

RESOURCE GUIDE
BUSINESS INCENTIVES FOR
MANUFACTURERS IN NEW YORK

Introduction

Equitable access to resources plays a vital role in strengthening communities and enhancing economic growth across the state. Equity-focused incentives are designed to include small and minority-owned businesses, offering opportunities that support diverse participation in the manufacturing ecosystem. By fostering inclusivity, these incentives help to build a sustainable and cleaner manufacturing sector, making businesses more resilient while encouraging local economic investment and environmental stewardship.

Purpose of the Guide

The purpose of this guide is to aid manufacturers in navigating New York State's landscape of incentives and resources. Emphasizing programs that advance economic equity and community-focused growth, this guide serves as a resource for manufacturers seeking to integrate social equity into their operational strategies.

Equity Work in Manufacturing

Equity in manufacturing centers around accessible resources and opportunities for all, especially underserved communities. In New York, equity initiatives have the following focus areas:

- **Supporting Minority-Owned Businesses (MWBES):** Programs aim to make financing, contracts, and resources more accessible to MWBEs by connecting them to larger manufacturing networks and providing technical assistance.
- **Creating Accessible Jobs:** Equity initiatives in New York are dedicated to expanding job opportunities for people in underserved communities. Training and certification funding supports skill development for high-demand roles in sustainable manufacturing.
- **Building Partnerships in Underserved Communities:** Sustainable manufacturing growth is promoted through collaboration with local organizations and community leaders, aligning projects with economic and environmental goals for community-led revitalization.

Impact of Equity in Manufacturing

Equity-focused incentives can yield tangible benefits, reducing disparities and fostering inclusivity in the manufacturing industry. These impacts include:

- **Supplier Diversity Initiatives:** Encouraging manufacturers to source materials from MWBEs broadens economic opportunities for underserved communities and builds a more inclusive supply chain.
- **Community Investment:** Incentives enable manufacturers to contribute to local infrastructure and workforce training, fostering economic stability and job creation.
- **Workforce Diversity:** By promoting inclusive hiring practices, equity incentives contribute to diverse teams, which often bring innovative problem-solving and enhance business resilience.

Curriculum and Educational Materials

New York State provides various resources to help manufacturers adopt equity and sustainability practices. Key programs include those developed by:

- [NYSERDA](#): Offers training on energy efficiency and clean technology adoption.
- [Empire State Development \(ESD\)](#): Provides resources and funding for infrastructure improvements and sustainable manufacturing.
- [NYCEDC](#) and [NYCEEC](#): Offer financing options, technical assistance, and workshops to support manufacturers in reducing emissions and enhancing efficiency.

Educational Modules on Equity and Sustainability

Manufacturers can deepen their understanding through the following educational modules:

- **Environmental Justice and Equity Training:** Covers principles of environmental justice and provides strategies for manufacturers to reduce their environmental impact on underserved communities.
- **Energy Efficiency and Sustainable Practices:** Technical training on energy-efficient practices and sustainable supply chain management.
- **Inclusive Leadership and Workforce Development:** Offers insights on building diverse teams and fostering inclusive workplace cultures.

Partnerships for Workforce Training and Development

Manufacturers can partner with educational institutions to provide on-the-job training, develop certification programs in clean technology, and create apprenticeships focused on sustainable practices. These partnerships benefit both the employees and the broader community by fostering a skilled, diverse workforce.

Climate Equity Resources for Manufacturers in NY State

1. SecondMuse Workshop Decks

[First Workshop](#)

[Second Workshop](#)

2. New York State Pollution Prevention Institute

The New York State Pollution Prevention Institute (NYSP2I) gives Empire State businesses, communities, and nonprofits the practical tools and solutions they need to realize the benefits of sustainability for our economy, environment, and our society as a whole. Their team of engineers and sustainability specialists offer customized solutions and educational resources that deliver on results and budget.

[Explore NYSP2I Here!](#)

3. US EPA | Environmental Justice Overview

US EPA provides an overview on Environmental Justice priorities in the US including grants and resources, learning center, strategic planning context and guidance, and collaborative partnerships across stakeholder groups

[Explore US EPA Environmental Justice Here!](#)

4. Community Engagement Strategies by Elemental Impact

This guide helps company leadership and project teams engage with community partners to drive community benefits. This guide includes tools and frameworks and resources for community engagement, compensation, and workforce development, created and tested over a decade of deploying projects.

[Explore Community Engagement Strategies Here!](#)

5. NIST Community Resilience Program

This program focuses on enhancing community resilience through research, planning, and stakeholder engagement. It provides resources to help communities prepare for hazards, adapt to changing conditions, and recover from disruptions, emphasizing the interdependencies of physical infrastructure and social systems.

[Read more here](#)

6. National Climate Assessment - NIST Insights on Community Resilience

This article discusses NIST's contributions to the National Climate Assessment, offering insights on equity and justice in climate adaptation. It highlights NIST's role in addressing climate change impacts on communities and infrastructure.

[Read more here](#)

7. Clean Energy Workforce Development

NYSERDA's program aims to build an inclusive clean energy workforce. It offers training, education, and job placement services to ensure that all New Yorkers can participate in and benefit from the clean energy economy.

[Read more here](#)

8. U.S. Climate Resilience Toolkit - Equity

This comprehensive resource provides information on incorporating equity into climate resilience planning. It offers tools, case studies, and guidance for communities and organizations working to address climate change impacts equitably.

[Read more here](#)

9. Climate Equity Reference Project

This initiative offers tools and analysis to advance global climate equity. It provides frameworks and calculators to help assess fair shares of climate action, considering historical responsibilities and capacities.

[Read more here](#)

10. Additional Resources/Case Studies:

[Workforce | NY Manufacturing Extension Partnership](#)

Regional NY MEP centers are working with organizations like NYATEP, the New York Association of Training and Employment Professionals to bring together workforce boards, career centers, BOCES programs, community organizations, labor unions, and chambers of commerce. NYS manufacturers are also finding opportunities to train and retain employees at a time when skilled labor seems hard to find through the SUNY Apprenticeship program.

[Statewide Pre-Apprentice Program \(SPAP\)](#)

WDI (Workforce Development Institute) and NYS Building & Construction Trades Council have developed a Statewide Pre-Apprentice Program with the primary focus to assist the current local apprenticeship readiness programs and where needed develop new programs. This partnership represents the union construction industry's training and workforce development outreach to underserved communities throughout the state, with an emphasis on women and people of color.

Incentives for Manufacturers in New York

New York State offers a comprehensive array of incentives to support manufacturers in adopting equitable and sustainable practices. These include:

1. **Tax Incentives for Manufacturers:** Programs reduce tax burdens for manufacturers who adopt sustainable practices or engage with MWBEs in their supply chain.
2. **Financing Options:** Loans and grants provide funding for sustainable projects, such as energy-efficient equipment and waste reduction initiatives.
3. **Workforce Development Programs:** Funding for skills training and apprenticeships that focus on sustainability and inclusivity.
4. **Energy Programs:** Initiatives offer incentives for adopting clean energy technologies, reducing emissions, and improving energy efficiency.

By using these incentives, manufacturers can lower operational costs, enhance sustainability, and contribute to economic equity within New York State.

Tax Incentives for Manufacturers

Program	Sales Tax Exemption for Manufacturers
Benefits	Manufacturers in New York City are eligible for as-of-right exemptions from state and local sales taxes. This applies to purchases and installation of machinery, equipment, supplies, fuel, and utilities.
Eligibility	Manufacturers located in NYC that apply for the exemption.
To Apply	Businesses must apply for the exemption with the New York State Department of Taxation and Finance (DTF).
Application Materials	Application materials
Agency	NYC Department of Small Business Services

Program	Accelerated Sales Tax Exemption Program (ASTEP)
Benefits	Provides sales tax exemptions of up to \$100,000 to industrial, manufacturing, commercial, and food retail businesses looking to construct or renovate space in underserved communities of NYC.

Eligibility	Work must begin within one year of signing a sales tax exemption benefit agreement with NYCIDA, and the exemption will expire no later than two years from the date of the agreement.
To Apply	Contact NYCIDA: NYCIDA@edc.nyc
Agency	NYC Economic Development Corporation (NYCEDC)

Program	Investment Tax Credit (ITC)
Benefits	The ITC offers a percentage of the investment credit base (the cost or other basis of the investment property). It is refundable for new businesses.
Eligibility	Available to individuals or businesses that placed qualified property into service during the tax year.
To Apply	Application materials available at: Investment Tax Credit Application
Agency	New York State Department of Tax and Finance

Program	Industrial Business Zone Relocation Credit
Benefits	Provides a one-time tax credit for manufacturing firms relocating to Industrial Business Zones (IBZs). Covers eligible moving costs up to \$1,000 per relocated employee or a maximum of \$100,000.
Eligibility	Businesses must lease or purchase a location within an IBZ and have operated continuously for 24 months before relocation. The business cannot own the move-out site and must not provide utilities or waste management.
To Apply	Application details available at: Industrial Business Zone Relocation Credit Application
Agency	NYC Department of Small Business Services

Program	New York Empowerment Zone Program (NYEZ)
Benefits	Offers investment funds and tax incentives to encourage business growth and local hiring. Incentives include employment credits, a 0% tax on capital gains, increased tax deductions on equipment, accelerated real property depreciation, and additional benefits.
Eligibility	Projects must be located in designated geographic areas of the South Bronx and Upper Manhattan, as indicated on the address locator. Projects must aim to increase economic opportunities for Empowerment Zone (EZ) residents and honor the cultural history of the area. More eligibility details: NYEZ Program Details .
To Apply	Meet with a representative from Upper Manhattan Empowerment Zone Corporation (UMEZ) or Bronx Overall Economic Development Corporation (BOEDC) to discuss potential assistance. Projects must be approved by the BOEDC or UMEZ before being presented to the NYEZ directors for final approval. Completion of the Vendor and Principal VENDEX Questionnaire forms is required before funding approval by the NYEZ.

Agency	Empire State Development
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Financing Options for Manufacturers

Program	Capital Program Loan Fund (CPLF)
Benefits	Offers loans up to 40% of the total project cost for real estate or machinery & equipment (M&E) projects; up to 60% for projects in Empire Zones or economically distressed areas. Combined with a bank loan, up to 90% financing is possible. CPLF real estate loans typically act as second mortgage loans, while M&E loans are secured by a first lien, co-equal with the bank's lien.
Eligibility	Eligible facilities include those used for manufacturing, distribution, warehousing, and certain services. Borrower must secure a 50% financing commitment from a bank and provide at least 10% of the project cost as equity. Personal guarantees are required from any individual owning 20% or more of the operating company. Additional information: CPLF Program Details .
To Apply	Start by contacting CPLF@esd.ny.gov . CPLF loans require board approval by the CPLF board of directors and the Public Authorities Control Board, which must be obtained before the project begins.
Agency	Empire State Development

Program	New York State Small Business Revolving Loan Fund Round 2 (SBRLF2)
Benefits	Offers CBLO microloans between \$500 and \$25,000, and regular loans with principal amounts from \$25,000 up to \$20,000,000. Program funds cover up to 50% of the loan principal amount, with a maximum of \$125,000 per loan.
Eligibility	Funds target businesses with limited capital access, particularly new companies, under-banked communities, and small businesses (often minority-owned). Eligible businesses must be New York State residents, independently owned and operated, not dominant in their field, and employ 100 or fewer full-time employees. More details available here .
To Apply	Contact SBRLF@esd.ny.gov for application details.
Agency	Empire State Development

Program	Greenpoint-Williamsburg Relocation Program
Benefits	Eligible applicants may receive the lesser of: (A) \$50,000; (B) \$15.13 per square foot multiplied by the eligible square footage at the move-out site; or (C) the verified actual moving costs.

Eligibility	Applicants must relocate from a qualified area to another site within NYC's five boroughs (excluding Manhattan south of 96th St). They must apply before signing a new lease or contract of sale for the move-in site. The move-in site must be occupied continuously for at least three years post-relocation. Applicants cannot own or have an affiliate interest in the move-out location. More details available here .
To Apply	Submit application materials available at the above link.
Agency	Mayor's Office of Industrial and Manufacturing Businesses

Workforce Development Programs

Program	Excelsior Jobs Program
Benefits	A \$3 billion performance-based incentive program offering up to 10 years of fully refundable tax credits for businesses that expand or relocate to New York State. Companies receive tax credits in exchange for job creation and significant investments, with enhanced benefits for green projects.
Eligibility	Available to firms in industries such as biotechnology, pharmaceuticals, high-tech, clean technology, green technology, financial services, agribusiness, and manufacturing.
To Apply	For program details and application information, visit Excelsior Jobs Program .
Agency	Empire State Development

Program	Empire State Apprenticeship Tax Credit (ESATC)
Benefits	Provides tax credits to eligible employers for hiring registered apprentices in New York State. The credit amount increases if apprentices are disadvantaged youth, with an additional \$500 credit available for apprentices who receive full-year mentoring.
Eligibility	Available to any company that hires a registered apprentice.
To Apply	For application materials, visit Empire State Apprenticeship Tax Credit Application .
Agency	NYS Department of Labor

Program	Customized Training Grant Program
Benefits	Reimburses up to 60 percent of total training costs, with grants ranging from \$30,000 to \$400,000, to help NYC businesses enhance their workforce skills.
Eligibility	NYC-based, for-profit businesses operating for over one year, with a minimum of 10 employees. Businesses with fewer than 10 employees can apply as a consortium to meet the trainee requirement.

To Apply	Submit a pre-application to determine eligibility: Customized Training Pre-Application . Eligible applicants will be contacted for a screening call to discuss challenges and training needs.
Agency	NYC Department of Small Business Services

Program	Clean Energy Training Services - NYSERDA
Description	NYSERDA is advancing workforce development in New York’s clean energy economy through nearly \$180 million in funding committed through 2025. The program supports clean energy businesses by developing a skilled workforce in sectors like renewable power, energy storage, grid modernization, and alternative transportation. The initiative focuses on training, curriculum development, and reaching underserved communities.
Eligibility	Qualified contractors with expertise in clean energy workforce training, curriculum development, and market expertise in clean energy and workforce development are eligible. Special consideration is given to contractors with experience in energy efficiency, renewable energy technologies, credential development, and engagement with underserved communities facing barriers to workforce entry in clean energy.
To Apply	Interested contractors should refer to the Clean Energy Training Services RFQL available on the NYSERDA website for specific application instructions and requirements. https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Training-Services
Agency	New York State Energy Research and Development Authority (NYSERDA)

Energy Programs

Program	Energy Cost Savings Program (ECSP)
Benefits	The ECSP offers reductions in regulated energy costs by up to 45% and natural gas costs by up to 35% for eligible businesses. These reductions apply to transmission and distribution costs by the regulated utility. Benefits last for eight years, followed by a four-year phase-out period where benefits decrease by 20% annually.
Eligibility	Businesses qualify by relocating from targeted areas, moving into a Special Eligible Premises (SEP), or undertaking renovations.
To Apply	Submit an application prior to signing a lease if applying as a relocater. For tenants in an SEP, apply within 120 days of signing the lease. Applicants must also meet investment requirements. Access application materials via form: Energy Cost Savings Program Application .
Agency	NYC Department of Small Business Services

Program	Business Incentive Rate (BIR)
Benefits	Reduces the delivery components of electricity bills by 30-35%. Con Edison's BIR term ranges from 5-10 years, with a five-year phase-out for customers on a 15-year term. No employment increase required to qualify. The length of the benefit is determined by customer usage.
Eligibility	Eligible businesses must: receive state or local incentives, be a manufacturer in NYC, or be approved for other City or State benefits. Application must be submitted within 30 days of applying for City or State incentives. Ineligible entities listed here: Business Incentive Rate Eligibility .
To Apply	Submit a completed application, signed, to Con Edison's Economic Development Manager at browntan@coned.com or mail to Con Edison, Economic Development, 511 Theodore Fremd Ave., Rye, NY, 10580, with documentation proving eligibility.
Agency	NYC Department of Small Business Services

Program	Flexible Technical Assistance (FlexTech) Program
Benefits	Shares the cost of producing an objective, site-specific, and target study on the best ways to implement clean energy and/or energy efficiency technologies.
Eligibility	Eligible facilities can be found at: FlexTech Program Eligibility .
To Apply	Submit the application via email to FlexTech@nyscrda.ny.gov . Application materials available at: FlexTech Documents and Resources.
Agency	NYSERDA

Program	ReCharge NY
Benefits	Provides qualifying businesses and nonprofits statewide with reduced energy costs through specially allocated power by NYPA for economic support.
Eligibility	Companies must commit to staying in New York, retaining or increasing employment, expanding operations, and/or making significant local investments.
To Apply	For more information and to apply, visit ReCharge NY Application .
Agency	New York Power Authority

Program	NYSERDA Small Commercial Energy Assessments
Benefits	Provides free energy assessments for small businesses and nonprofits to guide energy decisions and implement energy efficiency strategies, identifying cost-effective improvements with significant annual energy savings.
Eligibility	Businesses with 10 or fewer employees and an average annual electric demand of 100kW or less. Those not eligible may qualify for NYSERDA's FlexTech Program.
To Apply	This program is part of the Consolidated Funding Application (CFA) .

Agency	NYSERDA
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MEP CLIMATE EQUITY MODULE

FIRST WORKSHOP





WHAT BRINGS US HERE TODAY?

With the support from Department of Energy funding, SecondMuse has designed a Climate Equity Module for U.S. small manufacturers.

The module delves into the importance and value of integrating equitable approaches to one's manufacturing business with a focus on responsible supply chain, workforce development, and community engagement.

Today's 30 minute session will provide an overview of the module to the NY MEP Directors for the purpose of the MEPS then being in a position to promote these materials through their channels to their regional manufacturers.



ABOUT SECONDMUSE

BUILDING EQUITABLE ECONOMIES

Since 2009, **SecondMuse** has sought to learn about and continuously evolve solutions for the world's biggest challenges—climate change being one of the most undeniable forces threatening our communities.

To date, SecondMuse has accelerated more than 2,000 pre-commercial and growth-stage companies and catalyzed more than \$600 million in investment capital and \$12 billion in financial, social and environmental outcomes.

Scale For ClimateTech is deeply tied to this vision as well as our mission of building economies that benefit people and protect the planet.



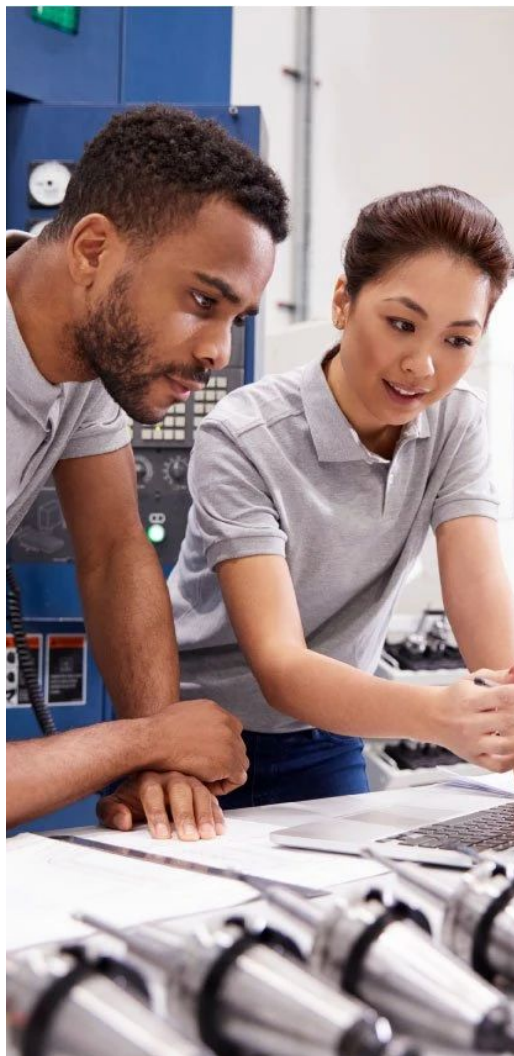
ABOUT **SCALE FOR CLIMATE TECH**

SCALE FOR CLIMATE TECH

In 2018, SecondMuse, in partnership with NextCorps and with support by the New York State Energy Research & Development Authority (NYSERDA), launched the Scale For ClimateTech (S4C) program (formerly M-Corps).

For the last 7 years, S4C has transformed the climate tech manufacturing sector and helped startups achieve manufacturing success through a cohort-based model, Manufacturer Readiness Level (MRL)-based curriculum, and access to manufacturers and technical experts.

Over the course of this program, S4C has also worked with New York Manufacturing Extension Partnerships (MEPs), connecting with numerous supply-chain and contract manufacturing service providers to foster growth and innovation statewide.



About Scale For ClimateTech

Our Impact To-Date



\$431 Million

Total Capital Leveraged: non-NYSERDA grants, Venture Capital, cost-sharing, etc. in total dollars reported from all cohort participants including reimbursements grants from non-NYSERDA sources specified in project contracts.



27,062

Cleantech Products Manufactured: (total number of units produced among Scale For ClimateTech cohort participants)



6,316

Total Participants Engaged: total includes cohort participants, mentors, advisory board, accountability board, funders, manufacturers, seminar attendees, etc.



268

Manufacturing Agreements signed between manufacturing resources & participants



\$40M

Revenue Generated through sale of cleantech products



\$6M

NYSERDA Funding (Does not include MEIR funding)



69

Manufacturing Strategies / Roadmaps Developed for Cleantech Products



658

Job Creation (FTE jobs created by participants)



166

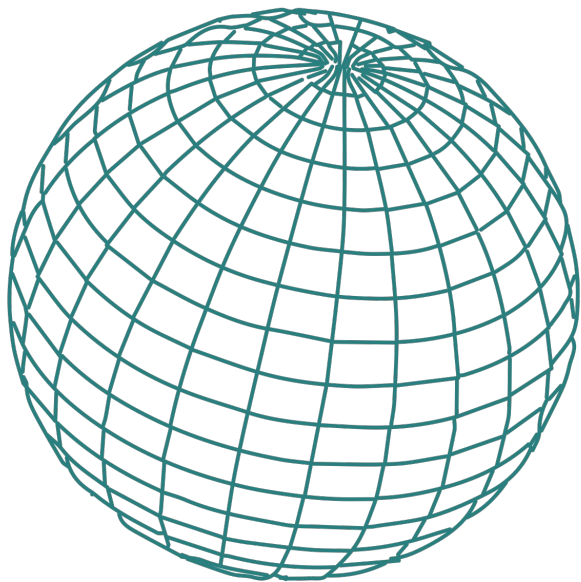
Unique Product Models designed and developed



79

Strategic Partnerships Developed in connecting and supporting participants

ABOUT RIFFLE VENTURES



**Riffle Ventures catalyzes,
guides and builds climate
solutions using an
ecosystem and
equity-driven approach**

Localized • Holistic • Inclusive

We work across the climate innovation ecosystem

1 - Advisory + Design - *Building ecosystems, embedding equity*

Foster emergent innovation ecosystems through localized partnerships.
Co-create research, workshops, and program design on climate, technologies, and impact.

2 - Venture Building - *Creating innovations*

Launch high impact startups and thematic-driven climate studios by using a proven playbook executed by diverse teams and expert networks.

3 - Investing - *Funding entrepreneurs*

Building and operating investment vehicles to fund high impact climate startups across the world.

Our work in action...

Progress to date

Advisory + Design

Building foundations

- *200+ climate entrepreneurs supported from over **30 countries**, with a roster of **50+** climate tech experts from around the world*
- ***Pre-accelerator program:** Running multiple cohorts to support early-stage climate founders from around the world*
- ***Equity catalyst program:** Designing and delivering tailored curriculums, programs, and strategy development support on embedding equity, across climate innovation stakeholders*

Venture Building

Creating innovations

- ***Venture #1 - Gather** launched in 2023. **US\$ 350K** raised so far from Elemental Excelsator, have also enrolled in AgLaunch and gener8tor accelerators*
- ***Venture #2 - Sugarcane waste to energy** currently under development, exploring opportunities in Louisiana*
- ***Thought leadership:** developing open source playbook and research report on venture building for climate*

Investing

Funding entrepreneurs

- ***US 1 million** climate micro-fund launched in 2024*
- ***6 investments** made to date (25K - 50K per ticket)*
- ***SPV 1** currently in design, to be launched in Q4 2024*
- ***Climate Micro-fund 2** currently in design, to be launched in Q2 2025*

ABOUT CLIMATE EQUITY



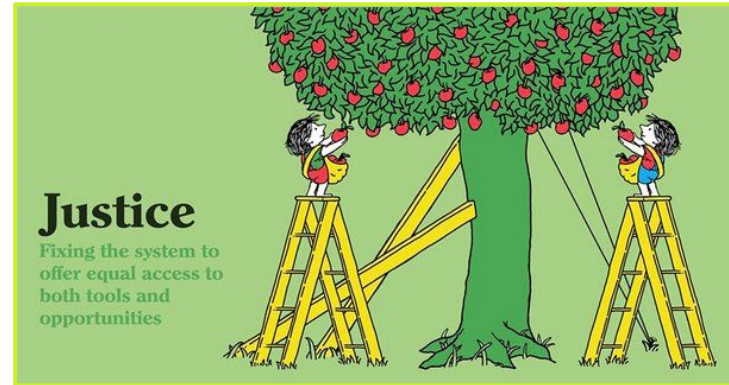
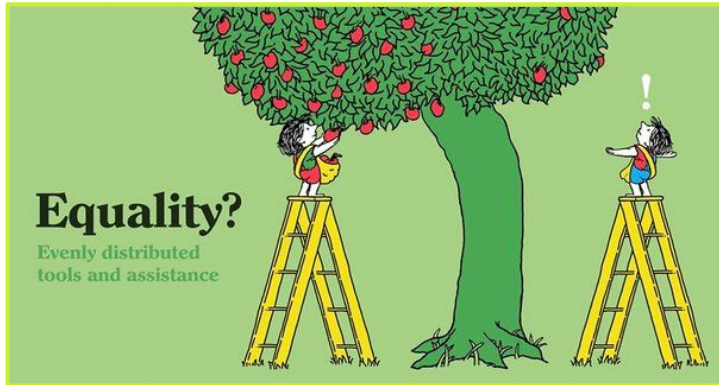
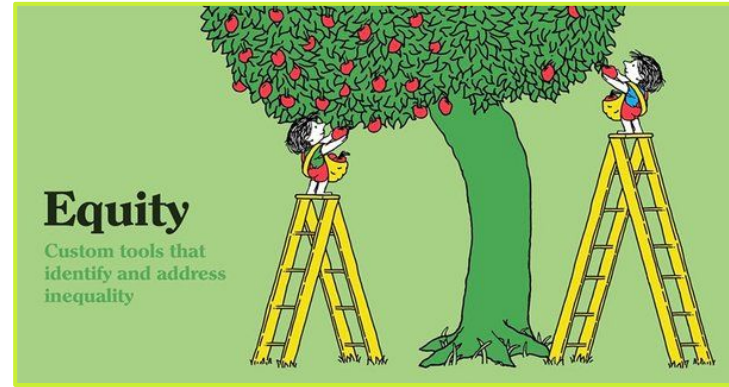
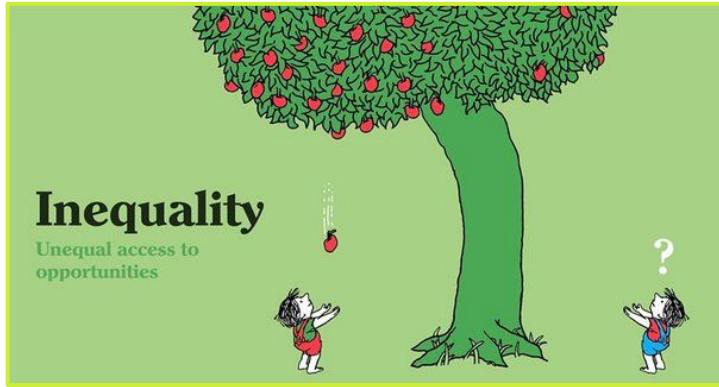
WHY CLIMATE EQUITY?

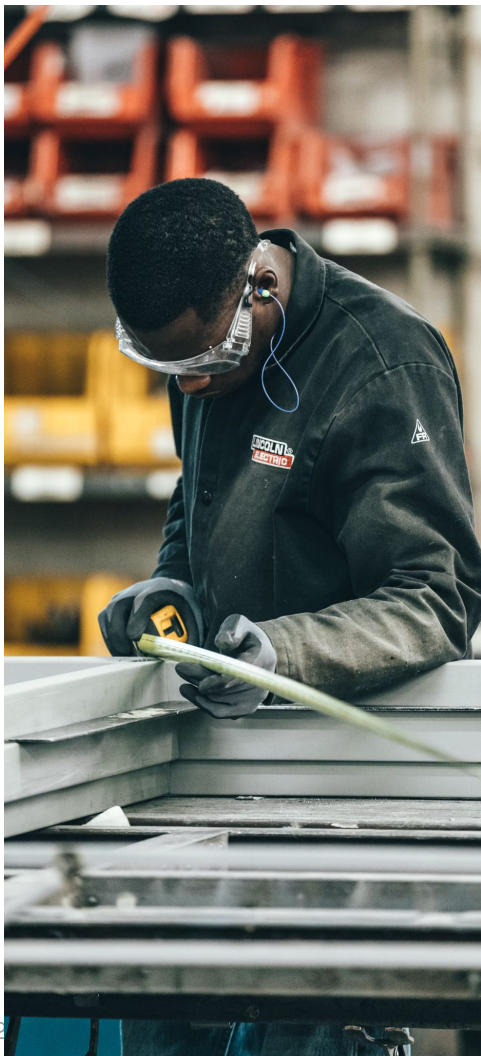
Climate equity is a key theme that affects company building, product development, and fundraising decisions.

It is no longer an optional consideration in a climate tech startups' strategy, but rather must be accounted for with thoughtfulness and attention across a company's operations.

Riffle Ventures alongside SecondMuse designed curriculum for this most recent cohort that delves into the intersection of climate technology and social justice, exploring how hardware innovation, including product development, manufacturing, and supply chain considerations, can contribute to both environmental sustainability and equitable outcomes for communities.

WHAT IS CLIMATE EQUITY?





WHY IS CLIMATE EQUITY RELEVANT?

SECONDMUSE³



Framework: Equity In / Equity Out

Developed by Elemental Excelsator, with

Equity In Bring equity into your company through:	Equity Out Promote prosperity outside of your company through:
Hiring Diversity as a strategic goal as well as a just one	Innovation Equitable and affordable access to green technology and services
Professional Development Inclusion and retention strategies to promote a thriving workplace	Economic Benefits Financial and workforce opportunities to local community members
Responsible Supply Chain Build better products for more people	Unintended Consequences Identified and addressed early on
Representative Leadership Inclusive and diverse decision makers drive better outcomes	Community Partnerships Ensure innovation meets the need of the communities

ABOUT

EQUITY IN CLIMATE & MANUFACTURING

BRINGING EQUITY INTO MANUFACTURING

Startups are not the only stakeholders with a need to integrate equity, and more specifically climate equity, into their work. Manufacturers and supply chain partners serve as essential players in the hard tech ecosystem.

Recognizing this, SecondMuse won a recent proposal from the Department of Energy with the intention of adapting and sharing the Climate Equity Module with MEP Centers across the State of New York.

By disseminating this module widely, it enables stakeholders within the hard tech ecosystem to collectively examine and understand the implications of their actions on underserved communities.



COLLABORATING WITH NY MEP CENTERS

The Manufacturing Extension Partnership Program (MEP) provides companies with services and access to public and private resources to enhance growth, improve productivity, reduce costs, and expand capacity.

SecondMuse is confident that introducing the concept of equity across the following thematic areas for small manufacturers will be beneficial not only for the underserved communities in which they engage, but also for their bottom line:

- **Responsible Supply Chain**
- **Hiring / Workforce Development / Professional Development**
- **Community Partnerships and Engagement**

Funding Opportunities



Empire State
Development



U.S. DEPARTMENT OF
ENERGY



RESPONSIBLE SUPPLY CHAIN

A well oiled supply chain is critical for small manufacturers to be successful. From raw materials to finished product, there are many difficult decisions that a manufacturer must make as far the network of companies they choose to engage with.

When discussing a responsible or sustainable supply chain, manufacturers can focus on a number of key points when attempting to be more equitable and climate friendly.

- What inputs/raw materials they will use.
- Whether to find local producers and vendors
- Where/how to dispose of waste materials



CLIMATE EQUITY MODULE

Case Study | Responsible Supply Chain



NYSP21 Helps NY Manufacturer Eliminate Usage of PFAS Chemicals

PFAS are a class of chemicals that are persistent in the environment and present other **health and environmental hazards** as well. NYSP21 worked with the NY electroplating company to transition plating operations to a **PFAS-free fume suppressant**. The company successfully transitioned with **no significant operational changes, negligible impact to production, lower operating costs, and lower PFAS legacy impacts**.

Partners



RIT



BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK



Clarkson
UNIVERSITY



Cornell CALS
College of Agriculture and Life Sciences



Rensselaer



NEW YORK
Manufacturing
Extension Partnership

WORKFORCE DEVELOPMENT

Having a trained and fully staffed workforce is essential for manufacturers to meet their targets. Not only is a shortage of labor a challenge, but shifting demands in manufacturing needs also call for new skills and a continuous process of training and retraining.

At the same time, many manufacturers have facilities situated in communities with an underserved population. There is the opportunity to strengthen a workforce while hiring and training equitably. This can be done via:

- Local community college workforce training programs
- Apprenticeship programs
- High school STEM programs



CLIMATE EQUITY MODULE

Case Study | Workforce Development



In 2022, Governor Hochul announced a new investment of \$350 million for workforce development and the creation of the **Office of Strategic Workforce Development (OSWD)** within Empire State Development (ESD), a new division charged with better aligning workforce development efforts with the needs and priorities of today's employers. Through OSWD, ESD is helping create new economic opportunities for **unemployed, underemployed and underrepresented workers**, while simultaneously meeting the **labor needs of the state's highest-growth industry sectors**. **\$40 million, 61 projects, 12,000 New Yorkers, 460 business partners.**

CLIMATE EQUITY MODULE

Case Study | Workforce Development



Specific example of grant recipient: In response to local industry needs, Orleans County will use funding through Workforce Development Capital and Pay for Performance Operating Grant Programs to expand access to CNC machining training for **diverse county residents, including young adults not covered by other funding streams**. The county will provide **wraparound services for trainees**, including transportation to sites not on public transportation routes, tools and equipment needed for training, childcare, counseling, and housing assistance as needed, while training partner CNC Technical Solutions will provide credentialed skills training.



COMMUNITY PARTNERSHIPS & ENGAGEMENT

Manufacturers are often seeking to set up operations or expand them in geographies where the communities are usually tight knit. It is critical that manufacturers reach out to and involve local community members where they want to build. This is especially the case for underserved populations and communities who have often been left out of conversations when it refers to new construction and potential job opportunities resulting from a new manufacturing facility. This can lead to general frustration within a community and occasionally delays with plans to set up or expand operations. There are ways to engage the community by:

- Reaching out to the city council and chambers of commerce
- Engaging local community based organizations
- Collaborating with local industry associations



CLIMATE EQUITY MODULE

Case Study | Community Engagement

Micron Technology, Inc., the world's fourth-largest semiconductor company will invest \$100 billion to build the largest semiconductor fabrication facility in the history of the United States in New York State, and creating nearly 50,000 New York jobs.

Micron, in partnership with Empire State Development, will establish the \$500 million **Green CHIPS Community Fund** to ensure that the area directly benefits from the company's presence through **Workforce Development, Education, Community Assets and Organizations, and Affordable Housing**.



Empire State
Development



CLIMATE EQUITY MODULE

Case Study | Community Engagement

A **Community Engagement Committee**, made up of local stakeholders, will work with ESD and Micron. The Committee will support ongoing community engagement and support design and implementation of the plan. The project includes **commitments to diverse business contracting and utilization** (including percentage spend on companies owned by socially and economically disadvantaged individuals (SEDI), with priority given to NYS Certified Minority/Women Owned Business Enterprises (“M/WBEs”) and Service-Disabled Veteran Owned Businesses (“SDVOBs”), **commitments to providing employment opportunities for diverse and historically disadvantaged populations, commitments to education and workforce pipeline development**, including investments in STEAM schools and partnerships with NY educational institutions to develop curriculum and facilities for training and hiring commitments to graduates, and **commitments to workforce support programs**.



Empire State
Development



QUESTIONS FOR THE MEP CENTERS

RELEVANCE OF THESE MATERIALS FOR MEPS

1. What's a challenge that you face that these materials and engagements may be able to support?
2. Are there existing programs at your MEP or at the Federal level that this type of material/offering may be able to enhance?

UTILIZATION OF THESE MATERIALS FOR MEPS

1. What are some of the barriers that your manufacturers may be facing in incorporating equity practices in existing operations?
2. What would be the best vehicle or medium for engaging with your manufacturers?

COLLABORATE WITH US

LET'S WORK TOGETHER

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MANUFACTURING FOR CLIMATE SUSTAINABILITY

Manufacturing Ecosystem Climate Equity Program

19 November 2024





WHAT BRINGS US HERE TODAY?

With the support from Department of Energy funding, SecondMuse has designed a Climate Equity Module for U.S. small manufacturers.

This module delves into the importance and value of integrating equitable approaches to one's manufacturing business with a focus on three key areas:

- 1) Responsible Supply Chain & Operations**
- 2) Hiring & Workforce Development**
- 3) Community Engagement & Economic Development**

Today's one hour session will overview each of these three key focus areas, as well as provide resources to activate manufacturing opportunities in each, through the lens of climate equity.



01

INTRODUCING OUR TEAM

SecondMuse, Scale For ClimateTech, and Riffle Ventures

ABOUT SECONDMUSE



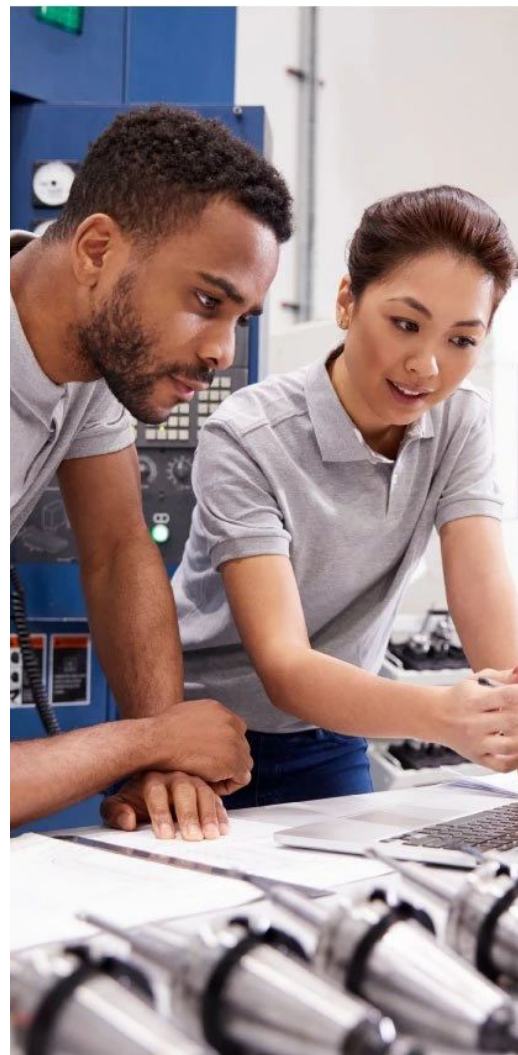
BUILDING EQUITABLE ECONOMIES

Since 2009, **SecondMuse** has sought to learn about and continuously evolve solutions for the world's biggest challenges—climate change being one of the most undeniable forces threatening our communities.

To date, SecondMuse has accelerated more than 2,000 pre-commercial and growth-stage companies and catalyzed more than \$600 million in investment capital and \$12 billion in financial, social and environmental outcomes.

Scale For ClimateTech is deeply tied to this vision as well as our mission of building economies that benefit people and protect the planet.

ABOUT SCALE FOR CLIMATETECH



SCALE FOR CLIMATE TECH

In 2018, SecondMuse, in partnership with NextCorps and with support by the New York State Energy Research & Development Authority (NYSERDA), launched the Scale For ClimateTech (S4C) program (formerly M-Corps).

For the last 7 years, S4C has transformed the climate tech manufacturing sector and helped startups achieve manufacturing success through a cohort-based model, Manufacturer Readiness Level (MRL)-based curriculum, and access to manufacturers and technical experts.

Over the course of this program, S4C has also worked with New York Manufacturing Extension Partnerships (MEPs), connecting with numerous supply-chain and contract manufacturing service providers to foster growth and innovation statewide.



Our Impact To-Date

 **\$431 Million**

Total Capital Leveraged: non-NYSERDA grants, Venture Capital, cost-sharing, etc. in total dollars reported from all cohort participants including reimbursements grants from non-NYSERDA sources specified in project contracts.

 **27,062**

Cleantech Products Manufactured: total number of units produced among Scale For ClimateTech cohort participants.

 **6,316**

Total Participants Engaged: total includes cohort participants, mentors, advisory board, accountability board, funders, manufacturers, seminar attendees, etc.

 **268**

Manufacturing Agreements signed between manufacturing resources & participants

 **\$40M**

Revenue Generated through sale of cleantech products

 **\$6M**

NYSERDA Funding (Does not include MEIR funding)

 **69**

Manufacturing Strategies / Roadmaps Developed for Cleantech Products

 **658**

Job Creation (FTE jobs created by participants)

 **166**

Unique Product Models designed and developed

 **79**

Strategic Partnerships Developed in connecting and supporting participants

ABOUT RIFFLE VENTURES



RIFFLE VENTURES

Riffle Ventures catalyzes, guides and builds climate solutions using an ecosystem and equity-driven approach.

ADVISORY + DESIGN

Building ecosystems, embedding equity

Foster emergent innovation ecosystems through research, workshops, and program design on climate equity, innovation and funding.

VENTURE BUILDING

Creating innovations

Launch high impact startups and climate studios by using a proven playbook executed by diverse teams and expert networks.

INVESTING

Funding entrepreneurs

Build and operate investment vehicles to fund high impact climate startups across the world.

PROGRESS TO DATE

ADVISORY + DESIGN

Building foundations

- **200+** climate entrepreneurs supported from over **30 countries**, with a roster of **50+** climate tech experts from around the world
- **Pre-accelerator program:** Running multiple cohorts to support early-stage climate founders from around the world
- **Equity catalyst program:** Designing and delivering tailored curriculums, programs, and strategy development support on embedding equity, across climate innovation stakeholders

VENTURE BUILDING

Creating innovations

- **Venture #1** - Gather launched in 2023. **US\$ 350K raised** so far from Elemental Exceleator, have also enrolled in AgLaunch and gener8tor accelerators
- **Venture #2** - Sugarcane waste to energy currently under development, exploring opportunities in Louisiana
- **Thought leadership:** developing open source playbook and research report on venture building for climate

INVESTING

Funding entrepreneurs

- **US 1 million** climate micro-fund launched in 2024
- **6 investments** made to date (25K - 50K per ticket)
- **SPV 1** currently in design, to be launched in Q4 2024
- **Climate Micro-fund 2** currently in design, to be launched in Q2 2025

02

WHAT IS CLIMATE EQUITY?

Understanding and Operationalizing Climate Equity
in Alignment With Your Business Goals



WHAT IS CLIMATE EQUITY?

1

RECOGNITION

Understanding of the **unequal burdens**, inherent inequalities or disadvantages made worse by climate change that different communities face

2

PRINCIPLE

Every individual should benefit from a clean environment and have **access to the resources and opportunities** they need to protect themselves from climate change impacts

3

STRATEGY

Frameworks, tools, policies, funding, resources, coalitions, etc. used to address unequal burden of the climate crisis on disadvantaged communities

More than

50%

OF THE WORLD LIVES IN CLIMATE-VULNERABLE REGIONS

Climate change exacerbates pre-existing economic and social vulnerabilities.



CLIMATE CHANGE RESULTS IN

- Hotter temperatures
- Rising sea levels
- Severe weather events
- Drought
- Flooding



WHICH LEADS TO

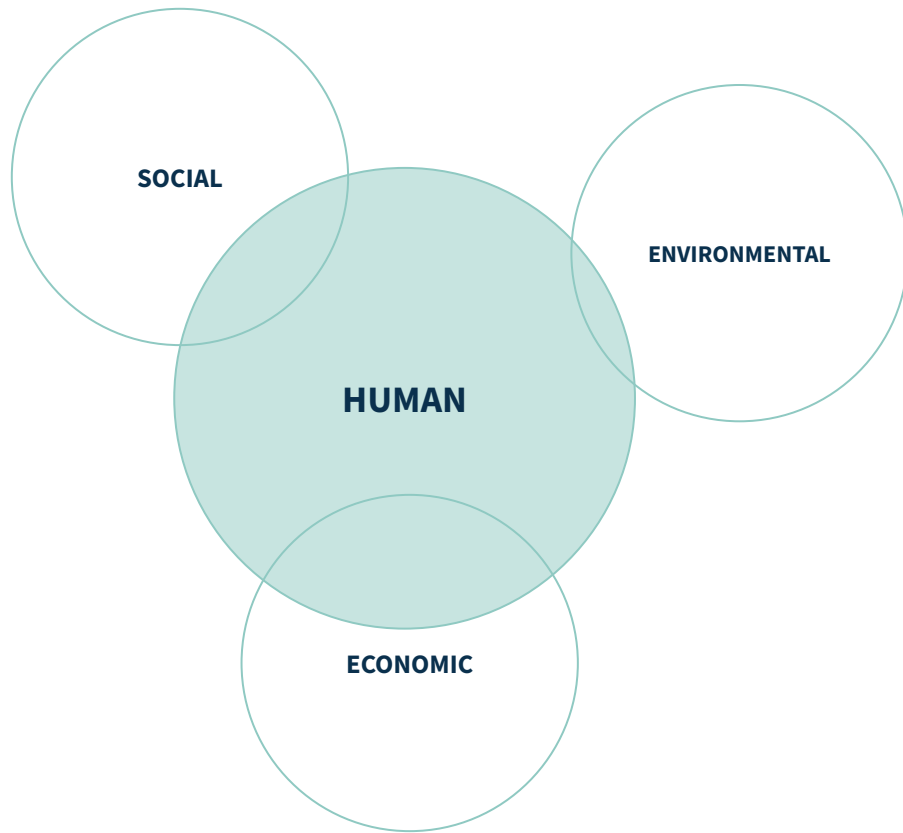
- Displacement
- Energy poverty
- Food scarcity
- Conflict
- Unemployment
- Urban density



SUFFERING

- Economic
- Environmental
- Social

**CLIMATE EQUITY
ADDRESSES THE
HUMAN IMPACTS OF
CLIMATE CHANGE...**



WHY CLIMATE EQUITY FOR MANUFACTURERS?



IT'S ETHICAL

Benefitting society

Maximize Impact: solutions reach and benefit a broader range of people

Build Resilience: help build resilience in communities that are most vulnerable by providing fair access to technologies, resources, and opportunities that enhance adaptive capacity



IT'S STRATEGIC

Long-term viability

Mitigate Risk: address vulnerabilities in the supply chain, reducing operational risks and creating resilient networks

Ensure Long-Term Viability: stay ahead of regulatory changes, meet market needs, and enhance reputation as a responsible and forward-thinking business



IT'S FINANCEABLE

Increasing funding available

Enhance Market Opportunities: reach more people and expand customer base

Align with Federal and State Goals: attract a new suite of grants and incentives as New York State prioritizes climate justice in its policies and funding focus areas

03

THREE COMPONENTS OF MANUFACTURING SUCCESS

Leveraging Opportunities To Support Manufacturing
Growth in a Rapidly Changing Landscape

01

RESPONSIBLE SUPPLY CHAIN & OPERATIONS

*Responsible and transparent
sourcing and supply chain practices*

Prioritizing transparent and responsible sourcing and labor practices, and minimizing environmental impact through efficient resource use and waste reduction.

02

HIRING & WORKFORCE DEVELOPMENT

*Inclusive jobs, skill growth, and
worker protections*

Developing hiring, inclusion and retention strategies to promote safe, productive, and diverse teams and work environments.

03

COMMUNITY ENGAGEMENT & ECONOMIC DEVELOPMENT

*Local partnerships for resilient,
sustainable communities*

Ensuring innovation and manufacturing promotes safe and thriving local communities, and financial and workforce opportunities are created and available to community members.



UNLOCKING FINANCIAL RESOURCES AND OPERATIONAL RESILIENCE



RESPONSIBLE SUPPLY CHAIN & OPERATIONS

Principles and Practices

INCLUSIVE SOURCING

Prioritize suppliers who follow low-carbon practices and uplift overlooked communities, reducing emissions while creating shared economic benefits.

RESOURCE EFFICIENCY

Implement circular economy practices—such as waste reduction, recycling, and energy-efficient operations—to lower environmental impact and make sustainable products accessible.

SUPPLY CHAIN TRANSPARENCY

Track and report environmental and social impacts across the supply chain (emissions reductions, labor conditions, resource use) to ensure alignment with climate equity goals and drive continuous improvement.

EMBEDDING CLIMATE EQUITY

VIA RESPONSIBLE SUPPLY CHAIN



Case Studies

Soleno

\$22M pipe manufacturing facility in Saratoga Springs, producing water management systems made from recycled plastic.

- Equity practice: circularity, replacing aging infrastructure
- Awards: \$1.125M tax credits; \$975,000 capital grants.

Regenerative Solutions Inc.

Winner of NYS Advanced Materials Innovation Challenge

- Equity practice: developing green, environmentally sustainable, low-cost sorbents that remove PFAS, harmful synthetic forever chemicals, from water.
- Award - 150,000 USD

New York State Pollution Prevention Institute

Eliminating usage of hazardous chemicals

- Equity practice: NYSP2I worked with an NY electroplating company to transition plating operations to a PFAS-free fume suppressant. Successful transition with no significant operational changes, negligible impact to production, lower operating costs, and lower PFAS legacy impacts.



HIRING & WORKFORCE DEVELOPMENT

Principles and Practices

INCLUSIVE HIRING FOR GREEN ROLES

Develop recruitment strategies - including apprenticeships, sourcing from community colleges - that prioritize candidates from marginalized communities to diversify teams leading sustainability initiatives and innovations.

TARGETED SKILL-BUILDING PROGRAMS

Invest in training for green jobs focused on underrepresented groups, preparing a diverse workforce for roles in the low-carbon economy.

CAREER ADVANCEMENT IN SUSTAINABILITY

Create clear pathways for advancement within green sectors, ensuring long-term growth and retention for employees contributing to climate goals.

EMBEDDING CLIMATE EQUITY

VIA WORKFORCE DEVELOPMENT



Case Studies

Imperium3 New York (iM3NY)

Expanded lithium-ion battery storage manufacturing operations in Endicott, NY to enhance grid resiliency and reduce reliance on fossil fuels.

- Equity practices: hiring local workforce in disadvantaged area; and making renewable energy more accessible
- Award: \$5 million grant to expand to Endicott

Plug Power

Pioneer in hydrogen fuel cell technology, expanding production and green hydrogen infrastructure across New York.

- Equity practice: creating jobs in underserved regions, advancing workforce training for community transition to a clean energy future
- Awards: \$10 million of grants to expand facilities

Cree Inc. (Wolfspeed)

Silicon carbide semiconductor manufacturing for EV industry and renewable energy systems.

- Equity practice: offering technical training and high-skilled jobs in semiconductor manufacturing.
- Awards: \$7 million in funding to expand its semiconductor manufacturing operations



COMMUNITY ENGAGEMENT & ECONOMIC DEVELOPMENT

Principles and Practices

COLLABORATIVE LOCAL INITIATIVES AND PARTNERSHIPS

Partner with communities (government, non-profit, schools) to co-create sustainable projects, ensuring that local climate resilience efforts are shaped by those most impacted by environmental changes.

GREEN JOBS CREATION

Invest in training and hiring local talent for green manufacturing roles, ensuring workforce development is aligned with sustainability goals and supports regional economic resilience.

TRANSPARENT IMPACT REPORTING

Regularly share the environmental and social outcomes of projects with the community to build trust, foster accountability, and align with local climate equity goals.

EMBEDDING CLIMATE EQUITY

VIA COMMUNITY ENGAGEMENT



Case Studies

Micron Technology, Inc

Investing \$100 billion to build NYS semiconductor fabrication facility

- Equity practices: in partnership with Empire State Development, establish the \$500 million Green CHIPS Community Fund to develop workforce, education, community assets and affordable housing initiatives

Greenpoint Manufacturing and Design Center

Equitable access to sustainable, local manufacturing and job creation

- Equity practices: creating affordable, green manufacturing spaces that reduce environmental impact, working closely with community organizations and local businesses, promoting job opportunities for underserved communities
- Awards: \$11+ million in grants and tax credits from NYS

Tech Etch

Community Outreach for financial, educational and social equity

- Community Engagement: Tech Etch, a small manufacturer of precision engineered components, offers scholarships to local students to build local talent and cultivate technical skills and careers. They also support local hospitals and organizations serving veterans, military families, and an array of additional social welfare needs and services



IN SUMMARY



RESPONSIBLE SUPPLY CHAIN & OPERATIONS

Manufacturers should adopt these strategies to meet regulatory requirements, reduce operational costs, and capture financial gains from growing government, company, and consumer demand for sustainable practices in the midst of the climate crisis.



HIRING & WORKFORCE DEVELOPMENT

These strategies enable manufacturers to address labor needs, reduce costs, and invest in building a resilient and reliable local pipeline of talent close to their operations while benefiting from tax incentives and attracting socially conscious clients.



COMMUNITY ENGAGEMENT & ECONOMIC DEVELOPMENT

Manufacturers should pursue these strategies to strengthen brand loyalty, unlock tax incentives, grants and subsidies, and foster a supportive operating environment by building goodwill, gaining public support, and investing in a stable, skilled workforce.

04

LET'S HEAR FROM YOU

Where Do You See Opportunities in Each of These Spaces?



What are your **questions or key takeaways** after everything covered today?

WANT TO LEARN MORE?

Explore these resources

New York State Pollution Prevention Institute | RIT

The New York State Pollution Prevention Institute (NYSP2I) gives Empire State businesses, communities, and nonprofits the practical tools and solutions they need to realize the benefits of sustainability for our economy, environment, and our society as a whole. Their team of engineers and sustainability specialists offer customized solutions and educational resources that deliver on results and budget.

Explore RIT NYSP2I [Here!](#)

Environmental Justice | US EPA

US EPA provides an overview on Environmental Justice priorities in the US including grants and resources, learning center, strategic planning context and guidance, workforce development, and collaborative partnerships across stakeholder groups

Explore US EPA: Environmental Justice [Here!](#)

Community Engagement Strategies | Elemental Impact

This guide helps company leadership and project teams engage with community partners to drive community benefits. This guide includes tools and frameworks and resources for community engagement, compensation, and workforce development, created and tested over a decade of deploying projects.

Explore Community Engagement Strategies [Here!](#)

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LET'S WORK TOGETHER

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