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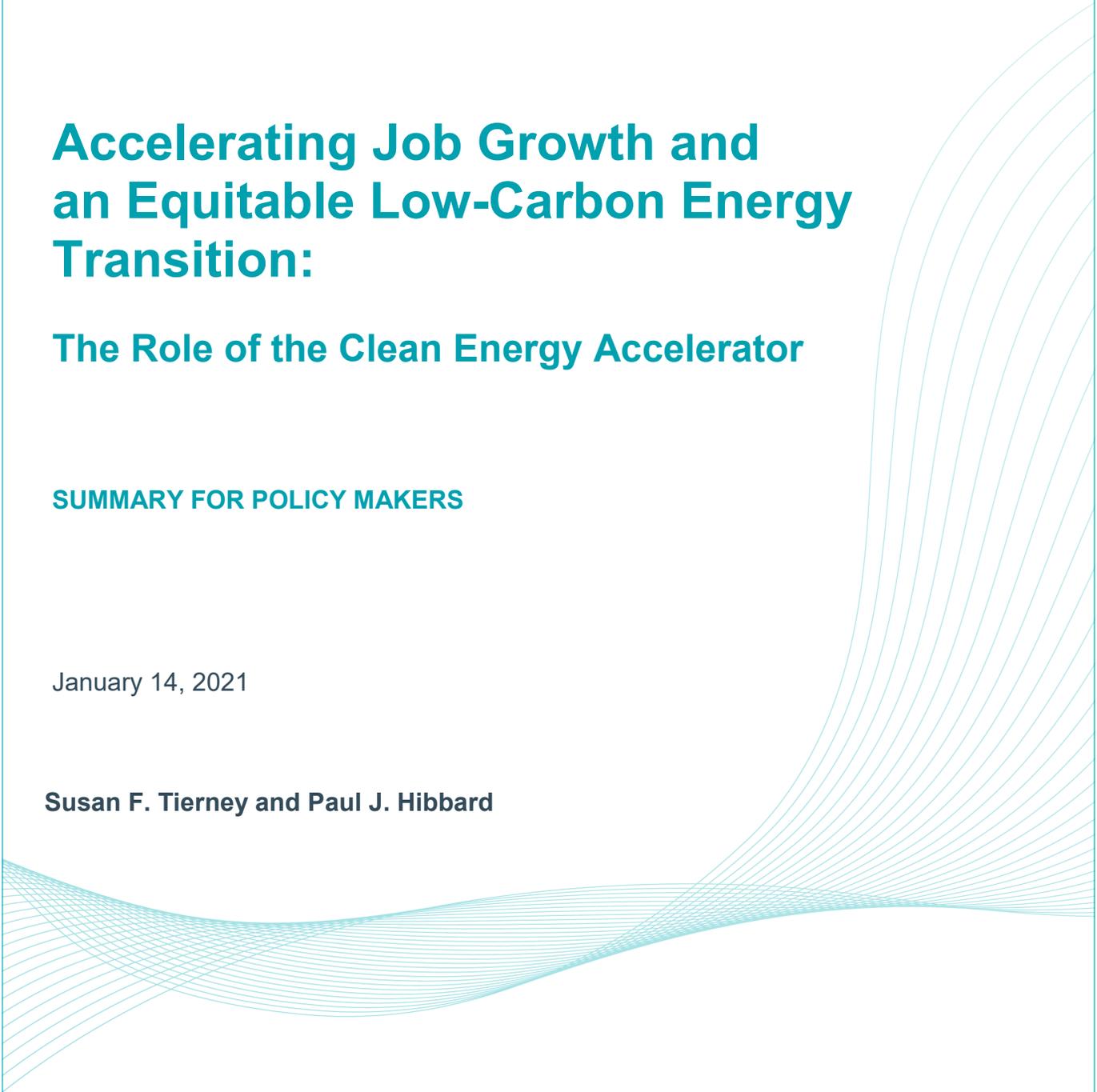
Accelerating Job Growth and an Equitable Low-Carbon Energy Transition:

The Role of the Clean Energy Accelerator

SUMMARY FOR POLICY MAKERS

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Summary for Policy Makers

Federal policy makers face decisions about whether to endorse and support a national green bank as part of economic recovery package to help address the economic and other crises that presently overwhelm the American people. This paper aims to inform that question.

Like many nations, the United States faces several simultaneous and urgent crises: the global pandemic; the devastation to so many workers, small and large business owners, subnational governments, non-profits, and sectors of the economy; systemic and pervasive racial injustice and social inequities; and the damaging impacts of climate change. Countless articles and analyses have been written about these crises. Some combination of impacts from them has been directly experienced in personal ways by every American, with the harshest impacts befalling marginalized, disadvantaged, low income populations and communities of color.

Earlier this year, the federal government acted relatively quickly to inject dollars into the bank accounts of individuals and small businesses around the country. That provided an important but temporary financial safety net. Even with further relief provided by Congress at the end of 2020, much more help is needed to get the economy back on track.

As Congress and the new President move beyond the relief stages of economic packages into more structural investment to create jobs and drive economic recovery, opportunities exist to also use those federal dollars to address the many crises in the near term, and to lay the groundwork for long-term benefits to the U.S. economy, health, and welfare. This could be done by targeting stimulus investments towards supporting an equitable transition of the nation's energy sector to low- and zero-carbon technologies. On the campaign trail, President-Elect Biden pledged to spend \$2 trillion on green infrastructure over his first term.

As part of a 2020 study conducted a few months into the pandemic, a team of distinguished economists (including Nobel Laureate Joseph Stiglitz and Lord Nicholas Stern) surveyed over 230 economic and financial experts about the effectiveness of different economic stimulus approaches. Taking into consideration such factors as speed of implementation, long-term economic-multiplier effects, and climate impact potential, the survey indicated a strong preference for five categories of investments in clean energy: physical clean energy infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean energy R&D.¹

Multiple policy options exist to stimulate energy-related job creation and investment, including tax incentives for various types of investments, formula-based grant programs, and programs like loan guarantees. These options involve trade-offs, such as in their ability to move funding to recipients quickly (e.g., tax incentives, formula grants, categorical grants like weatherization) versus targeting certain types of investment over longer time periods (e.g., Department of Energy loan guarantees for zero-carbon technologies; ARPA-E project funding).

¹ More specifically, these investment clusters were: (1) "clean physical infrastructure investment in the form of renewable energy assets, storage (including hydrogen), grid modernisation and CCS technology;" (2) "building efficiency spending for renovations and retrofits including improved insulation, heating, and domestic energy storage systems;" (3) "investment in education and training to address immediate unemployment from COVID-19 and structural shifts from decarbonization;" (4) "natural capital investment for ecosystem resilience and regeneration including restoration of carbon-rich habitats and climate-friendly agriculture;" and (5) "clean R&D spending." Cameron Hepburn, Brian O'Callaghan, Nicholas Stern, Joseph Stiglitz and Dimitri Zenghelis, "Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?" Oxford Review of Economic Policy, Smith School Working Paper, May 4, 2020.

During the last economic stimulus program that included large energy-related funding (i.e., through the American Recovery and Reinvestment Act of 2009 (“ARRA”)), virtually all of these policy tools were used, along with a preference for action through existing federal authorities to avoid the need for new government programs. The operative phrase for the ARRA package at the time was “targeted, timely and temporary.”

This time, there’s the opportunity to add “transformative” to the “targeted, timely, and temporary” strategy for a 2021 stimulus approach. The lessons learned from the ARRA — “be opportunistic,” “target, target, target,” “keep it simple,” “keep your eye on the prize”² — would be supported by including a new national green bank as part of an economic stimulus package aimed at recovery and growth.

The idea would be for the federal government to authorize and provide seed funding for the “Clean Energy and Sustainability Accelerator” (or “Accelerator,” as the national green bank is called in two bills passed in 2020 by the House of Representatives). Congress would fund the Accelerator, a new, non-profit corporation with the mandate to combat “the causes and effects of climate change through the rapid deployment of mature technologies and scaling of new technologies” that reduce greenhouse gas (“GHG”) emissions in the U.S. The Accelerator’s own charter would empower it to do so by fast-tracking — *accelerating* — the pace of clean-energy technology deployment, economic development and equitable energy transitions.

The Accelerator fits the economic-stimulus profile of being targeted, timely, temporary, and transformative, while also being opportunistic, simple, and strategically focused on the prize.

- **Targeted:** In the near term, the Accelerator would focus on getting money rapidly into the economy by supporting projects that implement mature clean-energy technologies. This could be done by the Accelerator quickly channeling funding to existing state and local green banks to lend to projects already in their queues, thus moving dollars into local economies and delivering jobs, economic activity, GHG emission reductions, and equitable outcomes. The Accelerator can also directly solicit and review project proposals that reduce pollution in disadvantaged and environmental-justice communities, create job and ownership opportunities for the local workforce and residents, and leverage private capital that would not otherwise be attracted to such projects. It can target projects with high GHG emissions reduction per dollar invested, and with other high payoff in terms of employment multipliers and

The Clean Energy and Sustainability Accelerator: The Basics

The Accelerator’s mission would be to:

- (1) provide support for financing investment in low/zero-emission technologies and processes;
- (2) catalyze (but not compete with) private capital to support clean technologies;
- (3) enable climate-impacted communities to benefit from projects/investments;
- (4) provide support for workers and communities as part of the low-carbon energy transition;
- (5) support the creation of green banks in the U.S.; and
- (6) hasten the transition to a clean energy economy while lowering costs where possible.

The Accelerator would move funds into the market in two ways:

- directly, by financing or investing in eligible projects that reduce GHG emissions, through a number of financial instruments;
- indirectly, by providing capital and other assistance to state or local green banks which in turn lend to their own projects.

In making investments and assisting in financing for projects that reduce GHG emissions, the Accelerator would prioritize equitable transitions, environmental justice, and the creation of good jobs.

The Accelerator would be an independent non-profit organization with its own board. Its Congressional funding provisions would require public accountability and transparency consistent with its public mission.

² Joseph E. Aldy, “A Preliminary Assessment of the American Recovery and Reinvestment Act’s Clean Energy Package,” *Review of Environmental Economics and Policy*, 7, 136-155, January 2013.

equity outcomes. It would ensure that 40 percent of its investment activity is directed to serve climate-impacted communities. It can target different approaches to suit the needs of different states and regions.

- **Timely and opportunistic:** The legislative language to establish the Accelerator is ready, having been twice approved by the House. It could be introduced again in the House and the Senate. President-Elect Biden has pledged to accelerate investment related to infrastructure and a clean and equitable energy economy; the Accelerator fits this profile. It builds on the lessons learned from the states' decade of experience in successfully setting up and operating green banks, in relying upon public funds to leverage private-sector dollars (with green bank investments of \$1.5 billion since 2011 leveraging an additional \$3.8 billion in private co-investment, for a total of \$5.3 billion).³ That experience provides a sound template for how to invest in good projects with positive financial outcomes, which can inform how the non-profit Accelerator could carry out its mandates and do so at greater scale. With interest rates currently so low, the federal government can afford to support an aggressive infusion of stimulus dollars into infrastructure, according to leading economic experts.⁴
- **Temporary and Simple:** Federal action is streamlined, temporary and simple, because once Congress authorizes and provides initial funding for the Accelerator, the next and only subsequent federal action is for the President to nominate three members of the Accelerator's board—no more than two of which may be from the same party—and then for the Senate to confirm those nominations. Thereafter, the Accelerator's implementation moves into the non-profit sector. After the initial seed-

**Accelerator Funded Project Example #1:
Retrofitting and modernizing homes and communities where low and moderate income households live**

Accelerator funding can expand the market for privately funded and publicly funded delivery of efficiency measures and investments, rooftop solar projects, community solar, storage resources, and fuel switching appliances and heating systems in underserved sectors and climate-impacted communities.

Benefits include lower energy bills and reduced energy burden for households in communities of color, improved health, and job creation where work is most needed.

Projects can be designed to provide opportunities for low and moderate income households to participate in owning a share of facilities, thus leveraging public and private dollars to stimulate increased economic activity, employment, and wealth creation. The use of near-term dollars funded through the economic stimulus program can lead to on-going GHG emissions reduction in these communities.

**Accelerator Funded Project Example #2:
Funding "smart surfacing" to reduce urban heat islands, lower energy bills, mitigate heat-related public health impacts, and reduce GHG emissions**

Urban populations are feeling the effects of climate change. One example is the presence of "heat islands" in cities, which are created by the prevalence of dark surfaces (dark rooftops, pavement, buildings) and the lack of vegetation to absorb heat and pollution, and provide shade.

The impact is significant: Dark surfaces make affected areas of cities almost ten degrees (F) warmer on average than other urban areas, with the highest impacts felt in the most densely populated (and often low-income) inner-city neighborhoods. Heat islands degrade the health and comfort of those that work and live in cities, and increase deaths and hospitalization.

Investments to lighten surfaces in urban areas include simple actions (such as planting trees, and painting roofs and parking lots) as well as investments in solar panels. The Accelerator can provide financing assistance and help bring together lenders, building owners, city/state agencies, and contractors in the relevant sectors. These projects can provide an immediate injection of dollars in inner city neighborhoods to generate economic activity, create local jobs, decrease residents' energy costs, reduce mortality and health impacts, lower GHG emissions, and make cities more livable.

³ American Green Bank Consortium, "Green Banks in the United States: 2020 US Green Bank Annual Industry Report," 2020.

⁴ Jason Furman and Lawrence Summers, "DISCUSSION DRAFT A Reconsideration of Fiscal Policy in the Era of Low Interest Rates," November 30, 2020 (hereafter "Furman and Summers, 2020").

funding of the Accelerator by the federal government, its work would not require further appropriations and upon the end of its 30-year life, the Accelerator would return funds to the federal government and the American people. During that period, the Accelerator's investments would be transparent, with regular reporting to Congress.

- **Strategic and transformative:** In addition to providing near-term employment and economic stimulus, Congressional authorization and seed funding of the Accelerator could help keep the eye on the combined prize of economic recovery and growth, job creation, and an equitable transition to a low-carbon economy. The pandemic-induced economic crisis — however devastating its widespread impacts — creates a moment to invest federal dollars to stimulate the economy while also addressing racial injustice, public health, and the climate crisis. Experience has shown that clean-energy investments have positive and significant macroeconomic and job multipliers.⁵ Directing economic stimulus dollar to accelerate the nation's equitable and economically sustainable transition to a clean energy economy with lower GHG emissions is something that the public, states, communities, and corporations support.⁶ And there are opportunities to invest in clean-energy projects in every state.

**Accelerator Funded Project Example #3:
Financing the electrification of municipal bus fleets**

Electrification of medium/heavy-duty vehicles will be needed to meet decarbonization targets, yet will be difficult to accomplish due to cost and other barriers to adoption. Public bus fleets present a unique opportunity for the use of Accelerator funds to speed up vehicle electrification and spur domestic economic activity in the vehicle industry, in a way that promises to save money for municipalities and broadly distribute air quality benefits across states and municipalities.

Buses are ideal candidates for electrification, because: (1) they operate in so many urban areas; (2) they transport children and low-income populations who are often more susceptible to damage from air pollution; (3) they tend to operate for limited periods so that battery charging can occur at other times; and (4) when not in operation, they are generally located in a common place, allowing for centralized charging infrastructure.

The Accelerator's financings and investments can support electric transitions in municipal bus fleets, helping to overcome cost barriers that would otherwise deter uptake, and boosting demand for the supply of new electrification technologies that can be produced domestically. The Accelerator can support a coordinated and integrated approach to accelerating the process of bus fleet electrification. With support and expertise, the Accelerator could overcome many of the administrative barriers to system integration and advantageous pricing. Investments could be targeted to ensure benefits accrue in urban and rural settings, and across municipalities that are geographically and economically diverse.

This white paper discusses the potential role of a new national green bank — specifically, the Clean Energy and Sustainable Accelerator — in addressing the nation's economic, social justice and climate crises. The paper provides an overview of the Accelerator concept, including its mandate and mission, how it would be organized and governed, how it would conduct its work, and how it would differ from other state and local green banks in the United States. The paper describes the types of problems that the Accelerator is designed to tackle, and how it can address them. Finally, the paper provides examples of ways that the Accelerator can stimulate new, near-term clean-energy investment, jobs, equitable transitions, and progress in reducing GHG emissions through immediate action and investments.

This paper focuses on near-term economic stimulus outcomes that could result from the Accelerator. A companion paper by The Brattle Group looks at what the Accelerator could accomplish over its longer life.

⁵ See Analysis Group state-specific stimulus studies for Advanced Energy Economy, summarized in the Appendix.

⁶ "Two-thirds (66%) of Americans want future federal stimulus packages to include creating new jobs and new technologies to reduce future global warming." Jon Krosnick and Bo MaInnis, "Climate Insights 2020 Surveying American Public Opinion on Climate Change and the Environment," Resources for the Future, September 23, 2020.

Acknowledgments

This is an independent white paper prepared by Susan Tierney and Paul Hibbard of Analysis Group at the request of the Coalition for Green Capital.

The Tierney/Hibbard paper is part of a project that included a companion paper (“Clean Energy and Sustainability Accelerator: Opportunities for Long-Term Deployment”) prepared by a team from the Brattle Group that involved Frank Graves, Bob Mudge, Roger Lueken, and Tess Counts. The Analysis Group paper focuses on the institutional features of a new Accelerator, and how it would fit into the economic, equity and clean-energy and climate objectives of an economic recovery package. The Brattle Group paper focuses on the types of financings and investments that the Accelerator could select and administer in both in the near term and over the longer term to help debottleneck the market for clean energy deployment.

This Tierney/Hibbard paper reflects their independent research, analysis and judgment, and not those of the Coalition for Green Capital, Brattle Group, others at Analysis Group, or their other affiliations.

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Sue Tierney is a Senior Advisor at Analysis Group, where she has consulted to energy suppliers and consumers, grid operators, state regulatory commissions, other government agencies, tribes, environmental groups, utilities, foundations, financial institutions, universities, and other organizations. Previously, she served as the Assistant Secretary for Policy at the U.S. Department of Energy, and in Massachusetts she was Secretary of Environmental Affairs, Commissioner at the Department of Public Utilities, and Executive Director of the Energy Facilities Siting Council. She chairs the Board of the ClimateWorks Foundation and the Board of Resources for the Future. She is a trustee of the Barr Foundation, and a board member at the World Resources Institute and the Energy Foundation. She serves on several committees of the National Academies of Sciences, Engineering and Medicine: The Future of the Electric Grid; and Accelerating Decarbonization in the United States. She recently chaired the Department of Energy’s Electricity Advisory Committee, chairs the External Advisory Council of the National Renewable Energy Lab, and served on the U.S. Secretary of Energy Advisory Board. She earned her Ph.D. and Masters of Regional Planning at Cornell University.

Paul Hibbard is a Principal in Analysis Group’s Boston office, and has public and private sector experience in energy and environmental technologies, economics, market structures, and policy. Mr. Hibbard's work has addressed the economic implications of new public policy programs; the impacts of infrastructure development options on market pricing and ratepayer costs; the evolution of electricity market structures and wholesale rate design; utility ratemaking practices; and the design and transfer of US federal and state emission-control programs to other countries. He served as chairman of the Massachusetts Department of Public Utilities, was a member of the Massachusetts Energy Facilities Siting Board, and has testified before Congress, state legislatures, federal and state regulatory agencies, and courts. Mr. Hibbard also has authored numerous articles, white papers, and reports for journals, foundations, commissions, and industry organizations.

About Analysis Group

Analysis Group is one of the largest international economics consulting firms, with over 1,000 professionals across 14 offices in North America, Europe, and Asia. Since 1981, Analysis Group has provided expertise in economics, finance, analytics, and strategy to top law firms, Fortune Global 500 companies, government agencies, and other clients. The firm’s energy and environment practice area is distinguished by its expertise in economics, finance, market modeling and analysis, regulatory and policy analysis, and infrastructure development. Analysis Group’s consultants have worked for a wide variety of clients, including energy suppliers, energy consumers, utilities, regulatory commissions, other federal and state agencies, tribal governments, power system operators, foundations, financial institutions, start-up companies, and others.