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# INNOVATIVE FINANCING FOR INFRASTRUCTURE AND ENERGY JOB TRAINING

## PARTNERSHIPS TO EXPAND ECONOMIC MOBILITY, COMPETITIVENESS, AND SUSTAINABILITY

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## INTRODUCTION

In the U.S., an estimated $30 trillion in transportation, water, and real estate assets could be reconfigured and repurposed to power a sustainable and competitive economy — a daunting but necessary transition to expand our power sources overall as demand grows, protect the nation's families and businesses from power outages while reducing energy and transportation costs, ensure safe and affordable water supplies, reduce flooding risks and other hazards, and also reduce greenhouse gas pollution.[109]

However, America's existing workforce development apparatus is fragmented, underfunded, siloed, and not designed to meet the

109 Roberto Bocca, "How to Raise the $30 Trillion Investment Needed for 'Hard-to-Abate' Sectors to Reach Net Zero," World Economic Forum, December 18, 2024, https://www.weforum.org/stories/2024/12/net-zero-transition-requires-a-30-trillion-investment-for-hard-to-abate-sectors/.

demand for workers to fill the jobs that will power this transition — or ensure that these new jobs are good jobs.

Major investments at the local, tribal, state, and federal levels of government, and complementary large-scale investments by the private sector, trade unions, and philanthropy, are providing the U.S. with the capital to not only renew our infrastructure but also launch a national workforce agenda focused on overcoming silos and expanding opportunity in labor-intensive, climate-critical sectors. Smartly structured capital can help realign incentives and encourage more productive collaboration across sectors by shifting the focus to *outcomes* rather than fragmented outputs — creating new paths to invest in upskilling current workers to transition into in-demand, quality jobs to upgrade the nation's energy systems and other infrastructure, and in apprenticeship programs for the next generation.

The required scale is significant: A 2023 Brookings Institution analysis estimates that the U.S. economy will need 32 million new workers over the next decade in infrastructure occupations alone; nearly half that total is simply to replace the millions of workers projected to retire or otherwise leave these skilled, in-demand occupations.[110] Further analysis on the future of work[111] indicates that these occupations are also among the *least* likely to be disrupted, let alone automated, by broader utilization of artificial intelligence and other emerging technologies in the coming years.

And yet: Though many of these roles are colloquially described as "green" jobs, the definition of a "green" job[112] remains somewhat elastic; further, it is worth pointing out that not every "green" job is a good job. There are indications that without new steps to ensure job quality nationwide, some occupations will be "deskilled," and wages kept low, in the transition to a sustainable economy. Clearly, we must do better.[113]

Many of the most in-demand jobs being created by major infrastructure investments have a clear green component *and* are relatively well paid, especially when compared to other jobs accessible to workers without a college degree.[114] Welding jobs are a telling

110 Joseph W. Kane, "The Incredible Shrinking Infrastructure Workforce — and What to Do About It," Brookings Institution, May 11, 2023, https://www.brookings.edu/articles/the-incredible-shrinking-infrastructure-workforce-and-what-to-do-about-it/.

111 Molly Kinder, Mark Muro, Sifan Liu, and Xavier de Souza Briggs, "Generative AI, the American Worker, and the Future of Work," Brookings Institution, October 10, 2024, https://www.brookings.edu/articles/generative-ai-the-american-worker-and-the-future-of-work/.

112 "Growing Quality Green Jobs," Jobs for the Future, n.d., https://info.jff.org/growing-quality-green-jobs.

113 Lewis Silkin, "Deskilling: What Are the Historical, Societal, and Legal Implications?" Future of Work Hub, April 28, 2021, https://www.futureofworkhub.info/explainers/2021/4/28/deskilling-what-are-the-historical-societal-and-legal-implications.

114 U.S. Bureau of Labor Statistics, "Career Outlook — Green Growth: Employment Projections in Environmentally Focused Occupations," April 2022, https://www.bls.gov/careeroutlook/2022/data-on-display/green-growth.htm.

example, requiring specialized skills and offering an average annual wage of $52,640.[115] As more of our infrastructure requires build-out or retrofitting for climate adaptation or mitigation, many similar occupations are poised for growth: electricians, line installers, pipe fitters, and more. Such jobs require training beyond a high school diploma — often called "middle skills" — but not a bachelor's degree. In this paper, we focus on this broad category of jobs, many in the skilled trades, rather than other kinds of good jobs — such as in science and engineering occupations — that require a bachelor's degree or more advanced degrees.

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Given troubling long-run trends that point to stagnant economic mobility[116] in the U.S. — particularly among workers who do not have a college degree[117] — there is a growing imperative to invest in new pathways to the prosperity that comes with stable, quality, and well-paid work.

Transforming the American workforce system requires multiple solutions and additional funding, but who invests and under what terms matters enormously. Funding not only *fuels activity* but also *structures relationships among actors*, especially when they co-invest — rethinking who pays, who benefits, and who takes on risk.

The public-private partnership-driven approach we will outline — one referred to in this chapter as "talent finance" and defined by support for training and upskilling via shared accountability and repayable financing — can and should be part of how we train and deploy a green workforce, given our ambitions and status quo gaps and inequities. This approach can scale up in ways that promote more equitable, accountable, and effective delivery of results for workers, employers, training providers, and supportive service providers alike.

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115 U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2023:
51-4121 Welders, Cutters, Solderers, and Brazers," https://www.bls.gov/oes/current/oes514121.htm.

116 Ember Smith, Ariel Gelrud Shiro, Christopher Pulliam, and Richard V. Reeves, "Stuck on the Ladder: Wealth Mobility Is Low and Decreases with Age," Brookings Institution, June 29, 2022, https://www.brookings.edu/articles/stuck-on-the-ladder-wealth-mobility-is-low-and-decreases-with-age/.

117 Robert E. Scott and David Cooper, "Almost Two-Thirds of People in the Labor Force Do Not Have a College Degree," Economic Policy Institute, March 30, 2016, https://www.epi.org/publication/almost-two-thirds-of-people-in-the-labor-force-do-not-have-a-college-degree.

## A CRITICAL PROBLEM: MISALIGNED INCENTIVES

Much of the estimated $1.25 trillion appropriated through the 2021 Infrastructure Investment and Jobs Act and the 2022 Inflation Reduction Act is for work in the built environment, such as developing a large number of renewable energy and energy storage facilities and making transportation and water infrastructure more resilient.[118] A 2023 Brookings analysis identified $75 billion across

54 programs[119] funded by the two acts that either target green workforce development directly or are flexible enough to include it (another $490 billion can invest in the infrastructure workforce more broadly). The authorization of such significant public funding does not mean it will all be spent on workforce training. But this historic availability of public capital exposes a growing problem with the status quo: The U.S. currently does not have enough workers in these roles, nor does it have enough accessible pathways for workers to pursue these jobs.

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For decades, the U.S. has underinvested in a more balanced and market-responsive mix of postsecondary programs — including applied skills training, sometimes called career and technical education (CTE).[120] Unlike the widely available earn-while-you-learn applied skills opportunities in other advanced economies, only 519,000 Americans are enrolled in a registered apprenticeship program at any given time.[121] To put this in perspective, the U.S. spends about 50 times more on college

118 Here, we refer both to newly built infrastructure assets constructed to more demanding standards and to repaired or retrofits that enhance resilience to climate-related and other shocks.

119 Joseph W. Kane, Adie Tomer, and Anna Singer, “Unlocking New Federal Infrastructure Funding to Drive Green Workforce Development,” Brookings Institution, October 12, 2023, https://www.brookings.edu/articles/unlocking-new-federal-infrastructure-funding-to-drive-green-workforce-development/.

120 Xavier de Souza Briggs, Joseph W. Kane, Rachel Korberg, and John D. Porcari, “We Haven’t Yet Decided That Climate and Infrastructure Jobs Are for Everyone, or Even That We’ll Have Enough Workers,” Brookings Institution, September 1, 2023, https://www.brookings.edu/articles/we-havent-yet-decided-that-climate-and-infrastructure-jobs-are-for-everyone-or-even-that-well-have-enough-workers/.

121 U.S. Department of Labor, Apprenticeship USA, “Apprentice Population Dashboard,” accessed April 19, 2024, https://www.apprenticeship.gov/data-and-statistics/apprentice-population-dashboard.

degrees than applied skills training[122] and has the lowest per capita job training expenditures[123] of any industrialized nation.

Where the U.S. offers high-quality applied skills training, there are typically barriers to entry that disproportionately affect historically disadvantaged and underserved groups, especially women and people of color. For example, many of the highly selective apprenticeship programs for skilled trades associated with the clean energy transition have entrance exams, require preexisting industry knowledge, do not assist prospective trainees with living expenses during pre-apprenticeship preparation, and do not offer supportive services during the program.[124]

> **...the institutions responsible for planning and producing capital projects — such as infrastructure agencies or privately owned utility companies — have rarely been expected to invest in the workforce needed for that production.**

The $3 billion federal Workforce Innovation and Opportunity Act (WIOA) illustrates these challenges: Despite being the main source of goals, operating rules, and funding for the U.S. public workforce system, its training programs reach just a fraction of 1% of the U.S. worker population each year, and 75% of said programs reported incomplete data to evaluators.[125]

Meanwhile, organized labor plays a key role that is relevant to middle-skill infrastructure jobs: Building trades unions collectively invest about $2 billion per year in training. But in many parts of the country, union density and participation are low, and the traditional funding model for union-led training was not designed to anticipate and scale to meet dramatic growth in demand — a classic, timing-of-money financing problem now in stark relief as we figure out how to grow our energy and infrastructure workforce.[126] We need complements and supplements to these traditional sources and arrangements.

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122 Robert I. Lerman, "Scaling Apprenticeship to Increase Human Capital," Aspen Institute, February 4, 2019, https://www.aspeninstitute.org/longform/expanding-economic-opportunity-for-more-americans/scaling-apprenticeship-to-increase-human-capital/.

123 Harry J. Holzer, "Should the Federal Government Spend More on Workforce Development?" Brookings Institution, May 23, 2023, https://www.brookings.edu/articles/should-the-federal-government-spend-more-on-workforce-development/.

124 Robert Lerman, Pamela Loprest, and Daniel Kuehn, "Training for Jobs of the Future: Improving Access, Certifying Skills, and Expanding Apprenticeship," October 2019, Urban Institute, https://www.urban.org/sites/default/files/publication/101123/training_for_jobs_of_the_future_1.pdf.

125 David Deming, Alexis Gable, Rachel Lipson, and Arkādijs Zvaigzne, "Navigating Public Job Training," Project on Workforce, March 8, 2023, https://www.pw.hks.harvard.edu/post/publicjobtraining.

126 Franklin Apprenticeships, "The Role of Trade Unions in the U.S. Apprenticeship Arena: An Interview with Dr. John Gaal, Director of Training and Workforce Development, STL-KC Carpenters Regional Council," n.d., https://www.franklinapprenticeships.com/role-trade-unions-us-apprenticeship-arena/.

Finally, systems that aim for effectiveness and equity should be smart, promoting continuous learning based on meaningful evidence. But our system's current assumptions and incentives provide far less information than we should have about effectively placing workers[127] in quality jobs with economic mobility.[128] Successfully scaling apprenticeships, CTE programs, and other types of "middle-skill" pathways in the U.S. requires addressing long-entrenched norms and expectations, especially the comparatively high fragmentation of the U.S. system — and the scarcity of interdependent relationships among employers, employees, and job seekers — than in many other industrialized nations.

Capital projects in the built environment represent perhaps the biggest opportunity for middle-skill jobs, but the U.S. does not offer supportive, accessible, and affordable training at anywhere near the scale needed. There are many reasons for this supply and demand misalignment.

First, *accountability* — holding employers and training providers responsible for achieving meaningful results — is often elusive because workforce development funding is rarely provided by employers or linked to the most important and strategic worker outcomes, even though our public workforce system requires extensive performance measurement and onerous formal reporting.

Second — and relatedly — there are few *incentives* for employers to engage and co-invest to help meet their industry's skill needs, an absence made more conspicuous by the lack of adequate targeted public sector funding. As a result, training providers struggle to evolve their programs to meet current or future labor market demands, and the heavy reliance on public funding makes effective programs vulnerable to the ups and downs of annual budget cycles.

Third, and more specific to infrastructure, the institutions responsible for planning and producing capital projects — such as infrastructure agencies or privately owned utility companies — have rarely been expected to invest in the workforce needed for that production. Capital planning for projects proceeds with the assumption that the right skilled workforce will materialize[129] to complete them — without a comparable investment in making sure that such a workforce exists. This is another crucial disconnect between those charged with pursuing

127 Marcela Escobari, Ian Seyal, and Carlos Daboin Contreras, "Moving Up: Promoting Workers' Upward Mobility Using Network Analysis," Brookings Institution, June 14, 2021, https://www.brookings.edu/articles/moving-up-promoting-workers-upward-mobility-in-a-time-of-change/.

128 Kenneth Fortson, Dana Rotz, and Paul Burkander, "Providing Public Workforce Services to Job Seekers: 30-Month Impact Findings on the WIA Adult and Dislocated Worker Programs," Mathematica Policy Research, May 30, 2017, https://mathematica.org/publications/providing-public-workforce-services-to-job-seekers-30-month-impact-findings-on-the-wia-adult.

129 Briggs et al., "We Haven't Yet Decided."

a broadly supported national goal and those charged with preparing the workers essential to achieving that goal.

In other words, the actors in the U.S. workforce development ecosystem do not have the sort of coordination and mutual accountability that exist in other advanced economies: Employers passively rely on the talent produced by education and training programs, for which workers are generally expected to pay on their own, with minimal employer or government assistance.

Too many workers therefore shoulder the risks of paying for a training program and taking time away from a current job to complete it. Though there is little systematic data available[130] on how learner-workers cover costs of training and living expenses for noncredit programs, available data on liquid assets for low- to middle-income Americans,[131] together with analyses of subgroups of students and trainees, suggests many use credit cards and high-interest loans to fill the funding gap. The cost for workers to self-fund such skills training could be as much as $500 million annually, according to an Institute for Education Sciences 2021 analysis of short-duration occupational training programs.[132]

More than cost, however, it is factors largely outside of the worker's control — such as a lack of access to affordable child care, transportation, or credit to cover tuition — that appear to be the biggest impediments to program enrollment or completion.[133] Women and people of color are disproportionately impacted by these barriers, exacerbating the economic mobility challenge for historically marginalized groups. A 2024 study found that quality jobs in energy efficiency in particular "are the most challenging for women and people of color to access."[134]

A more successful workforce development system would share responsibility and accountability across all stakeholders, building relationships among actors by meeting the needs of employers,

130 Di Xu, Ben Castleman, Kelli Bird, Sabrina Solanki, and Michael Cooper, "Noncredit Workforce Training Programs Are Very Popular. We Know Next to Nothing about Them," Brookings Institution, May 23, 2023, https://www.brookings.edu/articles/noncredit-workforce-training-programs-are-very-popular-we-know-next-to-nothing-about-them/.

131 Consumer Financial Protection Bureau, Office of Research Publication, "Emergency Savings and Financial Security: Insights from the Making Ends Meet Survey and Consumer Credit Panel," March 23, 2022, https://www.consumerfinance.gov/data-research/research-reports/emergency-savings-financial-security-insights-from-making-ends-meet-survey-and-consumer-credit-panel/.

132 Institute of Education Sciences, "The Effects of Expanding Pell Grant Eligibility for Short Occupational Training Programs: Results from the Experimental Sites Initiative," NCEE 2021-001, U.S. Department of Education, National Center for Education Evaluation and Regional Assistance, December 2020, https://ies.ed.gov/ncee/pubs/2021001/pdf/2021001.pdf.

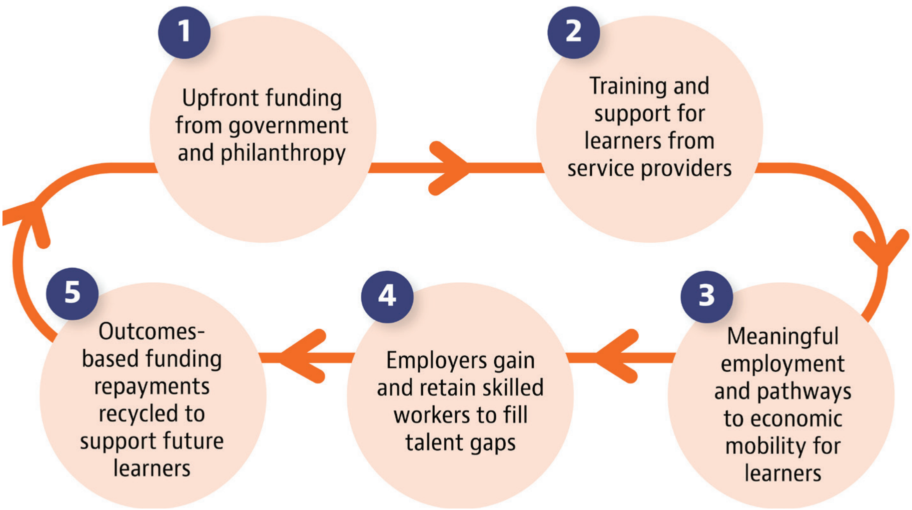
133 Cynthia Hess, Yana Mayayeva, Lindsey Reichlin Cruse, and Mala Thakur, "Supportive Services in Job Training and Education: A Research Review," Institute for Women's Policy Research, November 25, 2016, https://iwpr.org/supportive-services-in-job-training-and-education-a-research-review/.

134 Urban Institute, "Who Has Access to Good Clean-Energy Jobs?" May 1, 2024, https://www.urban.org/projects/clean-energy-job-access-race-gender.

workers, and government alike. Having "skin in the game" from multiple stakeholders, whose investments (monetary and nonmonetary) are organized around clear outcomes, would create a more robust, fiscally sustainable, resilient, and high-performing system.

Leveraging existing public, private, and philanthropic dollars — and responding to the unique opportunity catalyzed by historic levels of investment in infrastructure to address a range of national goals — could help rebalance the equation among stakeholders and create on-ramps to opportunity for millions of workers.

### / FIGURE 1 /
### THE TALENT FINANCE MODEL




## A NEW CONFIGURATION FOR WORKFORCE INVESTMENTS

As defined above, "talent finance" refers broadly to the use of public and private capital to address barriers to workforce development amid ballooning student loan debt, competing demands for limited public funding, and the impact of rapid technological innovation on the workforce.[135] Based on demonstrated early results from innovative projects across the U.S., this model can also be a rich source of lessons and systems change, shifting incentives, rewiring institutional relationships, and — with them — improving accountability. If adopted

135 U.S. Chamber of Commerce, "U.S. Chamber of Commerce Foundation Launches 'Talent Finance' Initiative to Develop New Models for Investment in the Workforce of the Future," September 21, 2020, https://www.uschamber.com/workforce/education/us-chamber-of-commerce-foundation-launches-talent-finance-initiative-develop-new.

at scale, it could play an important role in solving critical labor market shortages as well as expanding economic opportunities for millions of Americans.

This financing approach powers workforce training through partnerships among government, philanthropy, employers, training partners, and supportive service providers. Together, these stakeholders create outcomes-focused, self-sustaining programs that prepare workers for the specific jobs that employers need to fill, all while sharing risk on transparent terms.

Social Finance, a nonprofit organization founded and led by one of us, has helped implement talent finance in a range of places, industries, and occupations. Though each real-world example of the model is unique, there are four defining, shared elements (see Figure 1):

- **Change Payment Timing:** In the U.S., employers and governments are unlikely to provide sufficient up-front financing of job training for prospective employees or incumbent workers. When such direct grants are not available, these models source capital from other sources to pay for training in advance, which employees and/or employers repay through an affordable plan based on successful job placement and/or substantial earnings gains. Realigning the ***timing*** of costs and benefits reduces risks for employers and workers.
- **Tie Payment to Outcomes:** In many talent finance programs, employers commit to repayment on behalf of the trained workers they hire, so employers only pay for skills upgrades for workers who ultimately join and contribute to the success of their organization. These outcomes-based provisions offer robust protections for workers and address major drawbacks associated with traditional student loans.
- **Support the Learner-Worker Holistically:** Talent finance models offer access to supportive services to address living expenses and other challenges. A 2021 Department of Labor study[136] found that nearly half (48%) of those who drop out of community college do so because of a lack of funds to cover living expenses. Talent finance models that include living stipends and flexible emergency grants build agency, as workers help determine which supports they need most.
- **Align, Blend, and "Recycle" Capital from Co-Investors:** Capital raised from both public and private sources is deployed via a variety of structures that tie repayments to outcomes. In the most

136 Justin C. Ortagus, Benjamin T. Skinner, and Melvin J. Tanner, "Investigating Why Academically Successful Community College Students Leave College without a Degree," AERA Open 7 (December 16, 2021), https://doi.org/10.1177/23328584211065724.

robust models, these loan repayments are then recycled to serve additional workers over time.

Beyond funding new training programs, talent finance can help scale existing earn-while-you-learn opportunities by providing a funding mechanism for critical services to pre-apprenticeship program participants. Currently, such services are not adequately funded. Although many pre-apprenticeships cover the direct cost of participants' tuition, they generally do not provide wages or living stipends during training, nor do they pay for other important wraparound supports. Through talent finance, the ultimate employers of apprentices can help repay the funding advanced for supportive services that are vital to preparing workers to enter and succeed in the apprenticeship. Pre-apprenticeship programs can thereby create accessible apprenticeship entry points for underrepresented populations, including low-income trainees, women, and people of color, by offering career exploration and skills development services while helping workers prepare to enter apprenticeships.

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As of early 2025, there are active talent finance initiatives in the states of Colorado, Hawaii, Massachusetts, New Jersey (see Chapter 9 of this volume, "Paying It Forward in New Jersey: Designing and Implementing a New Fund for Talent Development."), Ohio, South Carolina, and Texas, and nationwide through the Google Career Certificates Fund (see Chapter 8 of this volume, "Google Career Certificates Fund: Investing in the Next Generation of Tech Workers.") and the ReNEW Fund (see Chapter 7 of this volume, "The ReNEW Fund: Building and Sustaining a Talent Pipeline for Nurses."). Efforts at scale are still nascent, but the examples below clearly demonstrate how this model can be effective.

## EXAMPLE: LEVERAGE PRIVATE SECTOR/EMPLOYER REPAYMENTS: ADTC CAREER IMPACT BOND[137]

In 2020, Social Finance partnered with American Diesel Training Centers (ADTC), a diesel technician training program based in Ohio, to launch a nearly $9 million Career Impact Bond funded through two investments from Social Finance's UP Fund, a $50 million pool of catalytic capital from family offices, philanthropies, and other sources.

137 Social Finance, "American Diesel Training Centers Career Impact Bond," https://socialfinance.org/work/adtc/.

From 2020 to 2022, the ADTC Career Impact Bond served more than 1,100 people through a five-week hands-on training course at two ADTC locations in Ohio. The short timeline makes this program significantly more practical and accessible for both learner-workers and employers.

The UP Fund covered all up-front enrollment fees along with the costs of a medical, physical, and diesel mechanic toolset. Some participating corporate employers covered additional supports like room and board. Participants also received career coaching, financial literacy training, and other services. Repayment by the learner-workers was contingent on finding a job paying above a minimum income level and only applied to the program fees, not the supportive services.

Top employers — including Penske Truck Leasing, Aim Transportation Solutions, and National Fleet Management — took over monthly payments for program graduates they hired. As a result, more than 50% of graduates had their training costs covered fully by employers and were able to exit the program with a better job and no repayment obligations. On average, program participants achieved a 60% median wage increase. At least one of the participating employers has now integrated the model into their overall workforce development strategy.

## **EXAMPLE** BETTER USE OF PUBLIC FUNDS: NEW JERSEY PAY IT FORWARD[138]

As described in detail in chapter 9 of this volume, Social Finance partnered with the state government and eight large businesses in New Jersey to launch New Jersey Pay It Forward, a $24 million endeavor targeting in-demand industries like nursing, cybersecurity, welding, and HVAC (heating, ventilation, and air conditioning) technology. The program is designed to be additive: enhancing opportunity for disadvantaged workers without crowding out or substituting for other funding that already helps some workers to afford training.

New Jersey Pay It Forward provides zero-interest, no-fee loans for participants to enroll in high-quality job training, with a focus on people who may not have the credit history for a traditional loan. Participants also receive grants — which do not need to be repaid — for living stipends and supportive services as part of their enrollment, including access to emergency aid funds and mental health counseling. As of October 2023, more than 80% of participants were people of color, 65% did not have a four-year degree, and 45% identified as women.

138 Social Finance, "New Jersey Pay It Forward Program," https://socialfinance.org/work/new-jersey/.

The New Jersey program's outcomes-based design seeks to shift risk away from workers by only requiring repayment if they are hired for a job in which they earn more than a defined minimum salary based on household size (e.g., $50,730 for workers from a three-person household). Even then, monthly payments are capped at no more than 10% of their discretionary income[139] for up to five years, and workers never repay more than the cost of training itself because the loans carry zero interest. Also, the grants for living stipends and supportive services are not subject to repayment.

Graduation rates for enrolled participants are as high as 90% for the nursing program, where the average annual salary is $75,000.

## EXAMPLE INVESTING IN A GROWING SECTOR: MASSACHUSETTS CLIMATE CAREERS FUND[140]

In most states, public officials have shown strong interest in mobilizing the talent needed for the green economy — but rarely at a level, and with an operable delivery model, that is commensurate with projected employer demand.[141] That is now changing. At the Vatican Climate Summit in May 2024, Massachusetts Governor Maura Healey announced a first-of-its-kind fund focused exclusively on finding and training many of the nearly 30,000 additional full-time equivalent workers needed to meet the state's 2030 greenhouse gas emissions reduction mandates.[142]

Social Finance and the Massachusetts Clean Energy Center, with coordination and support from Governor Healey's administration, designed the initial $10 million pilot to help participating learner-workers prepare for well-paid, in-demand careers in clean energy and climate-related infrastructure by filling "last-dollar" financing gaps (e.g., unmet tuition costs and costs of living) and addressing barriers to enrolling in and completing training. All funds recouped through loan repayments from participants (and in some cases, employers) will be recycled back into the fund to finance future training, amplifying the impact of the capital seeding the fund.

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139 NJ Pay It Forward defines "discretionary income" as the worker's income after subtracting 150% of the federal poverty level amount for their household size.

140 Social Finance, "Massachusetts Climate Careers Fund," https://socialfinance.org/work/massachusetts-climate-careers-fund/.

141 To be sure, planners in all sectors are also grappling with the challenges of projecting when and in what specific occupations that demand will present. Many estimates, such as the decade-forward estimates cited above, are at the national level for large occupations, not specific to states or regional labor markets, let alone the near- to medium-term time horizons most useful to training providers and other critical actors. Another plus of the talent finance model is its flexibility to adapt, and "dial" investments, to respond to changing market conditions over time.

142 Melissa Hoffer, "Recommendations of the Climate Chief: Pursuant to Section 3(b) of Executive Order No. 604," October 25, 2023, mass.gov/files/documents/2023/10/24/CLIMATE REPORT.pdf.

Crucially, the Massachusetts model is enabled by a whole-of-government approach: A Cabinet-level climate action lead coordinates across a range of state agencies, including economic development, education, energy, and labor.

Examples like New Jersey and Massachusetts show how governments can blend and braid federal funding with their own investments[143] to help reach their own workforce goals. As these jobs grow, it is essential to build on these models to achieve long-term sustainability, both in funding and/or financing and in maintaining shared accountability across all stakeholders.

## CONCLUSION

With a historic influx of public and private investment, the U.S. can make shared stakes in outcomes part of the fabric of the workforce development system needed to transition to a sustainable economy and built environment. The key is breaking down silos, prioritizing effectiveness, and putting stakeholders in durable and accountable relationships with each other, aligned around clear outcomes.

The U.S. has a big talent pipeline to build, and there are no panaceas or quick fixes. New and innovatively structured funding is necessary but certainly not sufficient. Still, the results from talent finance models, some delivered with remarkable speed once the right elements were put in place, demonstrate that a more inclusive and sustainable future is very possible and need not await, say, major federal reforms or large sums of new public money.

A better workforce development system can strengthen the productive foundations of the American economy, expand economic mobility for millions of workers and their families, and mitigate the most significant effects of a changing climate (which concerns a very broad spectrum of the public and industry as well). We now have the know-how, as well as a tangible and unprecedented opportunity, to move rapidly in that direction.

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143 Joseph W. Kane and Adie Tomer, "Why Green Jobs Plans Matter and Where U.S. Cities Stand in Implementing Them," Brookings Institution, July 25, 2023, https://www.brookings.edu/articles/why-green-jobs-plans-matter-and-where-u-s-cities-stand-in-implementing-them/.