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Harnessing the Inflation Reduction Act:

Case Studies in
Maximizing Local
Economic Benefits

By Alí R. Bustamante
and Joe Peck



About the Authors

Alí R. Bustamante is the director of the Worker Power and Economic Security program at the Roosevelt Institute, where he focuses on how public policy can structure markets around both economic and social value and empower Americans through the provision of public goods and stronger labor protections. Prior to joining Roosevelt, he served as chief economist at the Louisiana Workforce Commission, senior research associate at the Southern Economic Advancement Project, and as faculty at Florida International University, the University of New Orleans, and Loyola University New Orleans. Bustamante earned a BA and PhD from the University of Miami, where he specialized in political economy.

Joe Peck is a research analyst at the Urban Institute. His research examines how policies can improve economic mobility for those in work, with a recent focus on industrial legislation. He has previously worked at the Federal Reserve Bank of Atlanta, the Yale Sociology Department, the Center for Economic and Policy Research, and under Katherine S. Newman, provost and professor of public policy at the University of California, Berkeley. He holds a BA from Yale University, where he studied economic history.

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Introduction

Industrial policy is and has always been about targeting sector growth to achieve structural transformations in the economy ([Juhász, Lane, and Rodrik 2023](#); [Tucker 2019](#)). The Inflation Reduction Act (IRA) aims to do just that: driving forward an economic structure that reduces carbon emissions and energy costs, strengthens national security, and creates good jobs ([White House 2023a](#); [White House 2023b](#)).

The IRA is, at its core, a subsidy package that could total trillions of dollars in public investment aimed to crowd in many multiples more of private investment dollars in domestic energy production over a 10-year window ([Inflation Reduction Act 2022](#); [Goldman Sachs 2023](#)). These investments are anticipated to create more than 100,000 jobs in targeted manufacturing sectors across 37 states ([US Department of Energy 2024](#)) and have the potential to drastically transform communities.

Once finalized, the IRA's investments will provide Americans with energy production that is cleaner and cheaper than the status quo, increase the supply of renewable energy products, and reduce emissions within renewable energy product manufacturing.

For communities to reap all the potential benefits of this tremendous job creation, they will need to organize. The IRA incentivizes (and in some cases requires) that firms receiving tax credits, loans, or grants adhere to the prevailing wage requirements under the Davis-Bacon Act that establish minimum wage rates for construction labor ([US Department of Labor 2023](#)), as well as provisions promoting the utilization of apprentices in construction labor ([DOL 2024](#)). Beyond construction, some of the IRA's loans and grants programs give preference or priority to projects that involve collective bargaining agreements, labor peace agreements, and the inclusion of workers from disadvantaged communities. This means that only firms that utilize loans or grants under the IRA are incentivized to engage in high-road hiring practices for their manufacturing jobs, while the bulk of firms relying on the tax credit provisions alone lack any incentive. As a result, the majority of the 100,000-plus manufacturing jobs created by the IRA will lack any mechanism—guardrail or guideline—that ensures created jobs are good, union jobs.¹

This report analyzes five case studies to show the implications of the IRA's weak labor standards on how local labor markets are likely to experience industrial policy investments and provides policy recommendations aimed at improving the IRA's impact on communities. The following sections in this report:

- Explain how the jobs created through industrial policies can benefit communities;
- Discuss how industrial investments spurred by the IRA are likely to impact the labor markets of five different communities across the country; and
- Recommend that prioritizing community engagement and democratic governance in the implementation of industrial investments can promote good jobs and deliver substantial economic benefits to local communities.

The Inflation Reduction Act's investments are anticipated to create more than 100,000 jobs in targeted manufacturing sectors across 37 states and have the potential to drastically transform communities.

¹ This discrepancy between construction and manufacturing labor is itself a result of the US Supreme Court's gutting of the Walsh-Healey act, which had applied high-road labor standards to manufacturing firms that benefited from federal dollars. See [Donahue 1964](#).

Leveraging Industrial Policy to Benefit Communities

The explicit goals of the IRA are to grow America’s renewable energy manufacturing industries and to confer economic benefits to communities across the country, especially those that have been historically reliant on or harmed by fossil fuels. With the bulk of renewable energy projects announced after the IRA still in the planning and/or construction phase, communities have sufficient, though depleting, time to leverage these investments to maximize benefits to workers and their local economies.

Post-IRA, the average clean energy project will create 440 manufacturing jobs (DOE 2024). With low unemployment projected into the long run (Federal Open Market Committee 2024), firms will face significant challenges in hiring due to a reduced pool of available workers—making vital the assistance of local stakeholders to effectively staff their manufacturing plants. The large scale of job creation from these investments presents two opportunities to communities: First, it provides a mechanism to drastically influence the stock of quality jobs available in the local labor market. Second, it empowers community stakeholders to leverage local workforce development, education, and training capacity that can ease firm hiring challenges in return for job quality commitments.

How communities engage with firms in addressing their labor needs will determine how much they benefit from incoming clean energy investments. Our analysis, based on DOE data, shows that large projects (those creating at least 500 direct jobs) account for 28.1 percent of all projects and 72.5 percent of all jobs created by post-IRA clean energy investments (see Table 1) (DOE 2024). Moderate-sized projects (100 to 499 workers) comprise half of all projects and a quarter of all jobs, while small projects represent 21.9 percent of projects and just 2.7 percent of all jobs created. The preponderance of large and moderate-sized projects means that the vast majority of post-IRA clean energy investments will have considerable impacts on local labor markets.

Table 1: IRA Projects by Jobs Created

Jobs created	Less than 100	100-249	250-499	500-999	1,000-1,999	2,000-4,000
Share of all projects	21.9%	31.3%	18.8%	16.8%	7.0%	4.3%
Share of all jobs	2.7%	10.8%	13.9%	24.5%	22.0%	26.0%

US Department of Energy. Author’s analysis. Roosevelt Institute.

Additionally, data show that 83.3 percent of all projects and 88.3 percent of all jobs created by post-IRA clean energy investments are concentrated in the battery, electric vehicle, and solar panel manufacturing industries (see Table 2). These three industries also represent 84 percent of all large and moderate-sized projects post-IRA. Electric vehicle projects will likely be supported by the Advanced Technology Vehicle Manufacturing loan program of the IRA, which makes \$3 billion available for direct loans to qualifying projects, and by the \$2 billion in grants available in the Domestic Manufacturing Conversion Grants program. Battery manufacturing projects and some electric vehicle projects will largely be supported by the IRA’s Advanced Manufacturing Production Credit and Clean Electricity Investment Credit, which provide tax credits for the production of qualifying battery components and energy storage technology. Lastly, solar panel manufacturing projects will likely also benefit from the IRA’s Advanced Manufacturing Production Credit as well as the Qualifying Advanced Energy Project Credit, depending on the solar panel components produced.

Together, the data suggest that the majority of jobs created will be within three manufacturing industries with distinct workforce needs. Similarly, the communities—spanning 37 states—absorbing IRA investments will differ greatly from each other in labor force composition, wage and labor standards, and union density. No single case study can encompass the full range of potential economic

How communities engage with firms in addressing their labor needs will determine how they benefit from IRA investments.

impacts post-IRA clean energy investments might have on communities. However, the following five case studies illustrate how communities are likely to experience the high levels of job growth stimulated by post-IRA clean energy investments in the absence of strong federal labor standards. These case studies suggest that local communities should push firms to raise the quality of jobs and prioritize the hiring of disadvantaged workers in order to improve local labor market outcomes.

Table 2: IRA Projects by Industry

Industry	Batteries	Electric Vehicles	Solar	Wind	Heat Pumps/ Clean HVAC	Hydrogen	Nuclear
Share of all projects	41.0%	23.0%	19.1%	5.5%	6.3%	4.3%	2.3%
Share of all jobs	44.9%	21.6%	22.0%	3.9%	2.9%	3.6%	1.2%

US Department of Energy. Author’s analysis. Roosevelt Institute.

METHODOLOGY

We obtained a list of projects eligible for the Inflation Reduction Act incentives from the DOE’s public database of private-sector investments in clean energy since President Joe Biden assumed office ([DOE 2024](#)). The data list the investing firm’s name, clean energy technology (e.g., solar), manufactured product (e.g., panels), size of investment in dollars, total expected jobs created for each investment, location (including city, state, and geographic coordinates), and whether the announcement was made prior to or after the passage of the Inflation Reduction Act. We then link the manufactured product to the most appropriate industry classification under the North American Industry Classification System (NAICS). Since the data include pre- and post-IRA announcements, we do not include the former.

Additionally, because most announced investments are prospective and are either in the planning or construction phases, it is possible that some clean energy projects listed do not ultimately utilize IRA subsidies, may be downsized, or canceled altogether.

For each industry, we extracted jobs and earnings multipliers from Lightcast’s input-output (I-O) model – a gravitational flows multi-regional social account matrix model (MR-SAM) ([Crapuchettes, Robinson, and James 2017](#)). The model estimates the magnitude of ripple effects that a change in jobs in one industry (such as an increase in battery manufacturing jobs) has on the employment and earnings of other industries in the region (such as a need for additional workers in retail and service sectors to support increased consumer spending resulting from the influx of manufacturing jobs). These estimates help provide a comprehensive view of the total job creation that industrial investments may spur in local labor markets.

We also introduce a novel approach to estimate the likelihood that unemployed workers in local communities will be able to access the jobs directly created by post-IRA clean energy investments.² For each metropolitan statistical area (MSA) absorbing an industrial investment, we estimate the 2023 monthly average of unemployed workers and the occupation they previously held by analyzing microdata from the BLS Current Population Survey retrieved from IPUMS CPS. We then estimate the occupational distribution of jobs created by investments at each MSA by mapping the total expected jobs created for each investment onto the industry-specific annual staffing pattern information for US firms from the BLS National Employment Matrix ([BLS 2023](#)). Together, the data provide each location with the total jobs created by occupation and the total unemployed workers by the occupation of the job they held before becoming unemployed.

In order to determine how well the attributes of unemployed workers match with the characteristics of jobs being created we utilized the [O*NET 28.3 Database](#). O*NET is a primary source of occupational information collected from job incumbents and occupational experts.³ The database contains descriptors of the knowledge, skills, and abilities associated with workers in a given occupation and measures of the relative importance of those descriptors to the occupation. For example, an assembly line worker in an EV plant has knowledge of production processes and tools, monitoring and active listening skills, and the abilities of information ordering and manual dexterity. We focus on the most important occupational descriptors by only including those with an importance score of three or higher on a scale from one to five, where one is of low importance and five is of high importance.

We conduct attribute matching via cosine similarity using the O*NET data to create a similarity matrix to quantify the match quality between occupations on a range from 0 to 1, where 1 indicates a perfect match and 0 indicates no match. Therefore, a number closer to 1 reflects greater commonality among the most important knowledge, skills, and abilities associated with each occupation. For each location, we then create a subset similarity matrix showing how well the attributes of unemployed workers—based on their previously held occupation—matched with the descriptors associated with workers in the occupations that make up the clean energy industry or industries investing in the area.

For example, Ford’s announced battery manufacturing plant in Marshall, MI, is estimated to create 519 jobs for electrical and electronic equipment assemblers. Unemployed workers in the Battle Creek, MI, metropolitan area who were previously employed as team assemblers—assembly/production line workers—have a similarity score of 0.64, two times greater than the similarity score of unemployed workers who used to work as fast food cooks, 0.32.

We estimate the overall match share of unemployed workers in each location—the likelihood that unemployed workers across all occupations will be good matches for job vacancies created by IRA projects—by employing a generalized matching function that calculates job matches for unemployed workers by summing the product of cosine similarity scores and the number of available jobs by occupation. The estimated matches were then normalized by the number of unemployed persons in each occupation to obtain both occupation-specific match shares and the overall match share.

Generally, a match share with a ratio above 1.0 suggests that there are more matches available than the number of unemployed workers, indicating a relatively favorable job market for those seeking employment, while a ratio below 1.0 would indicate a less favorable job market. For example, say an unemployed worker previously employed as a team assembler has a match score of 0.94 compared to 0.67 for those previously working as fast food cooks. This means that, on average, a former team assembler is expected to match with about one available job, while the average former fast food cook will have a relatively low chance of finding a job created by the IRA project due to the mismatch between their attributes and the characteristics of jobs being created.

Lastly, we selected the five case studies using a purposive sampling approach in which we sought to maximize regional variation in the location of cases. Our five cases are located in five distinct states: one on the West Coast, one on the East Coast, one in the Midwest, one in the Gulf region, and one in the American South.

² Approach and methodology based on [Hall and Schulhofer-Wohl 2018](#).

³ Examples include [Acemoglu and Autor 2011](#) and [Kochhar 2023](#).

THE CURRENT LABOR MARKET CONTEXT

Nationally, industrial policy investments are being deployed amid one of the strongest labor markets Americans have ever experienced ([Horpedahl 2023](#)). The US unemployment rate has remained at or below 4 percent for more than two years ([FRED 2024a](#)), there are 2.5 million more jobs across the entire economy than before the pandemic ([FRED 2024b](#)), and average hourly wages have outpaced the rate of inflation for 13 consecutive months ([FRED 2024c](#)).

The tight labor market has changed employer recruiting and hiring practices ([Federal Reserve Bank of Richmond 2022](#)), substantially increasing the time and effort spent on hiring workers. Even as the number of unemployed workers per job opening stands at its pre-pandemic level of 0.8 ([US Bureau of Labor Statistics n.d.](#)), wages over the intervening period have grown more than prices have. This trend has been particularly acute for the lowest-paid: Those in the bottom decile of earners saw real earnings grow by 12.1 percent between 2019 and 2023 ([Gould and deCourcy 2024](#)), reflecting workers' increased market power. During this period, the median wage grew by a more modest 3 percent. Additionally, the heightened competition for workers among employers driven by a strong labor market has led recruiters to target workers they previously underutilized, such as military veterans and individuals with disabilities ([Federal Reserve Bank of Richmond 2022](#)).

However, labor market tightness is not a cure-all for the erosion in labor protections and work conditions that workers have experienced over the past 40 years, nor for the prevalence of discriminatory labor practices that marginalized workers still endure ([Bustamante 2023](#)). For example, the Southern economic development strategy continues to exploit Black workers by suppressing wages and the right to unionize ([Childers 2024](#)). Similarly, occupational segregation remains entrenched ([DeMaria 2024](#)), leading to lower employment and wage outcomes for women and people of color relative to men and white workers.

Based on workers' experience with a hot labor market during the past two years, the creation of jobs by the post-IRA clean energy investments alone should not be expected to resolve local structural economic inequities, given the absence of strong federal labor standards in all provisions of the law. Instead, addressing inequities in local labor markets requires purposeful and deliberate efforts agreed upon by firms and community stakeholders.

Our analysis focuses on unemployed workers because they represent workers with structural barriers to work that reduce the efficiency of the job-matching process, even when labor markets are hot. These barriers can include limited access to training, lack of access to quality child care, poor transportation infrastructure, and discrimination based on age, race, gender, or justice involvement ([Rodgers III and Kassens 2022](#)). We argue that prioritizing the hiring of unemployed, disadvantaged workers by firms pursuing clean energy investments can complement the ongoing community efforts to reduce the structural barriers to employment.

Key to our analysis are estimates of the likelihood that unemployed workers will be matched with available job vacancies based on their skills, abilities, and knowledge accumulation relative to the skills, abilities, and knowledge accumulation associated with jobs created by post-IRA clean energy investments. Where the likelihood of employment is low, the salience of targeted training and hiring programs to increase job matches is greatest. Furthermore, understanding where structural barriers exist is crucial for developing comprehensive strategies that ensure all segments of the workforce can benefit from the job opportunities created by these investments. As a result, policymakers, workforce development agencies, and stakeholders seeking to enhance the inclusivity and efficiency of the job market should heed the findings of this report and support communities in their call for clean energy investments to deliver good jobs and substantial economic benefits to local communities.

Cartersville, Georgia

There are two post-IRA clean energy projects in Cartersville, Georgia. Qcells's proposed \$2.3 billion solar panel production plant will create 2,500 jobs, and SK Innovation's proposed \$5 billion battery production plant will create 3,500 jobs, both impacting the Atlanta-Sandy Springs-Roswell, GA, metropolitan statistical area (MSA) ([Penn 2023](#)).

The South Korean solar panel company Qcells has had a presence in Georgia since it started work in 2019 on its Dalton, GA, plant (about 50 miles north of Cartersville), whereafter it became the largest producer of solar panels in the western hemisphere ([Norris 2023](#)). With its existing two factories in Dalton, Qcells projects it can manufacture enough solar panels to produce over 5 gigawatts of power a year—40 percent of the existing solar capacity in the United States ([Amy 2023a](#)). After the completion of the Cartersville facility and another factory in Dalton, the company projects it can produce 8.4 gigawatts of energy with the solar panels it produces. These investments are on track to contribute to the 33 percent annual growth rate that the solar panel industry has enjoyed over the last decade ([Southern Environmental Law Center 2023](#)).

Like Qcells, SK Innovation is one of the largest manufacturing firms in Georgia ([Schilling 2023](#)). Its battery investments in Georgia stem from certain domestic production requirements on electric vehicles and their batteries outlined in the Inflation Reduction Act ([Amy 2023b](#)).

State support for federal efforts to incentivize solar investment predates the IRA: Sen. Jon Ossoff's (D-GA) Solar Energy Manufacturing for America Act was later incorporated within it ([Solar Energy Manufacturing for America Act 2021](#); [Penn 2023](#)). Now, along with other policies, net electricity generation in Georgia is 93 percent higher than in 2009 ([Georgia Business Journal n.d.](#)).

The proximity of these factories to Georgia Tech could help strengthen the growth of clean energy industries in Georgia, as the university has research capacity that could help improve Qcells's materials processing and exploration ([Norris 2023](#)) as well as facilitate workforce development across the green sector. Quick Start, a workforce training program organized as part of the state's technical college system, is another driver of training for jobs in the solar panel and battery manufacturing industries ([Takemura 2023](#)).

In 2023, the Atlanta-Sandy Springs-Roswell MSA averaged a monthly unemployment rate of 3.1 percent with 101,000 workers unemployed of the area's 3.23 million workers. The MSA's unemployment rate is below the national average of 4.1 percent and lower than the pre-pandemic rate of 3.4 percent in 2019. This means that the local labor market is likely to make hiring difficult for Qcells and SK Innovation and may require them to intensify recruiting efforts and reach out to historically marginalized workers.

In 2023, the concentration of Atlanta-Sandy Springs-Roswell employment in production occupations was just 83 percent of the national average. Production occupations include jobs such as assemblers and fabricators, food processing workers, and machinists and welders. Production occupations in the area paid average hourly wages of \$21.85, which is 32.1 percent below the \$32.17 average for all occupations and 4.6 percent lower than the national average for production occupations of \$22.90. However, the 6,000 jobs created by QCells and SK Innovation span 135 occupations that will offer an average hourly wage of \$27.13, higher than the average of production occupations and above the \$26.24 average hourly wage for the Atlanta-Sandy Springs-Roswell area.

Data show that Atlanta-Sandy Springs-Roswell's labor force is 43.6 percent non-Hispanic white, —which is less than the national labor force average of 58.3 percent. Furthermore, while 34.4 percent of the labor force is Black or African American, the unemployment rate for Black workers in the area is 2.4 times higher than for white workers. Given that Black workers account for 53.4 percent of all unemployed workers, prioritizing Black unemployed workers in hiring practices may be an effective way to leverage QCells and SK Innovation's investment to reduce entrenched racial disparities in the local labor market.

We find that, on average, each unemployed worker is expected to have approximately 2.33 job matches, reflecting a high likelihood of employment. The high overall match share of unemployed workers in Atlanta-Sandy Springs-Roswell is driven by both the large amount of jobs created by the QCells and SK Innovation's investment and by the high level of competencies that unemployed workers will be able to apply to newly created jobs.

Data show that 67.5 percent of unemployed workers will have at least one job match due to their existing skills, knowledge, and abilities, but the remaining 32.5 percent of unemployed workers will have trouble securing a job with QCells and SK Innovation. Among workers with low match shares are workers formerly employed as cashiers, retail salespersons, maids and housekeeping cleaners, and postal service mail carriers. This finding suggests that the existing workforce development and training infrastructure in Atlanta is improving the employment outcomes of most unemployed workers, but many are still being left behind.

Collectively, the QCells and SK Innovation investments are expected to create an additional 34,000 jobs in the Atlanta-Sandy Springs-Roswell area due to increased demand in local industries that will support battery and solar panel manufacturing and from greater consumer spending—increasing total employment in the area by 1.1 percent.

Yet, QCells and SK Innovation are setting a bad example for other growing industries by failing to hire union contractors and signing on to project labor agreements. Project labor agreements are pre-hire collective bargaining agreements in which construction unions and firms establish the terms and conditions of employment for construction projects ahead of time. Without these agreements, firms can employ nonunion construction workers and unilaterally set wages and working conditions, undermining job quality. It is not too late for the community to pressure QCells and SK innovation to change course and lead as high-road employers invested in the well-being of local workers.

Blythewood, South Carolina

Scout Motors is a US-based subsidiary of the Volkswagen Group. In advance of announcing Scout Motors's investment in Blythewood, SC, state leaders offered a generous package of incentives to the company amounting to \$1.3 billion ([Lavelle 2024](#)). This includes the construction of a new interchange on Interstate 77 adjacent to the complex and a new railway bridge to extend an existing Norfolk Southern line into the facility. Further, the state will award Scout a \$200 million loan to undertake extensive soil stabilization work needed for the factory's foundation ([Thomas 2024](#)). South Carolina Governor Henry McMaster has also prioritized the construction of electric vehicle infrastructure in the state and the improvement of state workforce development for manufacturing jobs ([South Carolina Office of the Governor 2022](#)).

Currently, Scout Motors is not participating in the IRA's Advanced Technology Vehicle Manufacturing Loan Program, but it is slated to receive the Advanced Manufacturing Production Credit, which sets credit amounts based on the quantity of eligible components—such as batteries, solar cells, and solar modules—produced and the total watts of energy capacity achieved.

Scout's proposed \$2 billion electric vehicle production plant is one of 14 such battery and electric vehicle manufacturing investments announced nationally since the passage of the IRA ([DOE 2024](#)). It will create 4,000 jobs in Blythewood, impacting the Columbia, SC, MSA. Our economic projections estimate that this investment will create an additional 77,600 jobs in the Columbia area due to increased industrial demand and greater consumer spending in the region—significantly increasing total employment in the area by 19.2 percent.

In 2023, the Columbia, SC, MSA averaged a monthly unemployment rate of 2.8 percent, with 11,600 workers unemployed of the area's 414,000 workers. The Columbia area's unemployment rate is considerably below the national average unemployment rate of 4.1 percent and slightly higher than the pre-pandemic rate of 2.6 percent in 2019. Thus, the local labor market is likely to make hiring difficult for Scout and may require Scout to bolster recruiting efforts and target historically marginalized workers.

Additionally, the concentration of Columbia's employment in production occupations was 1.02 times the national average, similar to the national average. Production occupations paid average hourly wages of \$22.02, 16 percent below the \$26.22 average for all occupations and 3.8 percent lower than the national average for production occupations of \$22.90. However, the 4,000 jobs created by Scout span 87 occupations and will offer an average hourly wage of \$23.93. This is evidence that Scout's investment carries the potential to increase the average wages of all workers, including production workers, in the Columbia area.

Richland County, where Blythewood is located, is home to the youngest workforce in the state as well as the University of South Carolina. On top of the aforementioned incentives offered by the government of South Carolina, the state has offered to build and operate a job training center on the grounds of the Scout complex ([Lavelle 2024](#)). This will form part of a larger workforce development push by the state as it seeks to take advantage of the growing electric vehicle and battery manufacturing sectors. The technical college system is facilitating on-site training tailored to each company that has recently invested in the state ([Holdman 2024](#)).

Data show that Scout's investment has the opportunity to address the racial disparities in Columbia's unemployed population. Columbia's labor force is 53.6 percent non-Hispanic white—meaning there are more people of color than the national labor force average of 58.3 percent white, not Hispanic. Furthermore, while 34.4 percent of the labor force is Black or African American, the unemployment rate for Black workers is 2.3 times higher than that of white workers.

We estimate that, on average, each unemployed worker is expected to have approximately 4.94 job matches, reflecting a very high likelihood of employment. The high overall match share of unemployed workers in Columbia is driven primarily by the small number of unemployed workers relative to the large number of jobs created by Scout's investment. With Black workers accounting for 54 percent of all unemployed workers in the Columbia area, Scout's investment can help reduce racial disparities in the Columbia labor market—if Black workers are prioritized.

Yet, like much of the American South, the marginalization of Black workers in Columbia is intrinsically linked with labor policies aimed at suppressing wages and union density ([Childers 2024](#)). At 2.3 percent, South Carolina has the lowest union membership rate in the country ([US BLS 2024](#)). Yet, as foreign investment has flowed into the region to capitalize on the relatively lower wages and low union density, local unions are looking to increase their worker organizing efforts ([Archote 2023](#)). The United Auto Workers (UAW), with input from the German IG Metall union, have secured commitments from the management of Volkswagen that they will be neutral in any worker organizing drives at the new plant ([Lawrence 2023](#)).

The UAW's relationships with domestic automakers, including Ford, General Motors, and Stellantis, offer lessons on how unions support the effective implementation of the IRA and improve workforce development in the auto industry. During last fall's collective bargaining session, the UAW was able to secure commitments from Ford that its planned Marshall, MI, battery manufacturing plant will be represented by the union—solidifying the UAW's investment in developing industry-recognized credentials for battery manufacturing jobs and ensuring that UAW members will bring best practices in battery manufacturing to the Marshall plant.

Marshall, Michigan

Ford's proposed \$2.2 billion battery production plant will create 1,700 jobs in Marshall, MI, impacting the Battle Creek, MI, MSA. Initially, Ford planned to invest \$3.5 billion in developing the Blue Oval Battery Park facility, which would have created 2,500 jobs and produced 35 gigawatt hours of batteries annually ([White 2023](#)). The company scaled back these ambitions in 2023, following worse-than-expected sales of electric vehicles partly induced by rising interest rates ([LeBlanc and Noble 2023](#)). The revised plan will still see the Marshall plant produce 20 gigawatt hours of batteries yearly. The investment is part of a wider push among car companies to expand their domestic battery manufacturing base, spurred by the IRA's incentives ([Jordyn, Beggin, and Hall 2023](#)).

Ford's plan to invest in Michigan was buoyed by a \$1.75 billion incentive package offered by the state, which included \$630 million in incentives for land preparation and infrastructure development and \$772 million in tax credits provided through the Michigan Strategic Fund ([Steele 2023](#)). The state is also set to provide grants worth \$120 million from the Michigan Strategic Site Readiness Program, \$210 million from the Michigan Critical Industry Program, and \$36 million from the Jobs for Michigan Investment Fund Loan Program ([Steele 2023](#)). While this still must be renegotiated in light of Ford's downsizing announcement, the central pillars of the deal look likely to remain. Additionally, Ford is set to qualify for the IRA's Advanced Manufacturing Production Credit.

In 2023, the Battle Creek, MI, metropolitan area averaged a monthly unemployment rate of 4.3 percent, with 2,700 workers unemployed of the area's 62,000 workers. While above the national average unemployment rate of 4.1 percent, the Battle Creek area's unemployment rate is in line with the pre-pandemic rate of 4.2 percent in 2019. Additionally, the concentration of Battle Creek employment in production occupations was 2.33 times the national average—suggesting that manufacturing is a key industrial driver of employment in the area. Two of the largest manufacturing firms in the area are Denso Manufacturing Michigan—an automotive components manufacturer employing about 2,500—and the Kellogg Company, which produces cereals and snacks, with about 2,000 employees ([Battle Creek Unlimited n.d.](#)).

Overall, production occupations paid average hourly wages of \$22.54, 5 percent below the \$23.73 average for all occupations and 1.6 percent lower than the national average for production occupations of \$22.90. However, the 1,700 jobs created by Ford and spanning 127 occupations—such as electrical assemblers, fabricators, and machinists—will offer an average hourly wage of \$25.05, potentially driving up average wages for production occupations and other occupations in the broader Battle Creek area.

Data show that Battle Creek's labor force is 77 percent non-Hispanic white—much greater than the national average of 58.3 percent. Furthermore, while 10 percent of the labor force is Black or African American, the unemployment rate for Black workers is 6.2 times that of white workers. Related to the area's racial inequities may be the high unemployment rate for workers without a high school diploma, 12.2 percent, compared to the national average of 6.5 percent.

We find that, on average, each unemployed worker is expected to have approximately 1.35 job matches, reflecting a moderately high likelihood of employment. The overall match share of unemployed workers in Battle Creek is due to the small number of unemployed workers relative to the large number of jobs created by Ford's investment. Additionally, our economic projections estimate that this investment will create an additional 8,900 jobs in the Battle Creek area, fueled in part by increased supply chain demand and greater consumer spending—significantly increasing total employment in the area by 18.7 percent. This underscores the need to prioritize the recruitment of Black workers, who account for 37.8 percent of all unemployed workers in Battle Creek, and expand training efforts that target unemployed workers in order to reduce racial disparities and drastically improve local labor market outcomes.

The presence of organized labor at the plant can aid this process: Ford has already granted the UAW the right to organize employees at the new facility without a vote ([White 2023](#)). In particular, the UAW's participation in the DOE's Battery Workforce Initiative has proven critical to shaping standardized training guidelines related to national industry-recognized credentials for battery manufacturing jobs and the development of registered apprenticeships for battery machine operators ([DOE 2024](#)).

Ford will also benefit from the existing system of higher educational institutions and workforce development programs across the southeast of the state. Kellogg Community College, for example, already offers a set of skilled-trade training opportunities with an eye toward the jobs that will be created through Ford's investment ([Choose Marshall n.d.](#)). The company has also been looking to court local students to its ranks, and the Marshall Area Developmental Alliance is working with schools to upskill the local workforce ([Pitchure 2024](#)).

New Iberia, Louisiana

First Solar's proposed \$1.1 billion solar panel production plant will create 700 jobs in New Iberia, LA, as the company looks set to increase its manufacturing capacity from 3.5 gigawatts of solar-powered electricity to 14 gigawatts annually ([Business Wire 2023](#)). This will be the company's fifth factory in the United States and will likely be the largest capital investment in the area's history ([Korman 2023](#)).

In order to attract such investment to New Iberia, the state of Louisiana offered First Solar \$30 million worth of grants to cover infrastructure improvement and site development ([Williams 2023](#)). These will be contingent on the company meeting certain investment, employee compensation, and employment targets. Additionally, the company is planning to take advantage of the IRA's Advanced Manufacturing Production Credit.

This investment will have ripple effects throughout the Lafayette, LA, MSA. In addition to the jobs announced by First Solar, our economic projections estimate that this investment will create an additional 4,400 jobs in the Lafayette area as a result of increased supply chain demand and consumer spending. As a result, total employment is expected to increase by 2.5 percent.

In 2023, the Lafayette, LA, metropolitan area averaged a monthly unemployment rate of 3.5 percent with 7,400 workers unemployed of the area's 214,000 workers. The Lafayette area's unemployment rate is below the national average of 4.1 percent and much lower than the pre-pandemic rate of 4.6 percent in 2019. The low unemployment rate indicates that First Solar will likely have to expand recruiting efforts and reach out to historically marginalized workers to successfully hire the necessary workers.

Additionally, the concentration of Lafayette employment in production occupations—such as machinists, assemblers, and welders—was 1.18 times the national average. This means that production jobs are more common in Lafayette than the national average, making it relatively easier to find workers with the necessary skills and experience to fill the jobs created by First Solar. Production occupations paid average hourly wages of \$22.54, 5 percent below the \$23.73 average for all occupations, and 1.6 percent lower than the national average for production occupations of \$22.90—suggesting that workers may earn higher wages outside of production jobs.

The 700 jobs created by First Solar span 105 occupations and will offer an average hourly wage of \$27.57, higher than the average of production occupations and above the \$26.24 average hourly wage that unemployed workers were previously earning in the Lafayette area. This is evidence that the First Solar investment carries the potential to increase average wages in the Lafayette area by creating a greater number of higher-paying production jobs, such as machine assemblers and machine tool operators, than are typically found in the area.

We estimate that, on average, each unemployed worker is expected to have approximately 1.08 job matches, reflecting a moderate likelihood of employment. Yet, a closer look reveals that 65 percent of unemployed workers will have trouble securing a job with First Solar—indicated by a match score below 1. Among workers with low match shares are workers formerly employed as retail salespersons, host/hostesses, personal care aides, and construction laborers. This finding suggests that large investments are needed to enhance Lafayette's workforce development and training infrastructure.

Data show that the First Solar investment has the opportunity to address the Lafayette community's challenges with racial inequities, poverty, and low educational attainment in its unemployed population. Lafayette's labor force is 68.3 percent non-Hispanic white—less racially diverse than the national average of 58.3 percent white. In addition, while 21.1 percent of the labor force is Black or African American, Black workers are 1.56 times more likely to be unemployed than white workers. Further, 44.1 percent of Lafayette's unemployed population is experiencing poverty, considerably higher than the national average of 26.6 percent. Related to this dynamic is the high share of unemployed workers without a high school diploma, 25.5 percent, compared to the national average of 14.1 percent.

Stakeholders should push to leverage First Solar's investment to address entrenched racial disparities in the region while also lowering the incidence of poverty. As the First Solar plant gets built, strategic efforts will be needed to connect disadvantaged workers to training opportunities that can facilitate their path toward clean energy jobs, and the community will likely need to push for them. Simultaneously, as part of the incentives package offered to First Solar, the state of Louisiana maintains a workforce development scheme that can help potential workers train for new solar-related jobs ([Williams 2023](#)). LED FastStart, a state economic development program, will help First Solar screen, recruit, and train employees ([Louisiana Economic Development n.d.](#)).

Some of these efforts have already started to materialize. First Solar is coordinating its workforce development initiatives with South Louisiana Community College to align its manufacturing needs with the educational resources available locally ([Anderson 2023](#)). The presence of the University of Louisiana at Lafayette also stands to provide research and training support to First Solar, in addition to providing a pool of skilled graduates for the company to employ ([University of Louisiana Lafayette 2023](#)). The Louisiana Solar Energy Lab at the university, for example, is one of the largest outdoor solar testing labs in the Southeast ([ULL 2022](#)).

El Cajon, California

In 2022, the electric vehicle company Ryvid received a \$20 million grant through the California Competes tax program (CalCompetes) to increase electric vehicle production in the state ([Toll 2022](#)). As a result of these funds, the company started a process of establishing three new facilities in southern California: an electric motorcycle manufacturing plant in San Bernardino, a headquarters in Los Angeles County's Hawaiian Gardens, and a lithium battery manufacturing facility in El Cajon. At the time, the company projected that these three sites would collectively create 900 jobs.

In 2023, Ryvid announced plans to build on these investments. The company's proposed \$84 million battery production plant will create 650 jobs in El Cajon, CA, impacting the San Diego-Carlsbad, CA, MSA. Our economic projections estimate that this investment will create an additional 3,400 jobs in the San Diego-Carlsbad area due to greater supply chain demand and consumer spending—modestly increasing total employment in the area by 0.3 percent. Like most other battery manufacturing investments, Ryvid is set to qualify for the Advanced Manufacturing Production Credit.

In 2023, the San Diego–Carlsbad, CA, metropolitan area averaged a monthly unemployment rate of 3.9 percent, with 62,000 workers unemployed of the area’s 1.6 million workers. The area’s unemployment rate is below the national average unemployment rate of 4.1 percent and the pre-pandemic rate of 3.3 percent in 2019. Additionally, the concentration of San Diego–Carlsbad employment in production occupations was 0.77 times the national average, lower than the national average. Production occupations paid average hourly wages of \$24.55, 32.8 percent below the \$36.54 average for all occupations but 7.2 percent higher than the national average for production occupations of \$22.90.

Additionally, data show that San Diego–Carlsbad’s labor force is 42.9 percent white, not Hispanic—less than the national labor force average of 58.3 percent white, not Hispanic. While 34.2 percent of the labor force is Hispanic, Hispanic workers are more likely to be unemployed than their white counterparts.

We find that, on average, each unemployed worker is expected to have approximately 0.41 job matches, reflecting a very low likelihood of employment. The overall low match share of unemployed workers in San Diego–Carlsbad is heavily influenced by the small number of jobs created by Ryvid’s investment relative to the number of unemployed workers in the region. Data show that 95.6 percent of unemployed workers will have trouble securing a job with Ryvid, indicated by a match score below 1.

Recent workforce training developments may help bring unemployed workers closer to filling battery manufacturing jobs in the future. In 2024, the DOE awarded a grant to San Diego State University’s Industrial Assessment Center to set up a new Center of Excellence to support education and training across clean energy sectors ([Slane 2024](#)). This new initiative is designed to improve educational clean energy programs in the region and coordinate with labor unions, apprenticeship programs, and workforce development groups to better prepare students for jobs in clean energy.

Ryvid’s \$84 million announcement is one of eight such battery investments planned in San Diego County since the start of 2021—a solid foundation for Ryvid to build on. And it is not the only company to concurrently develop new energy storage facilities in the city ([Fulcher 2023](#)). In 2017, San Diego Gas & Electric finished constructing the nation’s largest grid-tied lithium-ion battery system in Escondido, also in San Diego County, on the same day it opened a smaller facility in El Cajon ([Geuss 2017](#)).

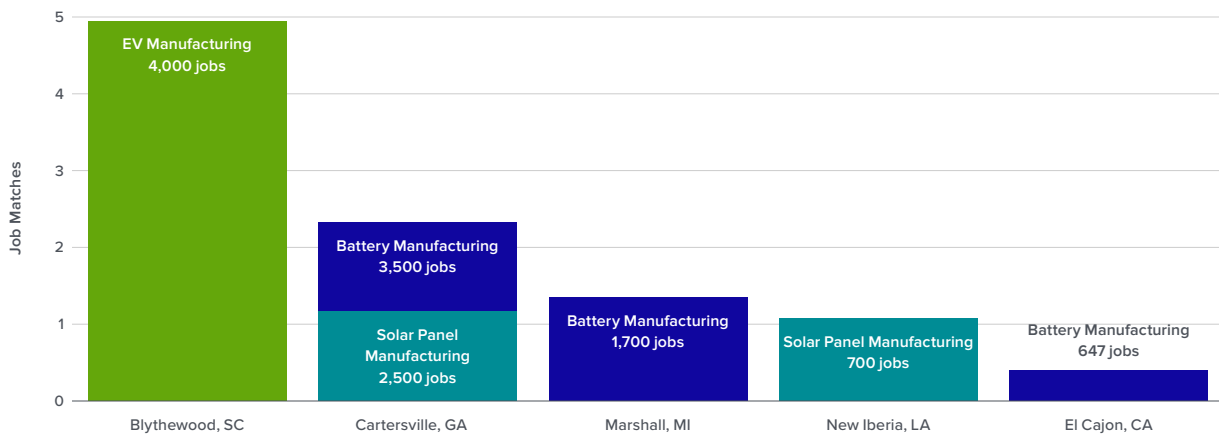
Discussion

All five case studies show significant job creation potential as a result of post-IRA clean energy investments, with thousands of new jobs projected in each location, potentially driving up average wages in the regions. In New Iberia, LA, and Marshall, MI, the investments in solar panel and battery production could significantly increase local employment and wages, particularly for marginalized workers. Similarly, the large-scale investments in Blythewood, SC, and Cartersville, GA, demonstrate the potential of industrial policy investments to transform local labor markets, particularly when coupled with strategic efforts to connect disadvantaged workers to training opportunities. In El Cajon, CA, jobs in battery manufacturing seem unattainable to most unemployed workers, but recent efforts may change that outcome.

The case studies also illustrate the varying impacts of industrial policy investments across different communities, highlighting the need for strategic approaches to maximize local economic benefits. Each case study identifies specific local challenges related to racial inequities, educational attainment, and poverty levels among the unemployed population that may be addressed through targeted approaches.

The match share, which measures how the alignment between the skills of unemployed workers and the requirements of newly created jobs leads to job matches, varies across the case studies (see Figure 1). In Blythewood, SC, and Cartersville, GA, the average job matches per unemployed worker are notably higher than in other cases, at 4.94 and 2.33 respectively—indicating better alignment and existing workforce development infrastructure. Conversely, Marshall, MI, New Iberia, LA, and El Cajon, CA, show lower job matches, ranging from 1.35 to 0.41—emphasizing the need for strategic training efforts to address skills mismatches.

Figure 1: Average Job Matches per Unemployed Worker and Expected Job Creation by IRA Investment Type



US Department of Energy. Author's analysis. Roosevelt Institute.

Successful implementation of industrial policy investments must be closely tied to community engagement and effective workforce development strategies. For instance, First Solar's coordination with South Louisiana Community College and Ford's collaboration with local educational institutions in Michigan demonstrate how such partnerships can enhance training programs and improve job quality. Similarly, the presence and involvement of labor unions play a crucial role: In Marshall, MI, and Blythewood, SC, the UAW provides a model for how unions can support the effective implementation of the IRA by developing standardized training guidelines and securing commitments from firms to improve job quality. Prior Roosevelt work has shown that union involvement in training programs can be essential to ensuring the programs truly empower workers (Naidu and Sojourner 2020).

Our research supports the growing evidence that democratic governance and accountability strategies, including by involving community stakeholders in planning and implementation phases, can improve community economic impacts while potentially making projects more effective and efficient (Estevez 2023). The success of these strategies stems from the benefits that up-front public engagement can provide, as these projects tend to be better designed and achieve greater public cooperation. In particular, early engagement with community stakeholders can lead to the kinds of partnerships with local educational institutions described above (Spaulding and Blount 2018). These partnerships have the dual benefit of streamlining the staffing phase of industrial deployments while also improving the employment and earnings outcomes of the most vulnerable workers in a community.

The IRA encourages such partnerships with provisions that fund community engagement and consultation across several of its programs, including the Environmental and Climate Justice Program block grants (US EPA 2023). These provisions aim to ensure meaningful public participation in the planning and implementation of projects and to provide community stakeholders with the technical assistance to obtain grant funding. Additionally, the IRA provides the Government Accountability Office and the Office

of Management and Budget with the ability to track how IRA programs perform across labor, equity, and environmental standards, including provisions related to community engagement and consultation (198 methods et al.). As a result, there are mechanisms in place to hold IRA program administrators and firms accountable if they fail to involve community stakeholders in the planning and implementation of projects.

Ideally, the IRA would also have enacted sector-wide labor provisions in targeted manufacturing industries, promoting worker power by setting industry wage standards and enabling sectoral bargaining ([Bustamante 2023](#)). As noted above, this would have likely required amending the law or overriding court precedents to restore the New Deal equilibrium of the Walsh-Healey Act, which may have been difficult to get through the Senate's difficult reconciliation hurdles. These sector-wide labor provisions could have ensured that firms improve the economic conditions of the communities they enter and built a powerful labor movement to push back against unfair labor practices in the targeted industries. Without such provisions, it is essential that communities organize to secure job quality commitments directly from firms.

Conclusion

The Inflation Reduction Act represents a significant opportunity to bolster America's manufacturing capabilities while delivering substantial benefits to local economies. The lessons drawn from these five case studies underscore the importance of community-centered approaches in implementing industrial policy. Prioritizing early and regular engagement and democratic governance of these investments will not only enhance the economic benefits for local labor markets but also build stronger, more resilient communities.

Maximizing the local economic benefits of industrial policy investments means addressing structural barriers that prevent disadvantaged workers from accessing good jobs. That will require robust workforce development measures and strategic efforts to connect marginalized workers to training opportunities and secure job quality commitments directly from firms. By doing so, policymakers and firms can ensure that these investments lead to inclusive and sustainable economic growth for the communities they serve.

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