

TO E2, Chambers for Innovation and Clean Energy, Clean Energy Leadership Institute

FROM BW Research Partnership

DATE October 1, 2024

RE Impact Study of Arrested IRA Investment

Introduction

E2 and partners Chambers for Innovation and Clean Energy (CICE) and the Clean Energy Leadership Institute (CELI) commissioned BW Research Partnership to analyze the impact of the Inflation Reduction Act (IRA) and other federal and state policies on clean energy businesses, and how repealing these policies would affect the general economy and individual businesses. This report summarizes the findings from a national survey of business leaders and a direct stakeholder engagement effort.

The national survey of nearly 930 business stakeholders was conducted in August 2024, concurrent with the second anniversary of the IRA. It was complemented by interviews with key executives involved in clean energy development, construction, and manufacturing. The survey sought to capture business sentiment about the direct impacts of the IRA, Bipartisan Infrastructure Law (BIL), the CHIPS and Science Act of 2022, as well as state energy policies, on clean energy businesses' hiring practices, revenue, and decision-making. A larger focus was placed on the impacts of the IRA as opposed to other federal policies due to the IRA's broad impact on the clean energy and clean vehicles industries.

The U.S. is currently home 3.46 million Americans who work across the clean vehicle, renewable energy, energy efficiency, battery storage, grid modernization, and biofuel sectors, [according to the latest annual employment analysis from BW Research and E2](#). And in just the first two years of the IRA, businesses announced \$130 billion to fund nearly 340 major clean energy and clean vehicle projects that are expected to hire at least 110,000 new, mostly permanent, workers, [according to analysis by E2](#).

The economic benefits from these projects reach well beyond the direct investments and jobs, however. [According to separate modeling by BW Research](#), the projects announced in the first two years of the IRA will create 621,000 direct and indirect new jobs – including 154,000 permanent jobs – over the next five years. Just during the construction phase alone, these new projects would directly and indirectly add \$237.5 billion to U.S. GDP; create \$169.4 billion in new wages for workers, and generate nearly \$50 billion in new tax revenue for federal, state, and local governments.



To gauge business sentiment on how repealing or rolling back the IRA would impact business investment, hiring, and expansion plans, BW Research focused its outreach on firms working with the following technologies: energy efficiency of buildings, renewable electricity generation, energy storage, grid, renewable fuels, and electric or alternative transportation. The survey captured impacts not just on new businesses or projects since the laws were signed but on long-established companies, with more than 60 percent of the surveyed firms saying they have been in business in the clean energy space for more than ten years.

The executive interviews conducted in parallel with the survey helped reveal other common themes that business owners and decision-makers have seen since the passage of the IRA, as well as key issues for them as they contemplate their businesses' future. The stakeholder engagement process involved energy businesses in different technologies and regions of the country.

Lastly, the repeal or rollback of the IRA would have impacts that extend far beyond hiring, investment, and expansion plans. In addition to the benefits to businesses created by the IRA, the policy has sent a clear market signal for companies to invest, innovate, and expand in America.

If the policy is repealed, some executives surveyed said they would have to relocate their companies to another country. Others said they would go out of business entirely. Rural areas and small communities across America would be hurt the worst, since rural areas have seen the biggest uptick in clean energy projects, investments and jobs since the IRA.



Key Findings

- **Repealing the IRA would hurt business or revenue.**
 - **More than half (53 percent)** of firms said they would lose business or revenue as a direct result of an IRA repeal.
 - **About 27 percent** said they would **lose projects or contracts**.
 - **About 21 percent** of impacted firms said they would likely exit the clean energy space.
 - **About 11 percent** of firms said they would close their business entirely, **Nearly 9 percent** of firms said they would have to relocate to another country.
- **Businesses would have to lay off employees and cut wages.** 3.46 million Americans currently work in clean energy sectors and nearly 150,000 new jobs are being added every year.
 - **About 21 percent** of firms said they would have to lay off workers if the IRA is repealed.
 - **Nearly 15 percent of** firms said they would have to lay off 10 or more workers;
 - **More than 10 percent** of firms said they would have to lay off 25 or more workers.
 - **About 13 percent** said they'd have to freeze wages or rescind offers to prospective employees.
- **The IRA is very important to business growth.**
 - About 85 percent of respondents said the IRA was “very important” or “somewhat important” to growth.
 - Nearly 60 percent of respondents said have worked on, produced goods, or offered services related to clean energy projects directly impacted or funded by the IRA.
 - About 48 percent said that at least half of their business came from IRA-related projects.



Other Key Findings

(based on survey results and stakeholder interviews)

- **The IRA has had a major impact on reducing risk and uncertainty in clean energy markets.** A repeal would lead to drastic scaling back of projects and affect investor confidence in the industry.
- **Rural areas and small communities would experience the largest negative effects of a repeal of the IRA.** Rural regions have seen the biggest uptake in projects and economic benefits since the passing of the IRA.
- **A repeal of the IRA would disrupt the rapid increase in solar and battery installations** as a result of higher installation and materials costs, lower supply as smaller companies leave the market, and lower demand from customers.
- **The IRA has led to the creation of good-quality jobs offering transition pathways for workers in fossil fuels and other industries, particularly in rural areas.** The high rate of new project installations, also largely prevalent in rural areas, has brought about a high demand for skilled energy workers.



Stakeholder Engagement Findings

The executive interview process engaged stakeholders in clean energy businesses across six different states. These stakeholders are involved in the Construction, Manufacturing, or Professional Services industries within clean energy, and their work spans Solar, Wind, Batteries, Electric Vehicles, and Energy Efficiency technologies. The key findings from those interviews were:

- **The IRA has had a major role in reducing the risk attached to the development of new clean energy projects.** The IRA has not only allowed more potential customers access to clean energy, but it has also allowed more financing and sources of capital to enter the market.

Relevant Stakeholder Insights:

"The 10-year extension of the credits allows us now to work on longer-term developments that maybe we would do on a more limited basis in the past. But now we can feel comfortable investing in them, knowing those credits will be there when they get out."

MICHAEL R, FOUNDER & CEO AT RENEWABLE ENERGY AND STORAGE FIRM IN THE ROCKY MOUNTAINS REGION

"We've seen at least a three-fold increase in project level development activity since the passage of the IRA."

ERIK L, CEO AT SOLAR AND ENERGY STORAGE FIRM IN THE SOUTHEAST

- **Repealing the IRA would weaken investors' confidence in the energy sector, increase project timelines, and set back emerging technologies.** Tax credit extensions and clearer guidelines around grants and timelines for funding have boosted investor confidence and allowed growth in both large developers and smaller energy startups. Confidence in the continuous demand for clean energy technology also sustains growth in construction, installation, and manufacturing companies.

Relevant Stakeholder Insights:

"[The IRA] was a total game changer for us, to have that [Investment Tax Credit] extension and to have it at 30%. Not just for the actual benefit it provides, but also because it gives some assurance in the market that we've never had."

WHITNEY P, PARTNER AT SOLAR AND BATTERY INSTALLATION FIRM IN THE ROCKY MOUNTAINS REGION

"With ten years of certainty on the Investment Tax Credit, there was an opportunity to start a business and have some certainty around that. [The IRA] gave our institutional investment capital, our backers, greater confidence that there is a business model here that would be able to generate solid returns increasingly."

ERIK L, CEO AT SOLAR AND ENERGY STORAGE FIRM IN THE SOUTHEAST



- **Federal investments are helping a few emerging technologies become more competitive as they mature and boost those already consolidated in the market, such as solar and land-based wind, into energy leaders.** Several technologies needed in the energy transition to reach state and national climate goals would have difficulty penetrating the energy markets without federal funding, tax credits, or grants. For more established clean energy technologies, the IRA made an even more compelling financial case and boosted the deployment of new projects.

Relevant Stakeholder Insights:

"Not only does [the IRA] provide a great deal of incentives for making this transition happen to clean energy, but in addition, it's a statement about our commitment to the future."

RON K, PRINCIPAL AT CLEAN ENERGY CONSULTING FIRM IN THE NORTHEAST

"We have a low cost of energy because the technologies have become so efficient. But you add the IRA on top of that, and it vastly improves and accelerates the deliverability and installation of these projects. It allows us to take a competitive technology and kind of supercharge it so that we can deploy it faster."

MICHAEL R, FOUNDER & CEO AT RENEWABLE ENERGY AND STORAGE FIRM IN THE ROCKY MOUNTAIN REGION

- **IRA and BIL have played and continue to play a critical role in establishing the green hydrogen market. Repealing the IRA would significantly affect this technology's ability to produce at competitive prices and have long-term success.** Green hydrogen has high initial capital costs, and the IRA is key in allowing it to mature as a technology and enter the market as a competitive energy source. A potential repeal of the IRA could also lead to the closure of most hydrogen-related operations, resulting in significantly higher prices than what could be achieved under the current policies.

Relevant Stakeholder Insights:

"The largest cost to green hydrogen is the energy required to run the electrolyzers. So, as that technology improves and we build this industry, [we] fully expect to see those cost curves move."

"The pilots that are being built are extraordinarily expensive. But, once you build those and build a US supply base and manufacturing base for that equipment, those cost curves will come back down, and it will be an economical option."

HESSTON K, DIRECTOR AT CLEAN ENERGY DEVELOPER IN THE CENTRAL AND WESTERN US



- **Low-income regions and more remote areas with many new energy project developments would be most negatively impacted.** Energy Community designations, defined as regions with coal plant closures and high unemployment, are crucial for project financing and can significantly influence where projects are developed. The Energy Communities incentives and the focus on disadvantaged communities have provided parts of the country access to the economic benefits of the energy transition. However, these would be the first areas to be affected by the repeal of the IRA. Smaller stakeholders, such as schools or buildings in low-income regions, can access low-cost clean energy that would otherwise not be possible.

Relevant Stakeholder Insights:

"We are oftentimes the largest taxpayer in these counties where we install wind and solar farms, so we pay millions in local taxes for the first 20 years, which is a major contribution to the local tax base. By scaling back the IRA, you are indirectly also stopping that investment at the local level and all the benefits that flow from it."

MICHAEL R, FOUNDER & CEO AT RENEWABLE ENERGY AND STORAGE FIRM IN THE ROCKY MOUNTAINS REGION

"We try to make sure we get the middle class using these technologies. Because if we don't make them accessible, we won't get where we need to. We can't depend on 1% of our society or our planet's population to do this that can easily afford it. We need other people to have access and affordability."

WHITNEY P, PARTNER AT SOLAR AND BATTERY INSTALLATION FIRM IN THE ROCKY MOUNTAINS REGION

- **A repeal of the IRA would hinder progress made on emerging technologies, such as ground-source heat pumps and new battery storage, that will become more competitive and less dependent on federal investment as technologies mature and the demand in the market increases, expanding the energy base for the country in the process.** The IRA has critically improved the return on investments for several emerging technologies with higher upfront costs.

Relevant Stakeholder Insights:

"With the IRA accelerating the transition to cleaner energy, electrification stands as a cornerstone of decarbonization. By reducing our reliance on fossil fuels, electrification not only drives sustainability but also empowers consumers and utilities to embrace a more resilient and future-proof energy ecosystem. As we expand access to energy-efficient technologies, we are ensuring a lasting impact on both the environment and the economy."

DANIEL S, SR. MANAGER AT ENERGY EFFICIENCY INSTALLATION FIRM IN THE MIDWEST



- **The growth in clean energy projects since the passing of the IRA has driven significant job creation and created several opportunities for worker transition to emerging industries.** With new access to capital, businesses have been able to expand their business and hire employees with greater confidence. The IRA and BIL have improved the financing capabilities of developers and helped clear the work queue by adding new hires. These policies have also provided increased job stability for many workers in the field.

Relevant Stakeholder Insights:

“Developers have also built out really first-class teams of people. There are an additional 15 gigawatts of projects with upwards of 50 to 60 new jobs created and new roles within those development firms.”

ERIK L, CEO AT SOLAR AND ENERGY STORAGE FIRM IN THE SOUTHEAST

"The hydrogen facilities themselves, while it's a relatively new industry, have skill sets that are very transferable from traditional oil and gas and power plants. You're still dealing with pipes and steam; instead of refining oil, you're effectively refining water into hydrogen. It will take some new skills and learning for sure, but those skill sets are substantially transferable."

HESSTON K, DIRECTOR AT CLEAN ENERGY DEVELOPER IN THE CENTRAL AND WESTERN US



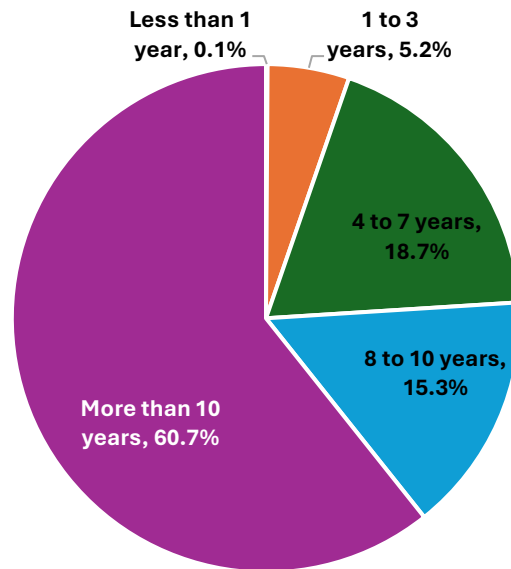
Survey Results

BW Research surveyed 929 employers involved in clean energy¹ to gauge their awareness of the importance and impact of the IRA and related policies on their businesses.

Profile of Firms

Of the surveyed firms, a large majority has been in business since before the passing of the IRA and has therefore been able to see what has changed as a direct result of this policy. Most firms (60.7%) have been in business for over ten years, while a fifth (18.7%) has been operational for 4 to 7 years, and about one in six (15.3%) has been operational for 8 to 10 years (Figure 1). Of the 48 businesses opened in the last three years, half (50.0%) were opened expecting to receive IRA funding.

Figure 1. Years in Business, All Respondents

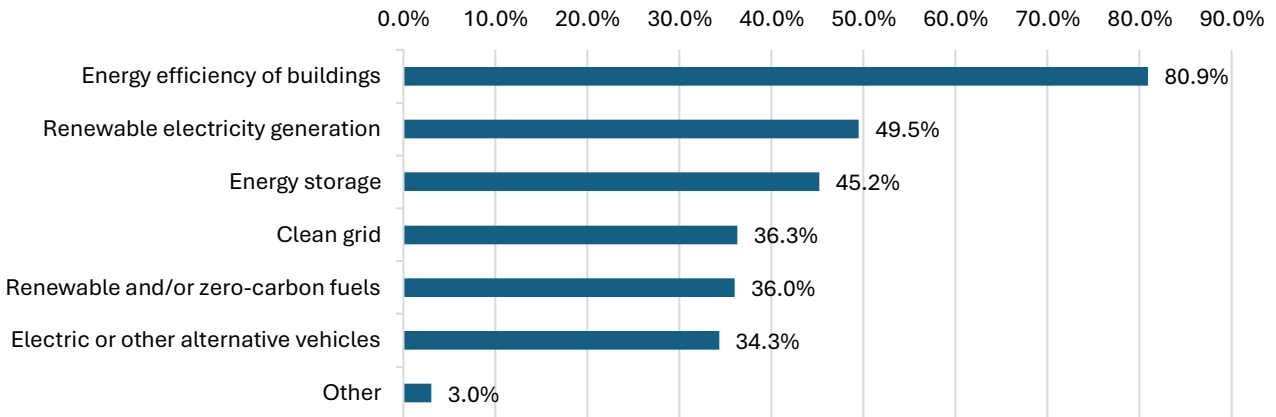


¹ 100% of respondents indicated their firm was involved with at least one of the following activities: energy efficiency of buildings, renewable electricity generation, energy storage, clean grid, renewable and/or zero carbon fuels, or electric or other alternative transportation.



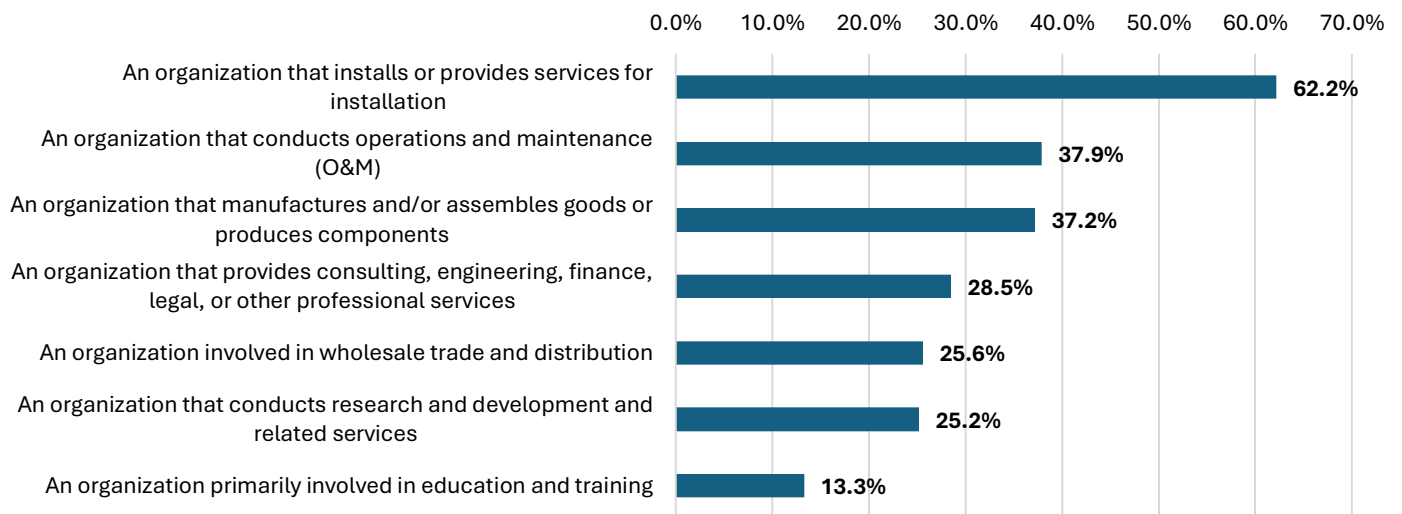
The survey focused on businesses in the clean energy and climate resilience space. As a result, most (80.9%) responding firms work with the energy efficiency of buildings, close to half (49.5%) work with renewable electricity generation, and 45.2% work with energy storage (Figure 2).

Figure 2. Technologies Firms are Involved With²



The majority (62.2%) of responding firms work with installation services, and close to two-fifths reported working in Operations and Maintenance (O&M) (37.9%) or manufacturing or assembly (37.2%) (Figure 3).

Figure 3. Firm's Focus Within Their Industry³



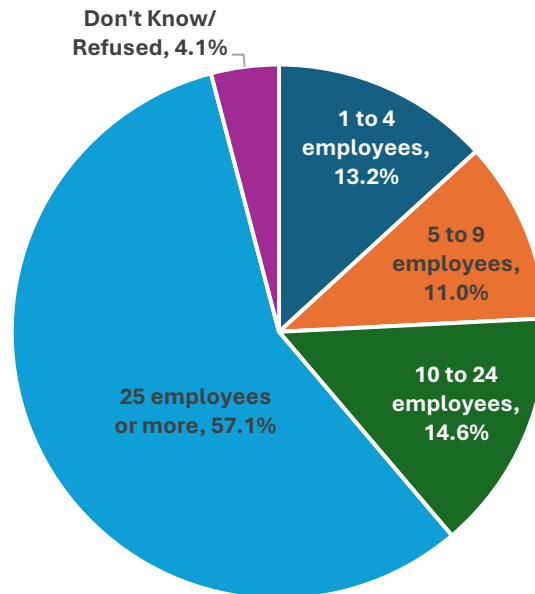
² Multiple responses permitted: Percentages may sum to more than 100%.

³ Multiple responses permitted: Percentages may sum to more than 100%.



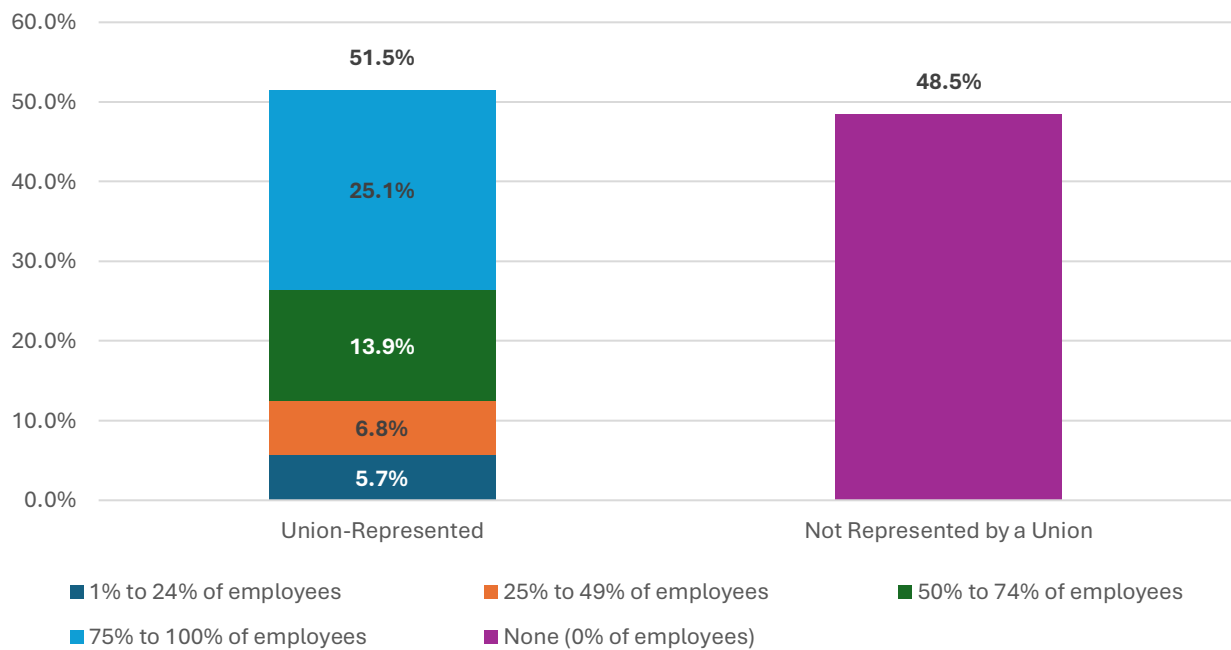
To understand how clean energy policies can affect these businesses, we asked about the proportion of workers supporting their clean energy business. Responding firms have 104 employees on average, with a median of 35. On average, they have 55 workers supporting the clean energy portion of their business, with a median of 25. Over half of responding firms (57.1%) have 25 employees or more supporting the clean energy portion of their business (Figure 4).

Figure 4. Number of Employees Supporting the Clean Energy Portion of the Business



One quarter (25.1%) of firms reported having over 75% of their workers represented by a union, collective bargaining agreement (CBA), or project labor agreement (PLA). Another 14% reported that more than half but less than 75% of their workers have union representation or are covered under a CBA or a PLA. Nearly half (48.5%) of respondents stated that none of their employees are represented by a union, CBA, or PLA (Figure 5).

Figure 5. Percentage of Permanent Clean Energy Employees at Firm Represented by a Union, Collective Bargaining Agreement, or Project Labor Agreement⁴

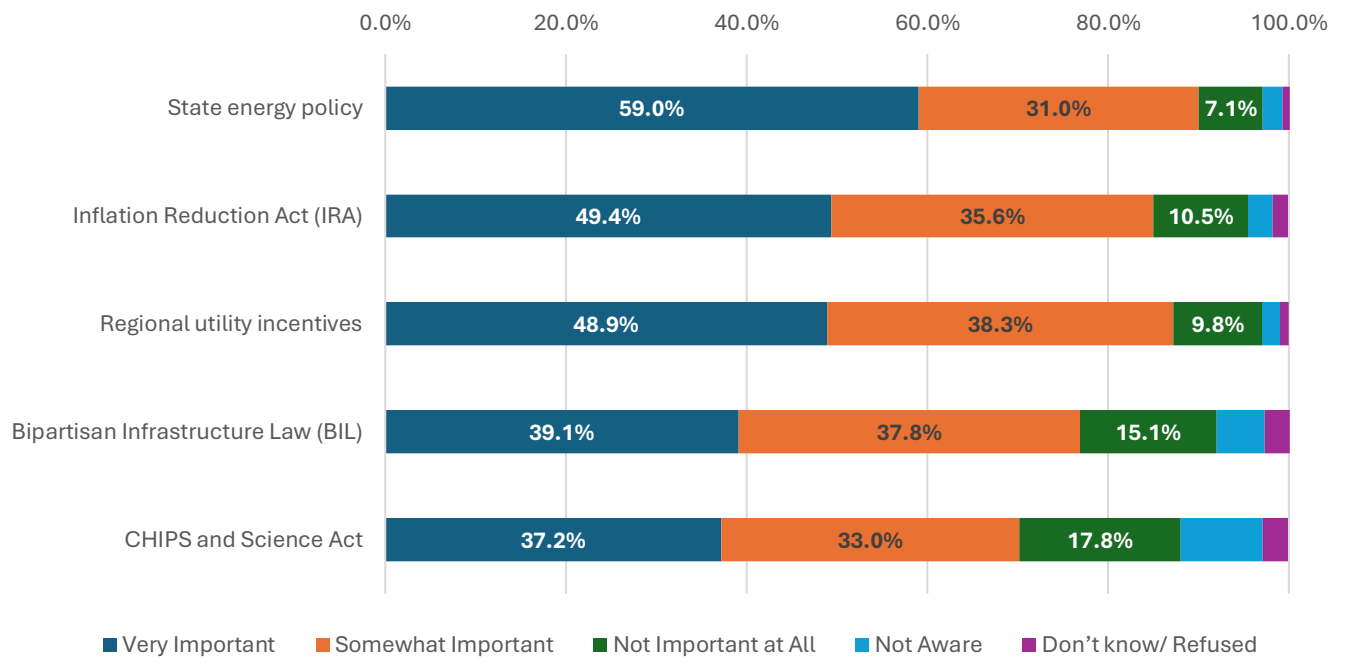


⁴ This was not asked to respondents who answered “Don’t know/Refused” to “How many of these workers support the clean energy portion of your business?” (n=859)



Half of the responding firms reported that they consider the IRA to be "very important" for their business growth, and nearly nine in ten (85.0%) firms consider it at least "somewhat important". Meanwhile, state energy policy is considered "very important" to about six in ten (59.0%) firms and at least "somewhat important" to nine in ten (90.0%) firms (Figure 6). Larger firms (25 or more employees) were more likely to report that the CHIPS and Science Act is "very important" to their company's growth.

Figure 6. Importance of Specific Policies to Business Growth

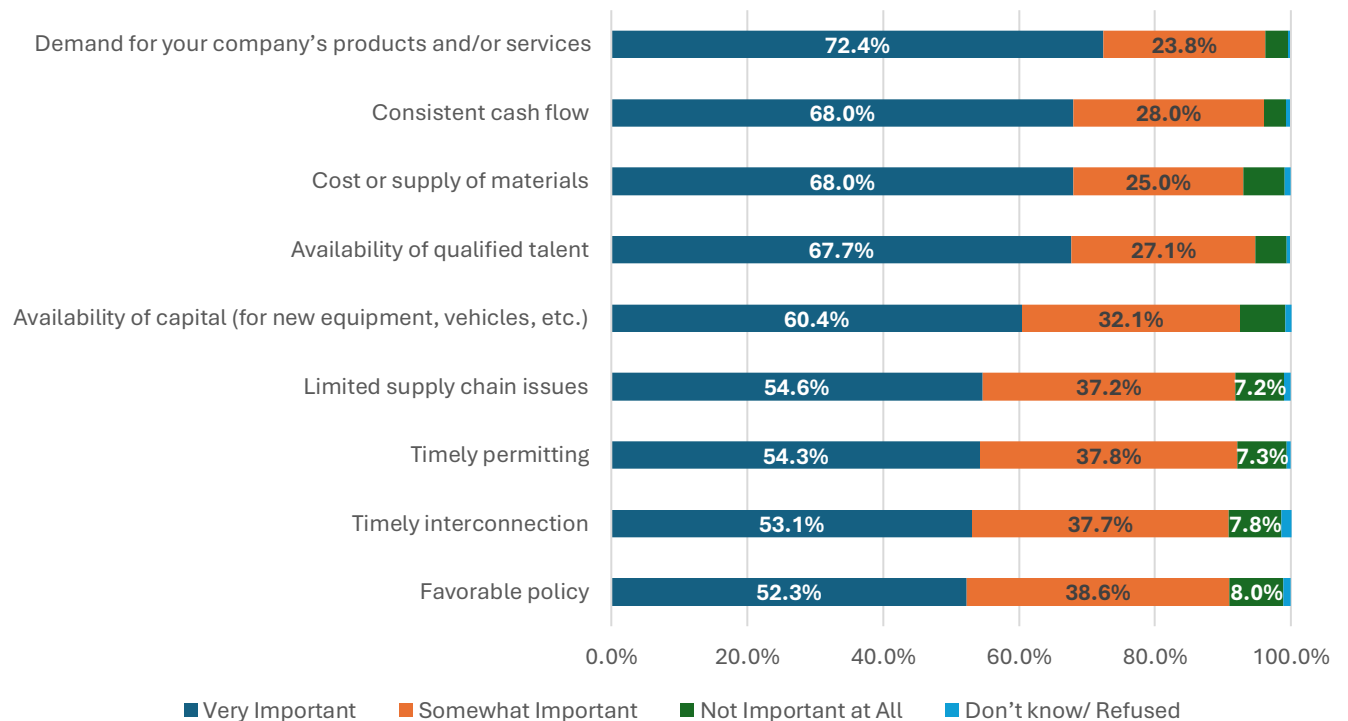


Awareness and Perceptions of the Inflation Reduction Act

Responding firms were asked about their businesses' key metrics and growth drivers in recent years. In combination with this, they were asked about their knowledge of the IRA and how they have interacted with the policy since its passage in 2022.

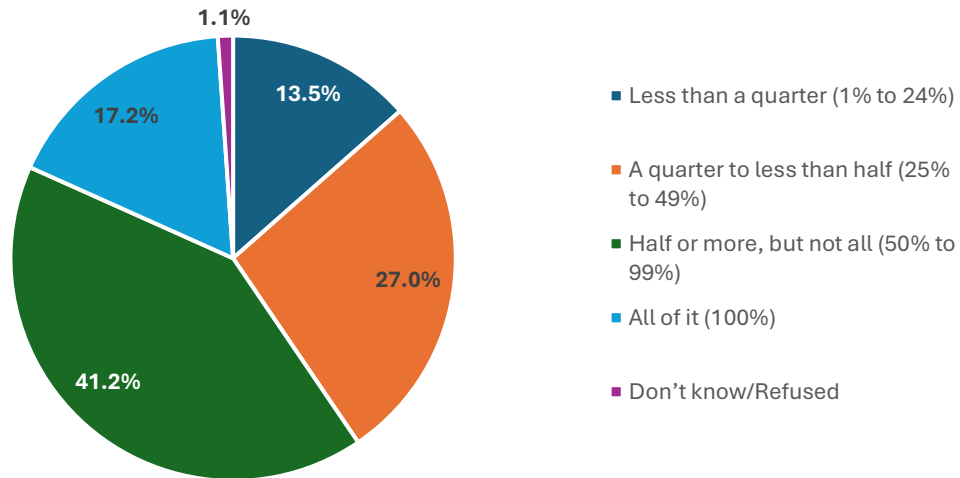
The most important factors for the profitability of businesses are the demand for their products or services, consistent cash flow, the cost or supply of materials needed, and the availability of qualified talent (Figure 7). Larger firms (25 or more employees) are more likely than smaller firms to rate favorable policy as "very important" to the profitability of their business.

Figure 7. Importance of Different Factors as They Contribute to Business Profitability



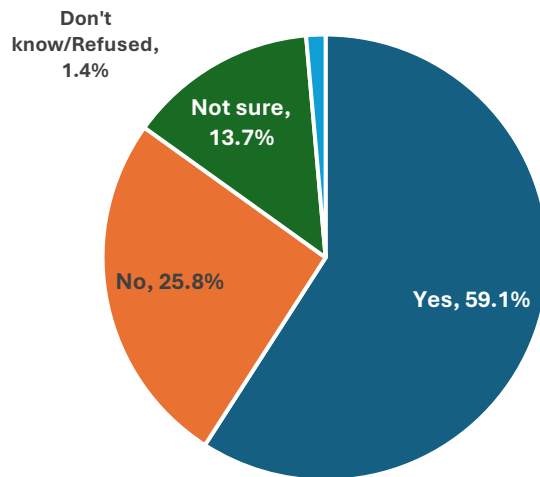
About two-fifths (41.2%) of firms stated that clean energy represents more than half, but not all, of their gross revenue. To 17% of firms, clean energy represents all of their gross revenue (Figure 8).

Figure 8. Amount of Total Gross Revenue Related to Clean Energy



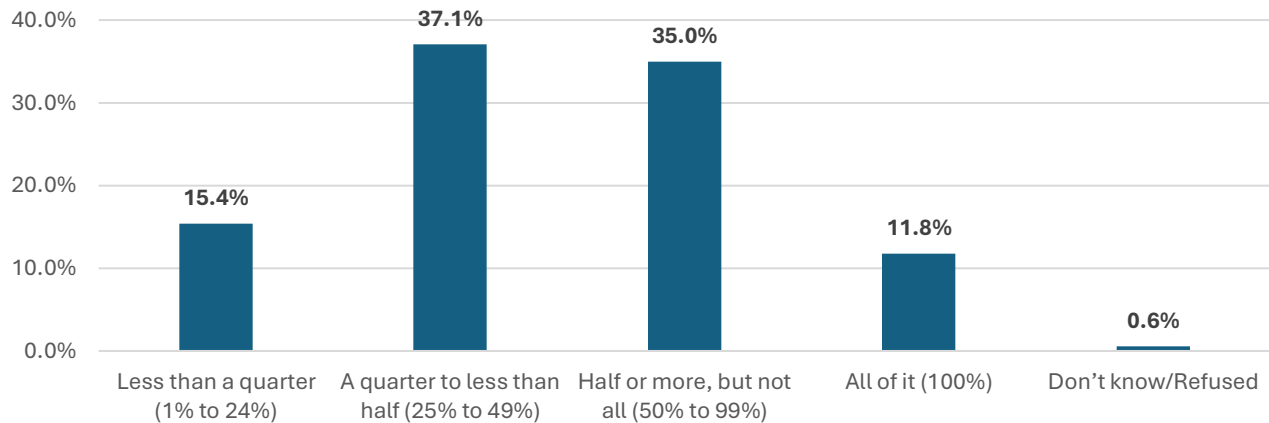
Close to six in ten (59.1%) firms have worked on, produced goods, or offered services related to clean energy projects directly impacted or funded by the IRA (Figure 9). About a quarter (25.8%) of responding firms work in clean energy but reported not working on projects directly impacted by the IRA.

Figure 9. Businesses that Have Worked On, Produced Goods, or Offered Services Related to Clean Energy Projects Directly Impacted or Funded by the IRA



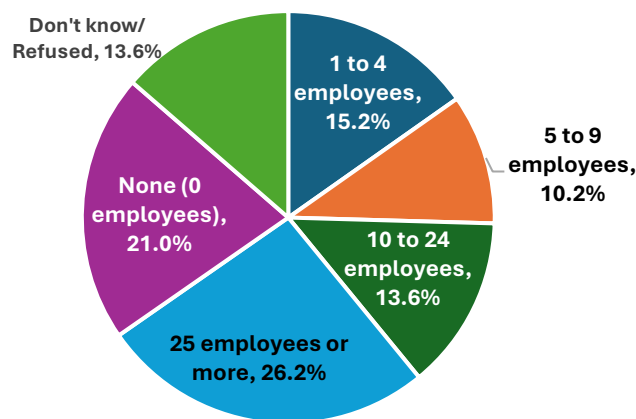
About a tenth (11.8%) of firms responded that all their revenue over the last 12 months came from work on projects supported by the IRA, and over a third (35.0%) reported that at least half of their revenue resulted from projects supported by the IRA (Figure 10).

Figure 10. Proportion of Business Revenue Over Last 12 Months Attributed to Work on IRA-Supported Projects⁵



Over a quarter (26.2%) of firms added 25 or more employees in the last year as a direct result of IRA funding (Figure 11). Another 39% of firms added at least one employee due to the IRA. Firms with 10 to 24 clean energy workers added two workers due to the IRA, on average. Firms with 25 or more employees increased their clean energy workforce by an average of 17 workers due to the IRA.

Figure 11. Employees Added in the Last 12 Months as a Direct Result of IRA Funding⁶



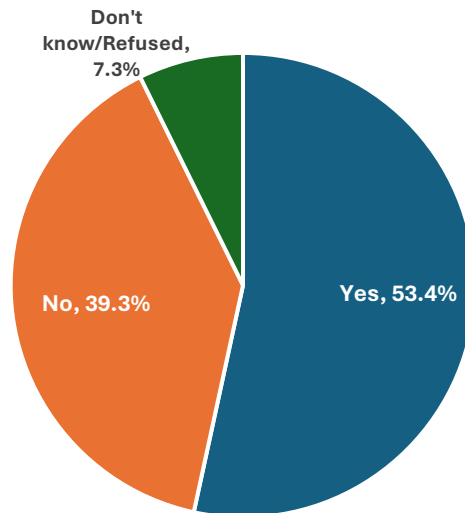
⁵ Only asked respondents who answered “Yes” to “Has your company worked on, produced goods, or offered services related to clean energy projects that have been directly impacted (received funding or tax credits) by the IRA?” (n=525)

⁶ Only asked to respondents who stated the IRA is “Very Important” or “Somewhat Important” to their firm’s growth and who stated growth in clean energy employment at their firm in the last 12 months (n=381)



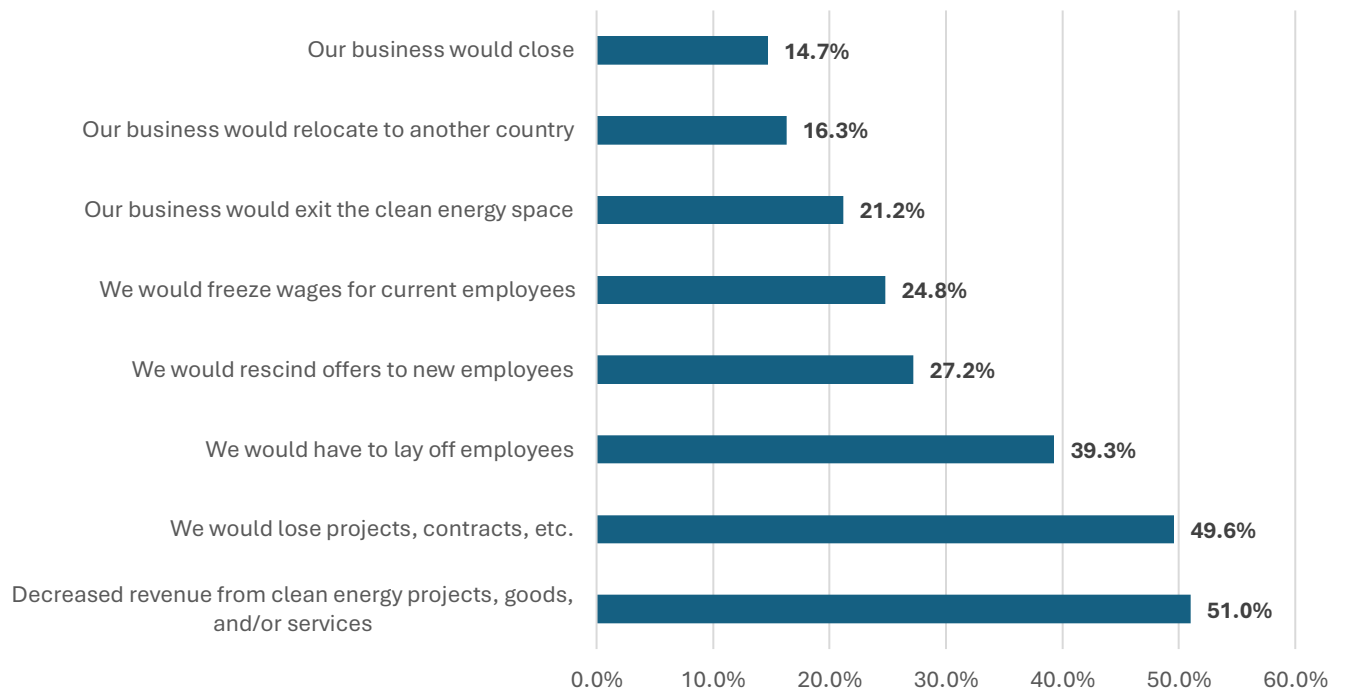
More than half (53.4%) of firms reported they would lose business or revenue with a repeal of the IRA in the next year. Larger firms were more likely to state they would lose business (Figure 12).

Figure 12. Firm Would Lose Business and/or Revenue if IRA Were Repealed Over Next 12 Months



The biggest impacts to businesses with a repeal of the IRA were decreased revenue from their clean energy business, loss of projects or contracts, and laying off workers (Figure 13). The uncertainty around revenue streams and new business would also lead more than a quarter (27.2%) of firms to rescind their offers to new employees and freeze hiring. Firms would also consider more alarming measures such as freezing the wages of current employees (24.8%), fully leaving the clean energy space (21.2%), or fully closing the business (14.7%). One in eight (16.3%) firms reported having to relocate to another country with a repeal of the IRA, although this measure was much likelier in larger firms than in firms with less than 25 employees.

Figure 13. Biggest Impacts to Businesses Over Next 12 Months If IRA Were Repealed⁷

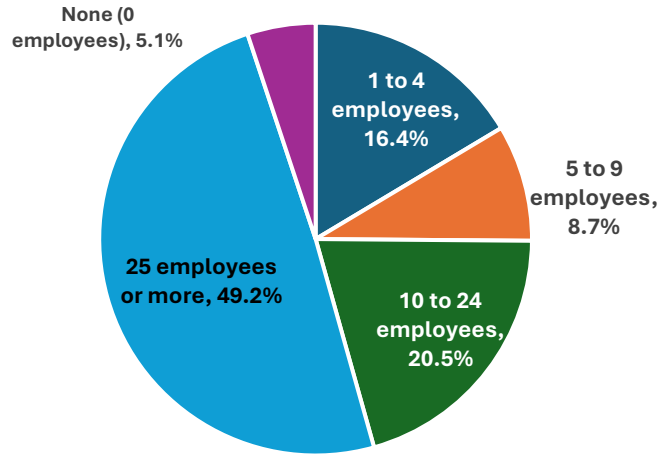


⁷ Only asked to respondents who answered “Yes” to “If the Inflation Reduction Act (IRA) were repealed over the next 12 months and the support provided via grants, loans, rebates, incentives, and other investments for clean energy projects was eliminated, would your firm lose business and or money?” (n=496)



Of the firms that reported having to lay off employees as a result of the repeal of the IRA, half (49.2%) would lay off 25 or more clean energy workers over the next year. Another fifth (20.5%) reported having to lay off between 10 and 24 of their current clean energy employees (Figure 14).

Figure 14. Number of Clean Energy Workers Firms Would Have to Lay Off Over Next 12 Months If IRA Were Repealed⁸



⁸ Only asked to respondents who answered “We would have to lay off employees” to “What would be the biggest impacts for your business over the next 12 months related to a repeal of the IRA?” (n=195)



Appendix A: Survey Toplines



Environmental Entrepreneurs
E2

Employer Survey

August 2024

PRELIMINARY topline 1.4

n = 929

Introduction:

Hello, my name is _____ and I am calling on behalf of **Environmental Entrepreneurs (E2)**. We are conducting a nationwide survey to better understand the workforce and staffing needs of clean energy businesses. May I please speak to the person most knowledgeable about staffing at your firm?

[IF NEEDED]: This survey has been commissioned by E2.

[IF NEEDED]: The survey is being conducted by BW Research, an independent research organization, and should take approximately 10 to 15 minutes of your time.

[IF NEEDED]: Your individual responses will **not** be published; only aggregate information will be used in the reporting of the survey results.



Screeners Questions

A. Is your firm involved with any activity related to clean energy, which includes:

- **Energy efficiency of buildings** (including installation of LED lighting, insulation, high-efficiency heating, and cooling systems, energy-efficient buildings, etc.)
- **Renewable electricity generation** (including solar, wind, geothermal, etc.)
- **Energy storage** (including batteries, mechanical, and pumped hydro)
- **Clean grid** (including grid modernization)
- **Renewable and/or zero carbon fuels** (biofuels, etc.)
- **Electric or other alternative transportation** (including electric vehicles)

100.0% Yes
0.0% No
0.0% Don't know/Refused

B. Please enter the zip code of your current location. _ _ _ _ _

22.9% South Atlantic
15.3% Pacific
13.8% East North Central
13.7% West South Central
12.8% Middle Atlantic
7.2% East South Central
5.9% Mountain
5.0% West North Central
3.4% New England

C. Are you involved in staffing or other decision-making at your firm's current location? If not, could you please connect me to the appropriate person?

100.0% Yes, I am involved in staffing or hiring decisions at my firm
0.0% No, but I can connect you to the appropriate person
0.0% No
0.0% Not sure



D. How many years has your firm been in business?

- 0.1%** Less than 1 year
- 5.2%** 1 to 3 years
- 18.7%** 4 to 7 years
- 15.3%** 8 to 10 years
- 60.7%** More than 10 years
- 0.0%** Don't know/ Refused

E. Which of the following technologies is your firm involved with? [MULTIPLE CHOICE – SELECT ALL THAT APPLY] – *Multiple responses permitted: Percentages may sum to more than 100%.*

[IF NEEDED: If your organization is involved in energy research or professional services for the industry, please select the options that are most relevant for your organization.]

- 80.9%** Energy efficiency of buildings
- 49.5%** Renewable electricity generation
- 45.2%** Energy storage
- 36.3%** Clean grid
- 36.0%** Renewable and/or zero-carbon fuels
- 34.3%** Electric or other alternative vehicles
- 3.0%** Other
- 0.0%** None of the above

[IF SE COUNT > 1, ASK SF. IF SE COUNT = 1, SKIP]

F. Which do you consider your firm's **primary** technology focus, based on the majority of labor hours performed at your location? (n=650)

- 56.0%** Energy efficiency of buildings
- 22.9%** Renewable electricity generation
- 6.3%** Electric or other alternative vehicles
- 6.3%** Clean grid
- 4.3%** Energy storage
- 3.4%** Renewable and/or zero-carbon fuels
- 0.8%** Other



SFPrime

- 60.8%** Energy efficiency of buildings
- 18.6%** Renewable electricity generation
- 5.7%** Electric or other alternative vehicles
- 5.0%** Clean grid
- 4.0%** Energy storage
- 3.2%** Renewable and/or zero-carbon fuels
- 2.7%** Other
- 0.0%** None of the above

G. Please tell us which type of technology your company works most closely with:

**A. Renewable electricity generation (IF SE= Renewable electricity generation)
[RANDOMIZE] (n=460)**

- 74.8%** Solar electric generation
- 42.4%** Land-based wind generation
- 40.4%** Traditional hydroelectric generation
- 36.7%** Bioenergy/biomass generation
- 35.9%** Low-impact hydroelectric generation, including wave/kinetic generation
- 34.3%** Geothermal generation
- 25.2%** Offshore wind generation
- 1.7%** Other generation

B. Clean grid (IF SE= Clean grid) [RANDOMIZE] (n=337)

- 88.1%** Smart grid
- 60.2%** Micro Grids
- 15.1%** Other Grid Modernization
- 0.9%** Other

C. Energy storage (IF SE= Energy storage) [RANDOMIZE] (n=420)

- 76.7%** Battery storage, including electric vehicle batteries



- 57.1%** Mechanical storage (flywheels, compressed air energy storage, etc.)
- 44.8%** Pumped hydro-power storage
- 43.1%** Thermal storage
- 2.4%** Other

**D. Energy efficiency of buildings (IF SE= Energy efficiency of buildings)
[RANDOMIZE] (n=752)**

- 68.5%** ENERGY STAR® appliances, products, and services
- 62.4%** LED, CFL, and other efficient lighting
- 57.2%** Advanced and recycled building materials
- 54.8%** Renewable heating and cooling
- 48.5%** Traditional HVAC
- 1.3%** Other

**E. Renewable and/or zero carbon fuels (IF SE= Renewable and/or zero carbon
fuels) [RANDOMIZE] (n=334)**

- 54.2%** Renewable diesel
- 53.3%** Biodiesel
- 46.7%** Sustainable Aviation Fuels (SAF)
- 45.5%** Waste fuels
- 42.2%** Woody biomass/cellulosic biofuel
- 38.0%** Corn ethanol
- 20.4%** Other biofuels
- 7.2%** Other ethanol/non-woody biomass
- 5.4%** Other

**F. Electric or other alternative transportation (IF SE= Electric or other alternative
transportation) [RANDOMIZE] (n=319)**

- 66.8%** Electric Vehicle Charging Stations
- 61.4%** Hybrid electric vehicles
- 59.6%** Electric Vehicles (BEVs)
- 48.9%** Plug-in hybrid vehicles
- 37.3%** Fuel Cell Vehicles (FCEVs)
- 1.3%** Other



H. Which of the following industry descriptions describes your organization's focus as it relates to the clean energy industry? [MULTIPLE CHOICE – SELECT ALL THAT APPLY] – *Multiple responses permitted: Percentages may sum to more than 100%.*

- 62.2%** An organization that installs or provides services for installation
- 37.9%** An organization that conducts operations and maintenance (O&M)
- 37.2%** An organization that manufactures and/or assembles goods or produces components
- 28.5%** An organization that provides consulting, engineering, finance, legal, or other professional services
- 25.6%** An organization involved in wholesale trade and distribution
- 25.2%** An organization that conducts research and development and related services
- 13.3%** An organization primarily involved in education and training
- 1.1%** Other support services
- 1.1%** Other
- 0.6%** Not sure

[ASK SI IF SH>1]

I. Which do you consider your firm's **primary** focus, based on the majority of labor hours performed at your location? (n=577)

- 34.5%** An organization that installs or provides services for installation
- 25.6%** An organization that manufactures and/or assembles goods or produces components
- 12.1%** An organization that conducts research and development and related services
- 9.7%** An organization that conducts operations and maintenance (O&M)
- 8.5%** An organization involved in wholesale trade and distribution
- 8.0%** An organization that provides consulting, engineering, finance, legal, or other professional services



- 0.9% An organization primarily involved in education and training**
- 0.3% Other support services**
- 0.3% Other**

SIPrime

- 41.2% An organization that installs or provides services for installation**
- 22.2% An organization that manufactures and/or assembles goods or produces components**
- 8.8% An organization that conducts operations and maintenance (O&M)**
- 8.7% An organization that conducts research and development and related services**
- 7.9% An organization that provides consulting, engineering, finance, legal, or other professional services**
- 7.2% An organization involved in wholesale trade and distribution**
- 1.3% An organization primarily involved in education and training**
- 1.3% Other support services**
- 0.8% Other**
- 0.6% Not sure**



Section 1. Employment & Hiring Profile

1. Including all full-time and part-time employees, how many **permanent** employees work at your current location? Please include any employees working remotely who report out of this location. [DO NOT ACCEPT 0 AS A RESPONSE]

Average **Median**
104.3 **35.0**

11.4% **1 to 4 employees**
10.0% **5 to 9 employees**
14.4% **10 to 24 employees**
64.2% **25 employees or more**

2. Of the [TAKE Q1#] full-time and part-time permanent employees at your current location, how many of these workers support the **clean energy** portion of your business? Please note that your response should include administrative staff supporting the energy portion of your business.

Average **Median**
55.3 **25.0**

13.2% **1 to 4 employees**
11.0% **5 to 9 employees**
14.6% **10 to 24 employees**
57.1% **25 employees or more**
4.1% **Don't know/ Refused**

3. How many of the [TAKE Q2#] **permanent clean energy employees** at your current location are represented by a union, collective bargaining agreement, or project labor agreement? (n=859)

5.7% **1 to 24% of employees**
6.8% **25% to 49% of employees**
13.9% **50% to 74% of employees**
25.1% **75% to 100% of employees**
48.5% **None (0% of employees)**



4. How many full-time and part-time **permanent** employees did you have working at your current location 12 months ago that supported the clean energy portion of your business?

Employer past growth: 10.0%

- 59.5% Fewer employees**
- 30.2% Same number of employees**
- 5.4% More employees**
- 4.8% Don't know/ Refused**

5. Based on [Take Q2 #] full-time and part-time permanent employees at your location that support the **clean energy** portion of your business, how many **clean energy** employees do you expect to have at your location 12 months from now?

Employer projected growth: 7.3%

- 48.5% More employees**
- 47.6% Same number of employees**
- 2.5% Fewer employees**
- 1.4% Don't know/ Refused**



Section 2. Inflation Reduction Act (IRA) Awareness and Perception

6. The following is a list of factors that may contribute to the profitability of your business. Please rate the importance of each factor for your business. **[RANDOMIZE]**

	Very Important	Somewhat Important	Not Important at All	Don't know/Refused
A. Availability of capital (for new equipment, vehicles, etc.)	60.4%	32.1%	6.7%	0.9%
B. Availability of qualified talent	67.7%	27.1%	4.6%	0.5%
C. Demand for your company's products and/or services	72.4%	23.8%	3.4%	0.3%
D. Cost or supply of materials	68.0%	25.0%	6.1%	0.9%
E. Timely permitting	54.3%	37.8%	7.3%	0.6%
F. Timely interconnection	53.1%	37.7%	7.8%	1.5%
G. Favorable policy	52.3%	38.6%	8.0%	1.1%
H. Limited supply chain issues	54.6%	37.2%	7.2%	1.0%
I. Consistent cash flow	68.0%	28.0%	3.3%	0.6%

7. Approximately how much of your organization's work at your current location, in terms of total gross revenue, is related to clean energy?

- 13.5%** Less than a quarter (1% to 24%)
- 27.0%** A quarter to less than half (25% to 49%)
- 41.2%** Half or more, but not all (50% to 99%)
- 17.2%** All of it (100%)
- 1.1%** Don't know/Refused

8. How important are the following to your company's growth? **[RANDOMIZE]**

	Very Important	Somewhat Important	Not Important at All	Not Aware	Don't know/Refused
A. Inflation Reduction Act (IRA)	49.4%	35.6%	10.5%	2.7%	1.7%
B. Bipartisan Infrastructure Law (BIL)	39.1%	37.8%	15.1%	5.3%	2.8%
C. CHIPS and Science Act	37.2%	33.0%	17.8%	9.1%	2.8%
D. State energy policy	59.0%	31.0%	7.1%	2.2%	0.8%
E. Regional utility incentives	48.9%	38.3%	9.8%	2.0%	1.0%



IF Q8 A = "Very Important" OR "Somewhat Important" OR "Not at all Important", ASK Q9

9. Has your company worked on, produced goods, or offered services related to clean energy projects that have been directly impacted (funded, etc.) by the Inflation Reduction Act (IRA)? (n=888)

- 59.1% Yes**
- 25.8% No**
- 13.7% Not sure**
- 1.4% Don't know/Refused**

IF Q9 = "Yes", ASK Q10

10. What proportion of your organization's revenue over the last 12 months can be attributed to your organization's work on clean energy projects supported by (grants, loans, rebates, tax incentives, investments, etc.) the Inflation Reduction Act (IRA)? (n=525)

- 15.4% Less than a quarter (1% to 24%)**
- 37.1% A quarter to less than half (25% to 49%)**
- 35.0% Half or more, but not all (50% to 99%)**
- 11.8% All of it (100%)**
- 0.6% Don't know/Refused**

DISPLAY BELOW TEXT TO ALL RESPONDENTS

The Inflation Reduction Act (IRA) was signed into law on August 16, 2022, to invest in programs related to clean energy, climate mitigation and resilience, agriculture, and conservation. The IRA invests \$370 billion in clean energy projects, including those that cut greenhouse gas emissions and other pollutants.

IF SCREENER D = "Less than 1 year" OR "1 to 3 years" ASK Q11

11. Was your business started with the expectation of receiving funding through the Inflation Reduction Act (IRA)? (n=48)

- 50.0% Yes**



50.0% No
0.0% Don't know/Refused

IF Q8 = "Very Important" OR "Somewhat Important" AND CE GROWTH > 0, ASK Q12

12. Of the **[Take CE GROWTH #]** employees added to your business in the last 12 months, how many were added directly due to funding from the IRA? (n=381)

Average	Median
11.8	5.0

15.2% 1 to 4 employees
10.2% 5 to 9 employees
13.6% 10 to 24 employees
26.2% 25 employees or more
21.0% None (0 employees)
13.6% Don't know/ Refused

13. If the Inflation Reduction Act (IRA) were repealed over the next 12 months and the support provided via grants, loans, rebates, incentives, and other investments for clean energy projects was eliminated, would your firm lose business and or money?

53.4% Yes
39.3% No
7.3% Don't know/Refused

IF Q13= "Yes", ASK Q14

14. What would be the biggest impacts for your business over the next 12 months related to a repeal of the Inflation Reduction Act (IRA)? (Select all that apply) - *Multiple responses permitted: Percentages may sum to more than 100%. (n=496)*
[RANDOMIZE]

51.0% Decreased revenue from clean energy projects, goods, and/or services
49.6% We would lose projects, contracts, etc.
39.3% We would have to lay off employees
27.2% We would rescind offers to new employees
24.8% We would freeze wages for current employees



- 21.2% Our business would exit the clean energy space**
- 16.3% Our business would relocate to another country**
- 14.7% Our business would close**
- 0.8% Other**
- 2.6% Don't know/ Refused**

IF Q14 = “We would have to lay off employees”, ASK Q15

15. How many of your [TAKE Q2#] clean energy employees at your current location would be laid off over the next 12 months if the Inflation Reduction Act (IRA) was repealed? [RANDOMIZE] (n=195)

INCLUDE CHECK THAT Q15<=Q2

Average	Median
31.7	15.0

- 16.4% 1 to 4 employees**
- 8.7% 5 to 9 employees**
- 20.5% 10 to 24 employees**
- 49.2% 25 employees or more**
- 5.1% None (0 employees)**
- 0.0% Don't know/ Refused**

16. After reviewing/reading the information about the Inflation Reduction Act (IRA), how important do you feel the IRA is to your business?

- 54.3% Very important**
- 33.6% Somewhat important**
- 10.0% Not at all important**
- 2.2% Don't know/ Refused**

17. Are there any additional impacts to your business from a potential repeal of the Inflation Reduction Act (IRA) that have not been discussed so far?

- 5.1% Yes**
- 83.6% No**
- 11.3% Don't know/ Refused**





Thank you for completing the survey. We would like to verify your contact information.

- A. First and Last Name of Respondent _____
- B. Position of Respondent _____
- C. Phone of Respondent _____
- D. Email of Respondent _____
- E. Name of Company _____
- F. Company Address (including City) _____

**Those are all the questions I have.
Thank you very much for your time.**

