. The flexibility was achieved by making the RFC part of the Executive branch of the United States government so that changes in the scale or scope of RFC powers could be enacted by Executive Order.

The “operation was too large to fund directly out of Federal budget allocations, so the RFC was founded as a government-owned corporation with an initial appropriation from Congress and the right to borrow more money from the public at large.”<sup>27</sup> Because it was not part of the government, it was not required to adhere to Civil Service regulations for hiring and promotion and was not subject to Congressional General Accounting Office audits.<sup>28</sup>

RFC decisions were largely made at local levels. Field office managers had authority to approve loans up to \$100,000 (about \$1.8 million in 2017 dollars using a CPI-based inflator, \$4.3 million using the value of a consumer bundle, or \$26 million

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<sup>26</sup> The change in the value of the dollar is measured from 1935 to the most recent year available, 2017.

See

[https://www.measuringworth.com/calculators/uscompare/result.php?year\\_source=1935&amount=1&year\\_result=2018](https://www.measuringworth.com/calculators/uscompare/result.php?year_source=1935&amount=1&year_result=2018).

<sup>27</sup> Id.

<sup>28</sup> Mason, Joseph R. “Reconstruction Finance Corporation Assistance to Financial Institutions and Commercial & Industrial Enterprise in the US Great Depression, 1932 – 1937.” *Resolution of Financial Distress*, Stijn Claessens, Simeon Djankov, and Ashoka Mody, eds., Washington: World Bank Press, 2001, 167-204.

using the relative share of GDP<sup>29</sup>). In practice, each field office was almost completely independent and only major problems were taken up with Washington.”<sup>30</sup>

Like a private equity firm, there were, two guiding principles. First, RFC programs only gave credit or other assistance to “reasonably sound institutions.”<sup>31</sup> Second, successful RFC programs often “took a measure of control over institutions to calm junior creditors and nurse firms to profitability and recovery over the long run.... If a field office showed a profit, everything was fine; if not, someone would be detailed from Washington to see what was the matter, and possibly a new field office manager would be appointed.”<sup>32</sup>

The government didn’t just give money away in the New Deal. It made money.

Maybe, if we give the environment the attention that the President and Congress gave the New Deal back in the 1930s, we could come to a more meaningful solution. The current mandate does not show sufficient depth of thought to set a foundation upon which to move forward.

In order to establish such a foundation, a better historical analogy might be the National Monetary Commission. Following the Financial Panic of 1907, Congress convened the Commission to study best central banking practices around the world in depth in order to make recommendations for meaningful reform. The result of that investigation, the Federal Reserve System, still stands as a major innovation that is one of the leading central banks in the world in terms of both effectiveness and stability.

Our environment deserves the same thought and consideration.

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<sup>29</sup> The change in the value of the dollar is measured from 1935 to the most recent year available, 2017.

See

[https://www.measuringworth.com/calculators/uscompare/result.php?year\\_source=1935&amount=1&year\\_result=2018](https://www.measuringworth.com/calculators/uscompare/result.php?year_source=1935&amount=1&year_result=2018).

<sup>30</sup> Mason (2001).

<sup>31</sup> Id.

<sup>32</sup> Id.