



Green Stimulus and Recovery Series

US STIMULUS STRATEGY

Recommendations for a Zero-Carbon Economic Recovery

AUTHORS

Ben Holland, Greg Hopkins, Uday Varadarajan, Martha Campbell, Courtney Feldman, Angela Whitney, Julia Meisel, Jessie Lund, Annabelle Sullivan, Jacob Corvidae, Jamie Mandel, Britta Gross, Dave Mullaney, Carla Frisch



Table of Contents

Executive Summary.....	3
Introduction.....	5
Build Back Better Buildings.....	6
Enhance Access and Electrify Mobility.....	9
Debt Forgiveness for a Sustainable Recovery.....	13
Economic Recovery Facility: Financing Low- and Zero-Carbon Activities.....	17
Conclusion.....	20



Green Stimulus and Recovery Series

Rocky Mountain Institute’s Green Stimulus and Recovery Series presents our insights on how countries around the globe can use stimulus and recovery investment to build back better from the COVID-19 crisis and advance us toward a cleaner, healthier, more just, and more resilient future for the one planet we all share. The reports provide a framework for planning and evaluating stimulus efforts along with recommendations for green stimulus and recovery investments and actions specific to the United States, China, India, sub-Saharan Africa, and the Caribbean that can help optimize efforts to rebuild in these countries and regions.



Executive Summary

In response to the economic fallout from the Coronavirus outbreak, Congress acted swiftly in providing critical fiscal support to American households, business owners, healthcare providers, and key industries. Congress' actions have provided much-needed aid to many in need.

However, the consequences of COVID-19 continue to ripple through the US economy, leaving many industries with uncertain futures. The past decade has seen significant growth in clean-tech, advanced buildings, and sustainable transportation—industries that are poised to grow further and provide significant job opportunities to a diverse group of Americans. However, these and other industries with great potential to decarbonize our economy face a challenging road ahead.

As Congress considers another stimulus package, Rocky Mountain Institute (RMI) recommends that our nation's leaders consider providing financial assistance for industries, technologies, and practices that are proven to improve public health, decrease costs, create enduring job opportunities, and reduce greenhouse gas emissions.

To jumpstart the economy, address equity, and advance a low- or zero-carbon future for the United States, RMI encourages policymakers to pursue the following key programs:

Build Back Better Buildings

A comprehensive national building retrofit program can catalyze residential and commercial building improvements at an unprecedented scale—putting money back into consumer pockets, creating new jobs, and improving equity and health outcomes for communities disproportionately affected by COVID-19 and the systemic challenges it is exposing. The program would include four components: mobilize the workforce to increase the energy retrofit rate tenfold, accelerate construction productivity breakthroughs, expand access to capital for all (especially underserved market segments), and bolster the workforce and project pipelines.



Enhance Access and Electrify Mobility

The United States needs a comprehensive approach for decarbonizing transportation that includes strategies for supporting the growth of the electric vehicle market while prioritizing pedestrians, cyclists, and public transit over the automobile. Such an approach would increase equitable access and convenience of mobility, while maximizing the opportunities for emissions reductions from this sector.

RMI's proposal would involve funding to build and improve infrastructure to enhance modes of transportation including bicycling, walking, and public transit that have lower or no emissions, including prioritizing “complete streets” programs. In parallel, it would provide the investment necessary to propel the US transportation system into an electric future, by launching a nationwide deployment of charging infrastructure for personal and commercial electric vehicles and accelerating domestic electric vehicle and battery manufacturing to support that transition.

Debt Forgiveness for a Sustainable Recovery

Linking verifiable, additional emissions reductions to debt forgiveness could be a simple way to simultaneously ease the financial consequences of COVID on industries and workers while building a more economically and environmentally resilient future. A competitive process to provide such relief requiring a plan for worker transition support could provide economy-wide incentives to spur investment that can help support a more just, financially secure, and sustainable recovery.

Economic Recovery Facility for Financing Low- and Zero-Carbon Activities

The Economic Recovery Facility would accelerate the clean recovery for all Americans by providing necessary financial tools and know-how and by crowding in private investment to multiply public dollars for clean projects across the country. It creates a federal “bank” focused on clean projects with unique financing needs.

Assuming the facility is capitalized at \$5 billion, RMI estimates that it would create 388,000 clean jobs in the first eight years and reduce energy costs for nearly 800,000 homes and businesses during the same period based on the impacts of the [Connecticut Green Bank](#).





Introduction

In the ten years since the previous financial crisis, clean energy industries, technologies, and practices have grown to great prominence in the United States. Thanks in part to emergency funds and seed investments made available through the American Recovery and Reinvestment Act (ARRA), clean tech, energy efficiency, and sustainable transportation solutions are helping transition our economy to a low-carbon future. However, the current COVID-19 pandemic raises a great deal of uncertainty for future progress, as the country heads into the unknown territory of another economic crisis.

More so than the industries, it is individual Americans that face the most significant challenges and uncertainty in the months and years to come. In just three months, over 40 million Americans lost their jobs, as the US unemployment rate rose to levels not seen since World War II. This reality should remind us that any stimulus recommendations we put forth should ultimately reduce costs and increase equitable access to clean energy, better quality housing, and sustainable mobility options.

RMI recently released a paper, *Global Stimulus Principles: The Economy We Build Should Not Be the Same Economy We Decarbonize*, that provides a framework for planning and evaluating future stimulus efforts. This report emphasizes four priorities: create jobs and grow the economy; support public health and reduce air pollution; enhance economic, energy, and climate resilience; and decarbonize.

There are several possibilities for US federal policy that can address recovery from the societal and economic impacts of COVID-19 and climate change at the same time. Based on potential scale of impact and urgency, RMI has identified top four concrete policy recommendations for both short-term stimulus and long-term recovery efforts, which can be used to inform federal policy as well as state- or municipal-level implementation of federal funds.

We must not only rebuild from this crisis, but also build back better, to create a cleaner, more resilient, and more fair and humane economy and society.





1 Build Back Better Buildings

Recommendations for a Zero-Carbon Economic Recovery

The COVID-19 pandemic continues to create enormous job losses in the US construction and building trade sector (**975,000** in April alone) and in building services (**259,000**) as on-site work is disrupted. The economic downturn is also exacerbating financial hardship for the **37 million** lower-income households that were already struggling with energy insecurity, **25 million** of which reported foregoing necessities like food and medicine to pay energy bills. These energy burdens disproportionately affect **communities of color**.

Meanwhile, even before COVID-19, new research from the Massachusetts Institute of Technology found that emissions from burning fossil fuels in residential and commercial buildings are contributing to more premature deaths in the United States associated with air pollution (**over 28,000 per year**) than any other sector: transportation, industry, and power generation. And on top of that, our aging building stock is responsible for 32 percent of national greenhouse gas emissions. Yet we are not decarbonizing buildings fast enough to reach climate targets.

Federal leadership and investment are needed to improve our homes and buildings through cost-effective and readily deployable retrofits (efficiency and electrification) that can address all of these issues. Doing so will enhance quality of life for Americans—improving conditions for when we shelter in place and beyond. Such investment can be channeled in ways to engage more citizens in building back better, create quality domestic jobs, put money back in the pockets of consumers, improve equity and public health outcomes, and make our communities more resilient in the face of future crises.

The Basics

A comprehensive, federally led Build Back Better Buildings program can catalyze residential and commercial building improvements at an unprecedented national scale, by leveraging existing federal program infrastructure while also supporting innovative new approaches.



Depending on the funding allocated, RMI estimates that the program described has the potential to improve 16 to 24 million residential units (touching 41 to 62 million American lives) and 11 to 17 billion square feet of commercial space, creating 1.9 to 2.8 million jobs in critical sectors of the economy, generating \$98 to \$148 billion in lifetime energy savings, and mitigating a third to half a billion metric tons of carbon emissions.

The Details

The Build Back Better Buildings Program would comprise four main pillars:

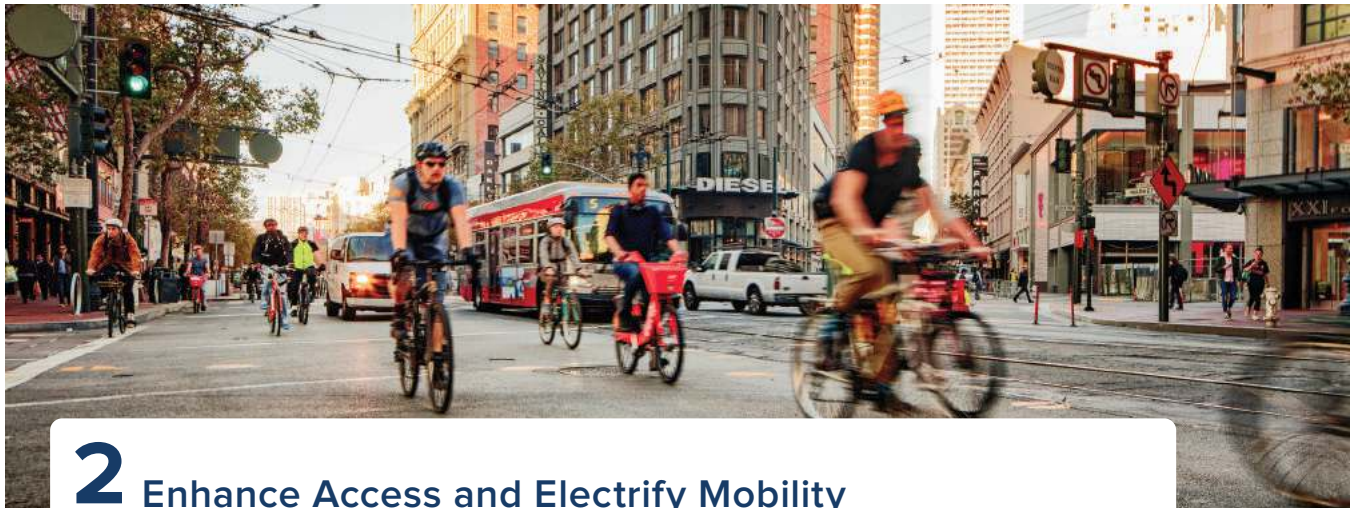
- 1. Mobilize the workforce to increase the energy retrofit rate tenfold:** Congress should authorize and fund a mass-mobilization effort within communities to drive up the building retrofit rate tenfold through city- and regionally based campaigns, partnering with the appropriate federal government agencies, to put thousands to work at a local level:
 - Increase funding to AmeriCorps to mobilize a diverse talent pool to improve community assets and infrastructure through simple technology deployment (e.g., weatherization or solarize campaigns, Habitat for Humanity type projects where non-construction labor works hand-in-hand with the construction workforce).
 - Increase funding to states and municipalities through the State Energy Program, Community Development Block Grant, and Energy Efficiency & Conservation Block Grant programs to support high-performance upgrades of hospitals, schools, and public buildings.
 - Launch a program similar to the 2009 Car Allowance Rebate System “Cash for Clunkers” program that financially incentivizes people to replace home combustion appliances (e.g., gas stoves and furnaces) with clean electric appliances (e.g., induction stoves and heat pumps) to reduce respiratory health problems and COVID-19 risks, which disproportionately impact lower-income households and communities of color. Provide incentives on a sliding scale to provide stronger support for lower-income households, and avoid large subsidies to wealthier households.
- 2. Accelerate construction productivity breakthroughs:** Invest in high-efficiency technologies and the construction processes of the future while keeping the US construction and manufacturing sectors competitive in global markets. Expand R&D funding and create special tax incentives to promote accelerated technology adoption, and work with cities and states to streamline permitting and codes for both existing and new building applications:
 - Implement **advanced building construction** (ABC), which combines high-performance technologies with off-site prefabrication techniques that deliver breakthroughs in productivity. ABC factories can readily put new workers on assembly lines safely and at scale.
 - Direct the US Department of Housing and Urban Development (HUD) to work with states to develop streamlined procurement policies for HUD projects to procure ABC technologies, unlocking innovative delivery models and economies of scale.
 - Direct all federal construction procurement to include specific requests for off-site manufactured solutions to support the development and scaling of ABC approaches.



- 3. Expand access to capital for all:** Ensure that funding and financing vehicles are widely available to support building improvements across all facets of society by expanding successful federal programs, targeting new resources to underserved market segments, and empowering utilities to act as a well-positioned backbone for communities (leveraging their rapidly deployable financing and implementation infrastructure):
- Increase funding to the Department of Energy’s low-income Weatherization Assistance Program (WAP), to improve low-income housing, and expand **WAP measures** to explicitly include and encourage electrification for direct health benefits.
 - Increase funding for HUD’s 9 percent Low-Income Housing Tax Credit (LIHTC) projects and require them to be all-electric and zero energy ready to increase the supply of much-needed high-performance affordable housing.
 - Direct the Federal Housing Finance Agency (FHFA) to require **Fannie Mae** and **Freddie Mac** to include their home energy improvement financing (i.e., green mortgage) products as a default option in all mortgages, expanding access to more low- to moderate-income households in line with FHFA-mandated **Duty to Serve** goals.
 - Allocate funding to triple utility incentives for high-impact efficiency and electrification measures and scale up utility on-bill financing programs to finance more market-rate multifamily and commercial projects off-balance sheet.
 - Establish the Economic Recovery Facility (see *fourth RMI recommendation*) and dedicate a portion for building efficiency and electrification upgrades specifically for underserved lower-income communities and small businesses hit hard by COVID, including in partnership with utilities through on-bill financing programs and with C-PACE programs.
- 4. Bolster the workforce and project pipelines:** Direct the Department of Energy and relevant agencies to develop and deliver standardized guidance, technical assistance, and financial resources for state agencies. These resources should support readily deployable interventions for periods when on-site work is disrupted by stay-at-home orders or other crises:
- Free online workforce training programs for clean energy upgrades, including measures to connect a diverse workforce with relevant job opportunities, and orient trainings to ABC technologies and approaches.
 - **Virtual home energy and resilience assessment tools** to build up project pipelines.
 - Best practice strategies to retrofit schools and commercial buildings while they are empty for safer, faster, less-costly upgrades.
 - Communications campaigns aimed at giving homeowners guidance and DIY tips to improve the indoor air



quality and performance of their homes when sheltering in place.



2 Enhance Access and Electrify Mobility

Recommendations for a Zero-Carbon Economic Recovery

The transportation sector significantly impacts climate, public health, and equity. Our personal mobility, as well as the movement of goods and services, directly connects to our daily lives in very tangible ways. In recent years, the transportation sector overtook the electricity sector as the largest contributor to US greenhouse gas emissions. The movement of people and goods also directly affects air quality, increasing concentrations of ozone and particulate matter, which exacerbate COVID-19 symptoms. Our personal mobility options are rife with clear disparities in access and affordability. Transportation costs account for up to 30 percent of total income for lower-income households, millions of Americans are defaulting on car loans, and many of those that cannot afford a car continue to suffer from underfunded public transit services. Reducing transportation sector emissions will be difficult, and no one single strategy or technology is likely to achieve deep reductions in a meaningful timeframe. Therefore, the United States must tackle transportation emissions through a comprehensive strategy that enhances mobility alternatives, in addition to electrifying the personal and commercial vehicle stock. Such a strategy will create new jobs, improve health and equitable access to mobility, and buoy an emerging industry with the potential to significantly reduce carbon emissions.

As vehicle electrification alone, though absolutely critical, will not achieve all the needed carbon reductions, the United States should reform its strategy for funding transportation to prioritize pedestrians, cyclists, and public transit. Doing so will produce considerably more jobs than the status quo of highway expansions. In fact, lessons from the American Recovery and Reinvestment Act show that a dollar spent on public transportation produces 70 percent more job hours than a dollar spent on highways. Furthermore, investing in street repairs and redesigns that enhance public transit, shared mobility, walking, and biking has been shown to produce additional jobs.

Non-automotive solutions will also not address all needs. In parallel, Congress should prioritize financial support for the electric vehicle (EV) industry, which will face significant challenges in an economic downturn. Over the past ten years since receiving critical early-stage investments from the American Recovery and Reinvestment Act (ARRA), the US EV industry has grown into a key economic force and jobs creator. In 2019, there were more than



250,000 people employed in jobs related to the EV industry.

Many of those jobs are at risk in this current crisis, as is our country's position as a global leader in this emerging industry. Withdrawing from investments in a nascent market now would pose an existential threat to the nation's competitiveness vis-à-vis foreign EV and battery manufacturing. Swift action is required to ensure this industry continues to thrive into the future.

The Basics

Reform the US strategy for funding transportation to prioritize pedestrians, cyclists, and public transit. For public transit and the remaining US vehicle fleet, scale the burgeoning EV revolution with the charging infrastructure and manufacturing support needed to make the United States a leader.

The Details

The decarbonization of transportation will require three critical efforts:

- 1. Improve access to mobility options:** Congress should provide funding to improve and build infrastructure to enhance the availability, convenience, and safety of public transit, alternative mobility services, walking, and cycling. For road infrastructure investments, Congress should refrain from funding costly road or highway expansions and focus instead on the existing backlog of road maintenance and repairs.

A focus on “complete streets” and land use reforms that increase access to and performance of mobility alternatives will create a significant amount of jobs, while reorienting the transportation network around cost-effective, low-carbon, and equitable mobility solutions:

- Reform highway funding through the National Highway Performance Program and the Surface Transportation Block Grant program to require that investments are made on repairs, which creates 16 percent more jobs than expansions.
- Increase funding allocation in the Surface Transportation Block Grant Program for “complete streets” programs, such as bus priority lanes, protected bike lanes, and sidewalk expansions, particularly important during COVID, as outlined in the World Resources Institute's recently published stimulus recommendations.
- Direct state transportation departments to reassess and replace the “level of service” (LOS) metric for evaluating the street impacts of new housing and commercial developments. The LOS metric typically results in street capacity expansions meant to enable free-flow of single-occupancy vehicles rather than prioritizing transit, pedestrian, and multimodal projects.
- Allocate funding through the Community Development Block Grant (CBDG) program for local governments that commit to zoning reform that eliminates exclusionary zoning, removes minimum parking requirements, and increases transit-supportive, mixed-use development
- Create a public transit fund that subsidizes agencies to provide complementary mobility services that mitigate the first- and last-mile access problems that are worsening due to reduced transit service during COVID. Such a program could provide funding for **bikeshare** systems and coordinate with new micro-mobility services that



have exhibited a strong relationship with transit ridership.

2. Accelerate EV and battery manufacturing: US automakers face a significant downturn in business. This economic crisis comes at a time when over 7 million American car owners were already **over 90 days** behind on their car payments. Considering the job loss from the coronavirus, industry experts anticipate reduced electric vehicle **sales** in the near term. As a result, traditional automakers could decrease their investments in EV manufacturing without support. Employ aggressive strategies to incentivize the purchase of vehicles.

Past downturns have shown that automakers essentially fund the manufacturing of, and retooling for, EVs by ramping up sales of SUVs and other internal combustion vehicles. Unless Congress provides incentives for EV manufacturing, we should not expect any different outcome from this crisis. Therefore, congress should ensure that automakers continue to retool their facilities for increased EV production.

We must also acknowledge the need for evenhanded support. In addition to established Detroit automakers, Congress should support EV-only manufacturers such as Tesla, Proterra, Nikola, and Rivian that are critical to the future of electrification. To ensure both production and marketing of EVs, Congress should consider the following:

- Provide \$17 billion in funding for retooling of automotive manufacturing facilities for electric vehicle production, building on existing proposals.
- Expand the oversubscribed Department of Transportation's Low- or Zero-Emission Vehicle Grant Program for American-manufactured vehicles, and transition other fleets and critical infrastructure.
- Establish a direct rebate or financial incentive to automakers manufacturing EVs and batteries domestically.





- Provide tax incentives for building manufacturing facilities.

3. Launch a nationwide deployment of charging infrastructure for personal and commercial electric vehicles:

To support electrification in the personal vehicle and commercial vehicle markets, Congress should authorize and fund a nationwide network of charging stations to support the growth of the personal and commercial electric vehicle market.

This infrastructure should satisfy the charging requirements of light-, medium-, and heavy-duty vehicles. Lack of EV charging infrastructure is a **key barrier** for electrifying medium- and heavy-duty commercial vehicles, and enabling the electrification of these vehicles would help eliminate diesel emissions from freight activities, which would have **profound positive health impacts** for historically disadvantaged communities living near ports, warehouses, and highways.

A deployment of this scale will produce immediate and enduring jobs in communities across the country. According to analysis by the American Energy Economy, an investment of \$1 billion in public EV charging infrastructure would create between 6,000 and 15,000 jobs to support the installation of 23,000 to 100,000 stations. RMI's analysis indicates over 5 million public charging stations are needed to fully support the growth of the EV market.

- Allocate \$20 billion in funding for public charging infrastructure for personal and commercial vehicles. Congress should prioritize charging infrastructure for fleets that will maximize usage and ensure a comparatively lower return on investment. Provide federal funding to states for the installation of necessary electrical infrastructure upgrades to operate charging stations and encourage the direct engagement of all utilities.
- Convert the *Alternative Fuel Vehicle Refueling Property Tax Credit* (30C) into a refundable tax credit, eliminate the \$30,000 limitation to account for the increased costs of DC fast chargers, and extend the tax credit through the end of 2025.
- Provide grants for the infrastructure necessary to support electric medium- and heavy-duty freight and delivery trucks.
- Provide grants for the installation of charging stations in multi-unit buildings (including apartments and condominiums), to ensure equitable access to home charging in our cities.



3 Debt Forgiveness for a Sustainable Recovery

Recommendations for a Zero-Carbon Economic Recovery

The economic crisis has not only hit critical energy-intensive industries particularly hard, but also stranded communities and the workforce in the wake of the COVID crisis. Utilities that entered this crisis in a strong financial position face declining sales volume, shifting load patterns, and unrecovered costs that could result in liquidity challenges and rate increases just when communities and businesses can least afford them. Clean energy employment has **dropped 17 percent since April**, amounting to almost 600,000 total jobs lost with ethnic and gender minorities hit hardest and accounting for 31 percent of total job losses.

Financing support for hard-hit sectors funded through the CARES Act may see significant deployment in these industries. Therefore, we anticipate that the entities that contribute to the bulk of US carbon pollution are likely to emerge from this crisis with additional debt issued or otherwise held by the Federal Reserve or other government agency.

Debt relief contingent on emissions reductions creates a smart means of recovery. This approach focuses on supporting companies and workers who are feeling the pain now by forgiving or reducing debt burdens while also providing an incentive for companies to decarbonize and invest in resilient clean energy infrastructure. Debt relief can be an incentive-based, transition-first approach to create an emissions price without a shock. It puts financial resources and agency in the hands of those impacted—both by this crisis and any potential future crises—and gives them time to develop partnerships to enable a just transition.

The result can be a more sustainable and financially resilient economy with the potential to meaningfully mitigate economy-wide exposure to climate risk. Moreover, debt forgiveness provides an inherent flexibility to support vulnerable companies and a potential **6.8 million workers in the energy industry** over a sustained period of time due to its capacity to be applied retroactively and in conjunction with immediate relief packages. Low- and middle-

US Stimulus Strategy



income families are often left the most vulnerable to monthly price fluctuations from fossil fuels, utility bills for heating and cooling, and a lack of access to better equipment and technologies, creating energy insecurity. Yet, clean energy portfolios and electrification have been found to lower monthly utility savings by almost \$800 annually and provide long-term economic, health, and resilience benefits while ensuring more equitable access to resources and technology. If such an approach was augmented by dedicated loan guarantees or financing to bring down debt costs for executing such a transition, it could be a way to drive both rapid recovery and decarbonization. In effect, debt relief creates a means to nudge energy-intensive industries to invest in more sustainable ways and pivot their business models to enable more resilient infrastructure with the potential to avert future crises.

Forgiveness could be also implemented in phases, starting by focusing on providing debt relief to the most vulnerable sectors and communities with significant debt already held by dedicated government programs. For example, the US Department of Agriculture (USDA) has provided nearly \$200 billion in guarantees and direct loans for rural housing, businesses, communities, and rural electric cooperatives.

Starting with debt relief for rural cooperatives could take advantage of a large existing federal financing program to reduce electricity costs for the over 90 percent of economically disadvantaged counties across the country they serve. This could also provide incentives to cooperatives to deploy renewable resources across their service territories, which cover 56 percent of US land mass.

Similarly, the DOE loan guarantee program could be used to extend this approach to all US electric utilities. With falling renewable and battery storage costs, we estimate that debt relief of \$10/tCO₂e over 10 years could drive rapid decarbonization of the electricity sector, reducing US greenhouse gas emissions by as much as 2 GtCO₂e/y by 2030 at a total cost to government of \$200 billion—all while lowering electricity costs across the country to support economic recovery.





The Basics

The federal government would forgive or reduce debt by an amount dependent on the (verifiable and additional) emissions reductions achieved over time. Debt forgiveness for emissions reductions could be provided retroactively, providing an additional benefit to the stimulus relief already provided.

Forgiveness for each ton of emissions abated would be contingent on continuing to provide the same value of goods or services and enabling a fair workforce transition. As opposed to traditional carbon pricing regimes and clean energy subsidies, this approach is focused on incentivizing entities currently emitting carbon to abate those emissions by allowing them to access federal financial relief. This provides an opportunity for energy-intensive industries to obtain new and clean infrastructure to transition toward more resilient and sustainable pathways forward. Since energy-intensive industries are likely to use relief financing either directly or indirectly through federal bond purchases, an incentive tied to debt or loan programs held by the government would be effectively available economy-wide.

The Details

Debt forgiveness based on emissions reductions:

Under the debt forgiveness model, any entity with debt held or guaranteed by the Federal Reserve, a federal agency, or federal financing authority may petition the Secretary of Treasury to reduce its repayment of principal and interest by an amount proportional to its planned CO₂-equivalent emissions reductions relative to a 2019 baseline.

This approach creates an effective carbon price but targets financial resources at the communities and companies that are feeling the most vulnerable now and subsequently have the capacity to reduce their emissions. Its cost is likely to be modest due to the significant cost decreases in clean energy and this approach could drive rapid economy-wide decarbonization without picking winners.

- The program will be administered by the Secretary of Treasury, the Department of Energy (DOE), and the Environmental Protection Agency.
- Petitions for debt forgiveness must specify how the entity and its partners will achieve CO₂e emissions reductions while delivering equivalent goods and services and planning for a fair transition for workers.
- Entities may reapply for repayment relief every two years. Approved repayment reductions are subject to recapture with an additional penalty if emissions reductions cannot be certified.
- Emissions reductions must be realized directly by the entity and its partners and may not be achieved through offsets or unbundled Renewable Energy Certificates (RECs).
- A reverse auction mechanism could also be used to arrive at a price that most efficiently incentivizes applications for repayment relief. This would effectively modify and expand on the DOE Section 1705 Loan Program to include utility participation to deliver immediate relief to customers and act as an opportunity to achieve sustainable,



long-term emissions reductions.

Loan guarantees to help finance CO₂e emissions reductions:

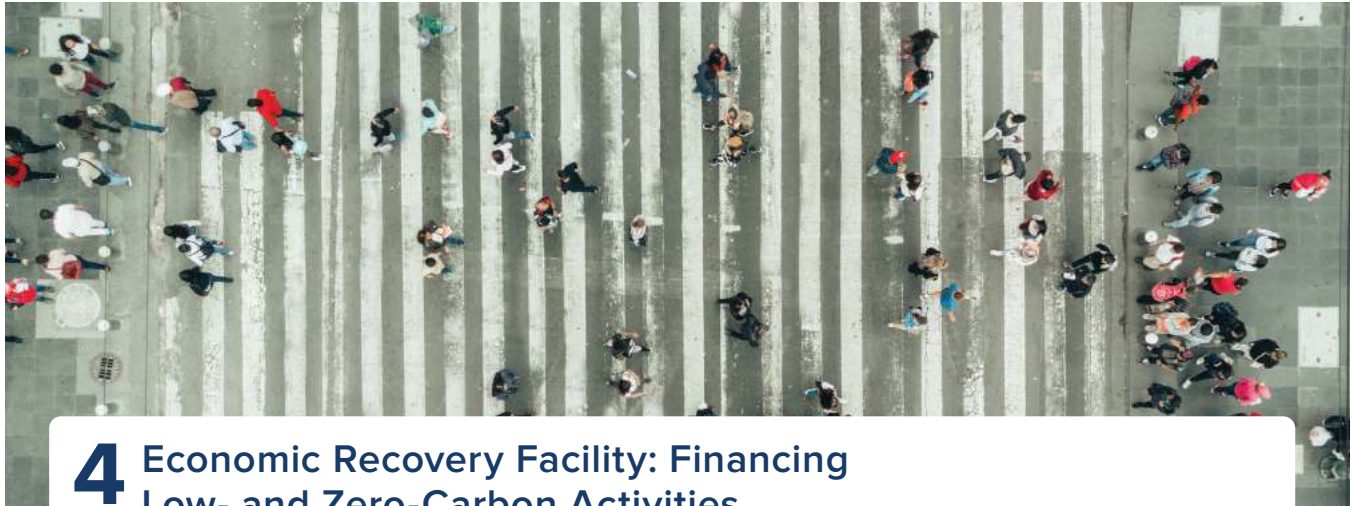
By expanding authority under Title XVII of the Energy Policy Act of 2005, the DOE's existing Loan Programs Office (LPO) could offer partial or full loan guarantees in coordination with debt forgiveness, with a process for measuring and verifying for emissions reductions funded by the program.

- Utilities could use this financing much as they would ratepayer-backed securitization to avoid customer rate hikes associated with deferred COVID cost recovery and provide immediate savings from early retirement of uneconomic carbon-intensive assets.
- Regulated investor-owned utilities could submit financing orders to regulatory commissions requesting approval to respond to DOE's request for proposals and apply for a direct loan or a loan guarantee. This would back a bond to be repaid through a dedicated bill rider sized to cover the estimated unrecovered costs associated with retirement of a carbon-emitting plant and provide transition support for plant employees.
- The utility would submit a resource procurement plan to the commission to replace the services provided by retired assets with carbon-free power. If approved, the commission would use its rate authority to create a rider on ratepayer bills that will repay the bond principal and interest over time. The government-backed bond will





receive a high rating with low yields and can create savings for ratepayers in the near and long term.



4 Economic Recovery Facility: Financing Low- and Zero-Carbon Activities

Recommendations for a Zero-Carbon Economic Recovery

Despite low interest rates and available credit, some critical clean infrastructure and energy projects are not being financed—especially those needed in underserved communities. The US recovery strategy must include a focus on financing projects that benefit Americans who have traditionally been left behind. This can be done at a reduced cost to taxpayers.

Projects of new and cutting-edge clean technologies often have trouble accessing investment because they require non-traditional financing structures; these projects need lower risk profiles (longer loan terms or reduced interest rates) to appeal to investors. An Economic Recovery Facility could finance projects in transportation, energy efficiency, renewable energy, industrial decarbonization, waste management, retirement of uneconomic coal plants, and bioenergy, while creating jobs.

Creating jobs by investing in clean projects is an approach **supported by three out of four Americans**. This facility would follow the “green bank” model that is already proven at the state and local level (Connecticut, New York, Rhode Island, Montgomery County Maryland) and in other countries (Australia, the UK). Further, it stems from the concept of the National Climate Bank Act of 2019 (S.2057) and (H.R.5416), and has had **support and analysis** from the Coalition for Green Capital.

The Basics

The Economic Recovery Facility would accelerate the clean recovery for all Americans by providing necessary financial tools and know-how and by crowding in private investment to multiply public dollars for clean projects across the country. It would create a federal entity dedicated to financing clean energy and infrastructure.

Based on the impacts of the **Connecticut Green Bank**, RMI analysis indicates that, capitalized at \$5 billion, the facility would create 388,000 clean jobs in the first eight years and reduce the energy cost for nearly 800,000 homes and businesses during the same period. However, a larger amount of capitalization could result in even greater impact. The National Climate Bank Act of 2019, for instance, **proposes \$35 billion** in initial capitalization, which suggests a sevenfold multiplication of these estimated employment and energy-cost impacts.



Mechanics of the Economic Recovery Facility



¹“Products and Tools” portion of the graphic attributed to: *Green and Resilience Banks: How the Green Investment Bank Model Can Play a Role in Scaling Up Climate Finance in Emerging Markets*, Natural Resources Defense Council, Coalition for Green Capital, and Climate Finance Advisors, November 2016.



The Details

We propose three concrete steps to establish and operationalize the Economic Recovery Facility:

- 1. Direct the US Treasury to provide seed capitalization for an Economic Recovery Facility:** With initial seed funding, the Economic Recovery Facility would finance all future operating costs and investments from the interest charged from project debt and/or the return on equity investments.
 - The facility would be governed by a public or private independent board consisting of relevant cabinet secretaries (Treasury, Energy, etc.) and private sector members.
 - Based on the impacts of the **Connecticut Green Bank**, RMI estimates that with an initial \$5 billion in seed funding, the Economic Recovery Facility could leverage an additional \$32.5 billion over eight years. This means that for every dollar of federal investment, private investors would provide \$6.5 toward clean projects. Furthermore, this public-private partnership will lower the cost of capital and help technologies scale over time, particularly in historically disadvantaged communities.
- 2. Address project risk, cost-effectiveness, and technical difficulty:** Many renewable energy, energy efficiency, and other clean projects are commercially viable but unable to attract favorable loan terms, with short tenures or high interest rates. This can be because the technology is new or unfamiliar to the investor, or because the customer base the technology will serve has poor credit.

Small project size can be another reason rooftop solar and energy efficiency projects get overlooked by investors; these deals, while profitable, are labor intensive to structure one by one. The Economic Recovery Facility would address these investment risks through the **following means:**

- Provide loan guarantees or loan loss reserves to mitigate the risk to private investors who lend to green projects.
- Bundle multiple projects that would not be attractive to private investors individually due to their small size. Aggregating loans lowers risk to lenders through diversification and allows for easier scaling, thus attracting investment, especially in communities that are underinvested in.
- Standardize these new types of transactions as they become ubiquitous. Standardization will result in faster and less labor-intensive transactions. This will help gradually remove barriers to investment and increase investor appetite.



3. Support projects that benefit impacted communities: The facility could scale up financing for homes and businesses most in need of lowering the cost of energy and transportation.

- Finance efficiency and electrification upgrades, specifically in market segments that otherwise have limited access to capital for such projects (i.e., homes and buildings in underserved, lower-income communities and those hardest hit by COVID-19, as well as small businesses).
- Finance market-rate multifamily or commercial renewable energy and energy efficiency projects off-balance sheet.
- Finance electric buses for transit operators with high-ridership service in pollution-prone communities.



Conclusion

The full effects of the COVID-19 pandemic may not be fully understood for years to come. However, we are already bearing witness to the catastrophic impact that this virus and its economic fallout pose for the industries, technologies, and practices that are most critical for achieving a sustainable US economy. Given the many competing interests that will inevitably seek stimulus support across the energy sector, US leadership must act decisively to ensure that the clean energy progress we have made to date continues to accelerate in the years to come.

The stimulus programs recommended here are by no means meant to be all-inclusive of the full breadth of programs capable of driving a clean energy future, nor should the absence of other potential options suggest a dismissal of other opportunities. Rather, these ideas reflect Rocky Mountain Institute's current perspectives on urgent projects with potential for near-term job growth and long-term potential for decarbonizing the US economy.



22830 Two Rivers Road
Basalt, CO 81621 USA
www.rmi.org

© June 2020 RMI. All rights reserved. Rocky Mountain Institute® and RMI® are registered trademarks