



Could Renewable Energy be a Key Driver for Economic Recovery from the COVID-19 Shutdown?

Current Legislative Initiatives in Energy Finance and Efficiency (Article #5)

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Introduction

In this fifth and final essay of the Energy Policy series, the focus will be on two recent actions that provide further impetus towards addressing climate change through a broad range of policy actions. These two events are the passage and forwarding to the Senate of H.R. 2 (“The Moving Forward Act”) and a speech by former Vice President Joe Biden on July 14 in which he addressed infrastructure, jobs, and our clean energy future.

The former Vice President’s speech was aspirational and meant to foreshadow the Democratic Party’s platform, which will be released this month. The speech used phrases such as:

- “there’s no more consequential challenge that we must meet in the next decade than the onrushing climate crisis”
- “a thriving, clean energy economy, powering new economic growth and reducing energy costs”
- “an equitable clean energy future”
- “a four-year program to four million buildings all across this country... an energy makeover”
- “an incredible opportunity, not just to build back to where we were before, but better, stronger, more resilient, and more prepared for the challenges that lie ahead” [1]

In short, the speech addressed the same themes we have discussed in this series. Biden also referenced many of the goals outlined in the report released by the House Select Committee on the Climate Crisis. It included references to upgrading infrastructure – such as highways, railroads, and electric automotive technologies – and reducing the overall carbon footprint of a restored environment. The speech was consistent not only with the Select Committee’s report but

also H.R. 2 – the Moving Forward Act - introduced by the House Transportation and Infrastructure Committee.

Passed on July 1 and forwarded to the Senate on July 20, the bill includes significant investments in affordable housing, surface transportation, broadband, water infrastructure, clean energy, and other initiatives with an estimated total cost of \$1.5 trillion. In summary, the bill argues that by “investing in families, workers, and communities across the country, we can support American manufacturing and ingenuity and create millions of jobs that cannot be exported, all while putting our country on a path toward zero carbon emissions, making communities and roads safer, and addressing long-standing disparities. It’s about investing in infrastructure that is smarter, safer, and made to last.” [2] Although the bill faces the logjam of existing pandemic response bills and upcoming 2021 fiscal year budget discussions, it does provide an even more detailed roadmap of objectives the Democratic Party hopes to achieve should it gain congressional and administrative control. For the purposes of this essay, we will focus on the policies related to energy finance and efficiency contained within the bill.

Grid Modernization

Wisely, one of the first energy topics addressed in the bill is Grid Security and Modernization. Sec. 33111 (“21st Century Power Grid”) instructs the Department of Energy, which oversees the Federal Energy Regulatory Commission (FERC), to ensure a clean energy future by modernizing energy infrastructure. This involves investing more than \$70 billion to expand renewable energy, transform our electric grid to accommodate more renewable energy, strengthen existing infrastructure, help develop an electric vehicle charging network, and support energy efficiency, weatherization, and Smart Communities infrastructure. [3]

By committing \$70 billion to a host of programs under the general heading of Grid Security and Modernization, the objective is to promote efficiency, provide for adequate storage capacity given the sometimes-intermittent nature of renewable energy entering the grid, and to provide for additional resiliency in the nationwide electric grid system. While the North American Electric Reliability Corporation (NERC), which includes Canada, was not specifically mentioned, coordination with its interconnections and regional entities including NPCC and MRO, which cover the Northeast and Midwest respectively, will be crucial to grid development.

Government Lending Programs

Surprisingly, there were relatively minor amendments to the DOE’s Loan Guarantee Program Office in Sec. 33181 (“Loan Program Office Title XVII Reform”). Most notable were the requirements to allow deferment of payment of fees charged by the program until the closing of the guaranteed loan and requirements that the Department bear the full credit subsidy cost using appropriated funds, an issue we addressed in Article #3. The omnibus budget bill passed by the House has more substantial changes including appropriations for credit subsidy for the program. Of course, the amount and restrictions imposed by the Bureau of Management and Budget on any appropriation of funds to meet subsidy costs, given their control of the interpretation and application of the Federal Credit Reform Act, will be telling. The Department of Agriculture and other agencies are also called upon to lead the country towards a carbon-free environment.

Tax and Other Credits

The bill also calls for the “Reinvigoration of the commitment to renewable energy and combatting the climate crisis by building on current successful tax incentives that promote the deployment of green energy technologies while providing new incentives for activities that reduce carbon pollution.” [4] NEMWI recently published a blog highlighting the successful use of Investment Tax Credits (ITCs) in the development of a solar panel manufacturer in Toledo, Ohio.

Three of the most popular incentives supporting renewable energy are Renewable Energy Certificates (RECs), Investment Tax Credits (ITCs) and Production Tax Credits (PTCs). RECs, which are also known as Green Tags, Renewable Energy Credits, Renewable Electricity Certificates, or Tradable Renewable Certificates (TRCs), are tradable, non-tangible energy commodities that represent proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource (renewable electricity) and was fed into the shared system of power lines which transport energy. Solar renewable energy certificates (SRECs) are RECs that are specifically generated by solar energy. RECs are not a focus of the Moving Forward Act because they are regulated by states; the Northeast and Midwest states are active supporters. However, the Moving Forward Act does establish significant extensions of both Investment Tax Credits (ITCs) and Production Tax Credits (PTCs).

Investment Tax Credits are basically a federal tax incentive for business investment. They let individuals or businesses deduct a certain percentage of investment costs from their taxes. These credits are in addition to normal allowances for depreciation.

Investment Tax Credits differ from accelerated depreciation in that they offer a percentage deduction at the time an asset is purchased. ITCs were introduced in 1962, to protect American business from emerging foreign competition. Over time, though, their basic objective has changed. Today, credits are deployed more in areas of pollution control, energy conservation, green technology, and other methods of economic development. The many flavors of ITCs include the Reforestation Credit, Rehabilitation Tax Credit, Solar Energy Investment Tax Credit, and Federal Business Energy Investment Credit, among others.

The solar Investment Tax Credit (sITC) is one of the most important federal policy mechanisms to support the growth of solar energy in the United States. Since the ITC was enacted in 2006, the U.S. solar industry has grown by more than 10,000%, creating hundreds of thousands of jobs and investing billions of dollars in the U.S. economy in the process. In the first quarter of 2020, the ITC contributed to the highest level of solar installer employment in recent history. Despite the overwhelming success and popularity of the ITC, the value of the credit is currently scheduled to start decreasing after 2019. [5]

The renewable electricity Production Tax Credit (PTC) is a per-kilowatt-hour (kWh) tax credit for electricity generated using qualified energy resources. It is mostly used by wind projects. The credit currently expires at the end of 2020, meaning only projects that began construction before the end of 2020 qualify for tax credits. Since the PTC is available for the first 10 years of production at a qualified facility, PTCs will continue to be claimed after the PTC’s stated

expiration date. The PTC has been crucial for the development of onshore wind projects. Wind energy now provides about 7.5% of the US electricity supply or 325 billion kilowatt hours, as opposed to rapidly growing solar which provided only 2% in 2019. [6]

The Moving Forward Act proposes extending the solar ITC and the PTC for six and five years respectively, with subsequent two-year phaseouts of deductible percentages. In addition, the legislation would extend incentives for carbon capture technology and offshore wind. The bill would also create an incentive for energy storage, waste energy technologies, and qualifying biogas projects. These additional eligible categories of power and fuel production are especially important to the Northeast and Midwest region, which has weather patterns necessitating adequate storage and a population density generating high levels of waste and resultant biogas. In particular, the emphasis on offshore wind energy contained in Sec. 90405 (“Extension of Energy Credit for Offshore Wind Facilities”) is especially important for the Northeast and Midwest region, as the Atlantic Coast and Great Lakes are prime wind production locations. The provision exempts offshore wind facilities that elect into the ITC (rather than the PTC) from reductions in the credit from the onshore wind facility phaseout. The credit expires for facilities that begin construction after whichever comes later: 1) the end of 2025 or 2) the end of the year that national offshore wind capacity is 3,000 MW above the capacity at the start of 2021. As discussed in earlier articles, the offshore wind energy business, because of project size, is a natural target for a revitalized DOE Loan Program Office initiative. Credit incentives may need to be extended in the future depending on the commitment of adequate amounts of equity to this technology.

The legislation would also allow renewable energy developers to receive their tax credits as direct payments, a step the industry has requested from Congress for months to help maintain funding for projects during the virus-related economic downturn.

Other Financing Incentives

Finally, the bill includes extensions and enhancements to bond financing structures, often built off of provisions contained within the American Reinvestment and Recovery Act of 2009. The bill also expands the definition of qualified income for green publicly traded partnerships. These incentives may help to induce the private equity industry and hedge funds to seek out opportunities in the renewable energy sector.

In summary, the Moving Forward Act provides a host of incentives for the renewable energy industry to act as a major driver of economic recovery post pandemic.

Energy Efficiency: Housing and Building Retrofits

The Moving Forward Act also contains several initiatives to improve energy efficiency in existing buildings and homes, which is particularly important for the Northeast Midwest region, as explained in the previous article. According to the Lawrence Berkeley National Laboratory, 70% of the Northeast’s building stock was constructed before efficiency codes existed. [7] Thus, efforts to improve energy efficiency in the region will go a long way towards reducing emissions and achieving energy savings for residents.

One portion of the bill (Division G, Title III, Subtitle B) is devoted specifically to energy efficiency. This section includes initiatives to expand funding for energy efficiency programs for homes, schools, and public buildings:

- Homes
 - **Establishment of Home Energy Savings Retrofit Rebate Program:** DOE would establish a Home Energy Savings Retrofit Rebate Program, which would provide rebates to homeowners for energy efficiency retrofits.
 - **Reauthorization of the Weatherization Assistance Program:** The Weatherization Assistance Program (WAP) uses DOE funds to “reduce energy costs for low-income households by increasing the energy efficiency of their homes, while ensuring their health and safety.” The program provides weatherization services to approximately 35,000 homes every year. A national evaluation of the program found that its weatherization services allow households to save, on average, \$283 or more every year. [8] The Moving Forward Act would reauthorize WAP for another five years and amend the definition of weatherization materials that may be installed under the program to include renewable energy technologies.
- Schools
 - **Energy retrofitting assistance for schools:** DOE would establish a clearinghouse to collect and distribute information regarding available federal programs and financing mechanisms that may be used to help initiate, develop, and finance energy efficiency, distributed generation, and energy retrofitting projects at schools. DOE would be required to actively promote these programs and financing mechanisms.
 - **Grants for energy efficiency improvements at public school facilities:** DOE would create a competitive grant program to award funding for energy improvements at public school facilities. In awarding the grants, DOE would give priority to high-need local education agencies or rural education agencies.
- Public Buildings
 - **Energy efficient public buildings:** State or local governments that receive grants from DOE for energy efficiency improvements in public buildings under the Energy Policy Act of 2005 must 1) obtain third-party verification of those improvements and 2) ensure that all contractors and subcontractors performing work with grant funds are paid prevailing wage rates.

These initiatives are a good start towards improving energy efficiency in existing buildings and homes. In addition to these programs, the Moving Forward Act establishes tax incentives for residential and commercial energy efficiency. Given the fact that low-income and elderly people often reside in older, less energy-efficient buildings with high energy costs, the energy efficiency policies outlined above should prioritize these populations.

The Northeast Midwest region should also be a focus of these policies, given the region’s old stock of housing. Within the region, energy retrofits should focus particularly on improving heating efficiency. As a result of the region’s cold climate, heating often dominates energy use

[9]. Thus, improving heating efficiency (air sealing, adding insulation, improving the energy performance of windows, etc.) can lead to significant energy savings.

Summary of Article Series

To recap the major themes of this series of articles, the overall narrative reflects the following;

1. The United States has experienced severe economic shocks in the past, especially the Great Depression, and has built a federal government infrastructure, which, with adequate modification, can help address the rebuilding of the American economy.
2. Academic studies and associated economic research concur that renewable energy and modernization/retrofit of the housing stock can be substantial drivers in achieving the necessary economic recovery from the COVID-19 pandemic.
3. A long-range plan to achieve a clean energy economy by 2035 and a carbon-free environment by 2050 has been established by the Democratic Party in a report by the House Select Committee on the Climate Crisis. While multifaceted, the overall analysis is that, at the federal level at least, existing and modestly modified existing programs can support a move to these objectives. Further, active participation with the states and municipalities can create force multipliers that expand investment and development and increase job opportunities in the renewable energy sector.
4. A review of objectives in the areas of housing modernization and energy retrofits reflects the Select Committee's strong commitment to this sector. These objectives have the added benefit of supporting environmental justice communities and low-income people impacted by substandard housing.
5. Recent legislation introduced by the House Transportation and Infrastructure Committee provides shorter term incentives and programs that can be important, if adopted, in achieving the Select Committee's goals in renewable energy, environmental issues, and housing modernization, as well as many needed improvements in general infrastructure, manufacturing and transport.
6. The ability to move these programs forward, whether as piecemeal or as a comprehensive plan, will be essential for a strong economic recovery. The Northeast and Midwest region of the United States (essentially the Industrial Belt) can benefit significantly from the adoption of these initiatives. Parallel legislation such as the "Endless Frontier Act" (S.3832) can also greatly benefit the Industrial Belt region, which can take advantage of unmatched university and college resources, an experienced manufacturing base, and a well-educated workforce.

Footnotes:

- (1) Joseph Biden Speech. July 14, 2020. <https://www.rev.com/blog/transcripts/joe-biden-clean-energy-plan-speech-transcript-july-14>

- (2) H.R. 2 “The Moving Forward Act.” <https://www.congress.gov/bill/116th-congress/house-bill/2>
- (3) H.R. 2 “The Moving Forward Act”
- (4) H.R. 2 “The Moving Forward Act”
- (5) The Solar Foundation. <https://www.thesolarfoundation.org/>
- (6) H.R. 2 “The Moving Forward Act”
- (7) Kat Friedrich. “Northeastern states map the challenges of electrification.” *GreenBiz*, August 30, 2018. <https://www.greenbiz.com/article/northeastern-states-map-challenges-electrification>
- (8) “Weatherization Assistance Program.” U.S. Department of Energy. <https://www.energy.gov/eere/wap/weatherization-assistance-program>
- (9) Allyson Wendt. “The Challenge of Existing Homes: Retrofitting for Dramatic Energy Savings.” *BuildingGreen*. <https://www.buildinggreen.com/feature/challenge-existing-homes-retrofitting-dramatic-energy-savings>