



South Florida Community Financing Roadmap

September 2025

**RMI is an independent,
nonprofit organization of
experts accelerating the clean
energy transition.**

**Our mission: Transform the
global energy system to secure
a clean, prosperous, zero-
carbon future for all.**





About this document

RMI prepared the South Florida Region Community Financing Roadmap to help regional stakeholders understand and take ownership of cleantech-led economic development opportunities and maximize the local economic impact and benefits of these opportunities. This roadmap identifies feasible, equitable pathways toward the clean economy and economic mobility by identifying priority industries, local investment barriers, and key coordination needs. Stakeholders like economic development organizations and community lenders will be able to use the roadmap to chart a collaborative path forward while leveraging local priorities and strengths to attract private capital for locally driven impact.

South Florida Community Financing Roadmap Project Overview & Goals

WHY

To identify opportunities at the intersection of economic and community development



Accelerate bankability of cleantech and resilience projects



Attract private capital to previously overlooked markets



Build local industry through new approaches to cleantech financing



Foster small businesses to ensure equitable benefits to community

WHO

Economic and community development stakeholders



Community lenders



Industry



Business associations



Economic development organizations



Community-based organizations



State and local government



Workforce training organizations

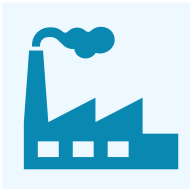
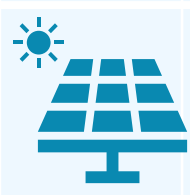
WHAT

- Place-based investment strategy to help capitalize on local resilience and cleantech opportunities
- Highlight areas of competitiveness, constraints, and coordination related to cleantech-led economic development
- Facilitate community ownership and collaboration among local stakeholders

Cleantech and resilience are complementary

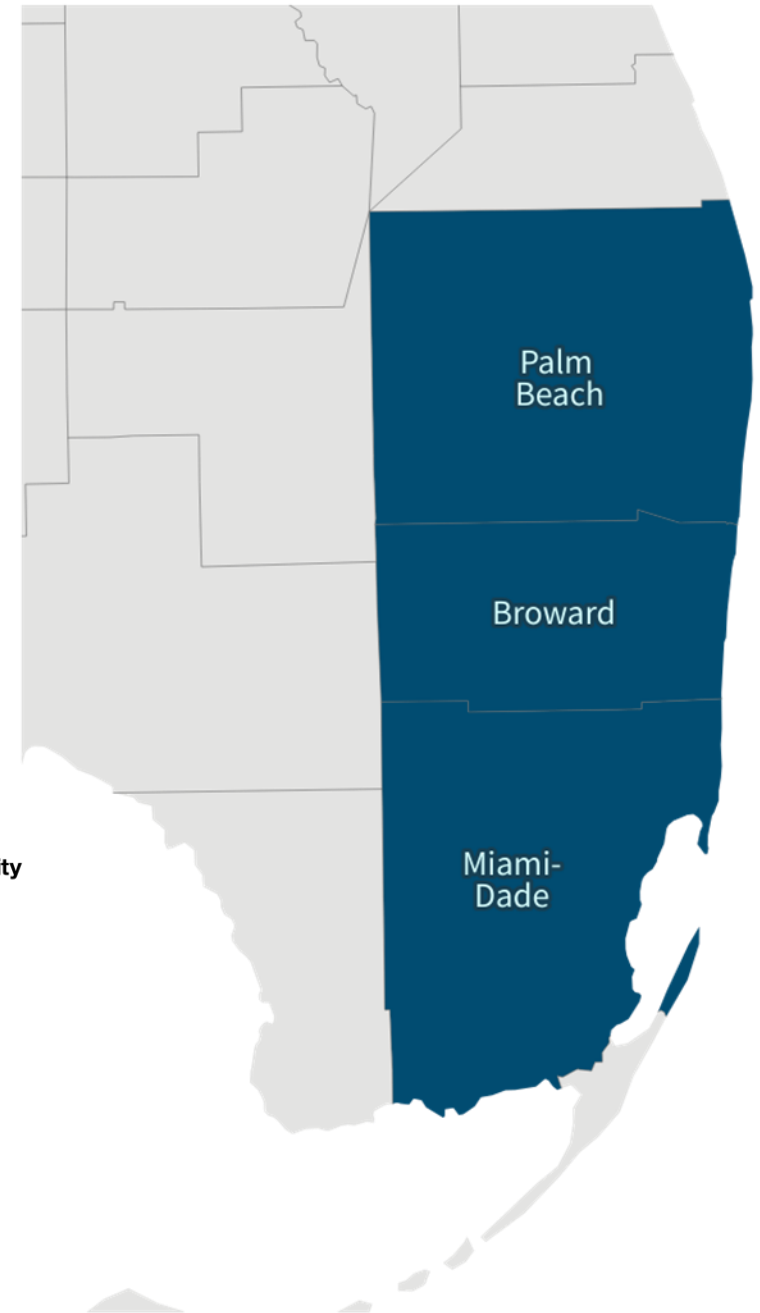
We use a broad definition of cleantech that overlaps with resilience. Recognizing South Florida’s focus on resilience, we chose to focus on opportunities currently receiving less attention.

Cleantech can refer to:

	Manufacturing		Energy efficiency
	R&D		Energy deployment

Analysis focused on the South Florida region

Stakeholders interviewed include:



Project key findings

Competitiveness

Regional strengths

- Economic diversity
- Resilient tech industry

Key opportunities

- Port electrification
- Cooling technology innovation
- Building retrofits
- Industrialized construction

Constraints

- Cost-effective clean electricity for electrification
- Local capital for resilience and cleantech
- Gap in workforce training for energy-efficient approaches to construction and retrofits

Coordination

- Strong regional coordination among resilience and workforce development stakeholders
- Strong coordination across different types of entities within a county
- Weaker tri-county coordination

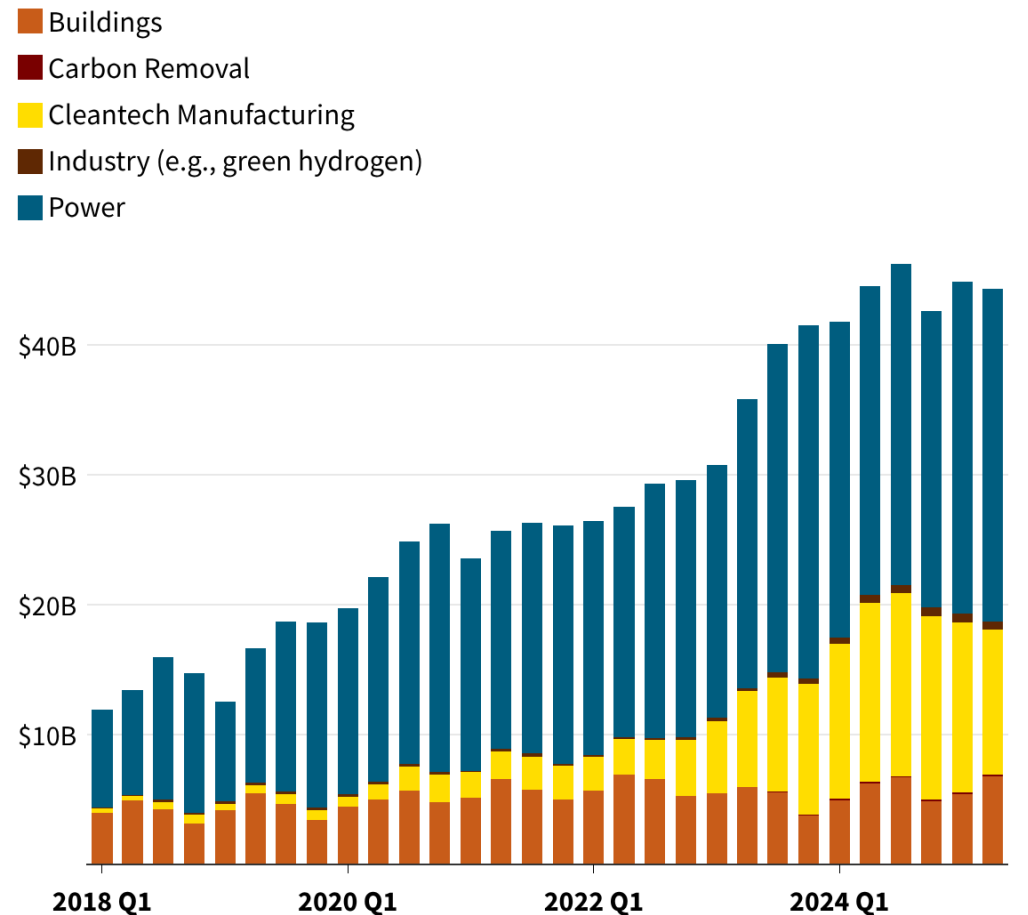


National and State Cleantech Context

Clean energy and cleantech deployment investment is growing nationally and in Florida

The 2022 Inflation Reduction Act accelerated this trend, but investment was already increasing

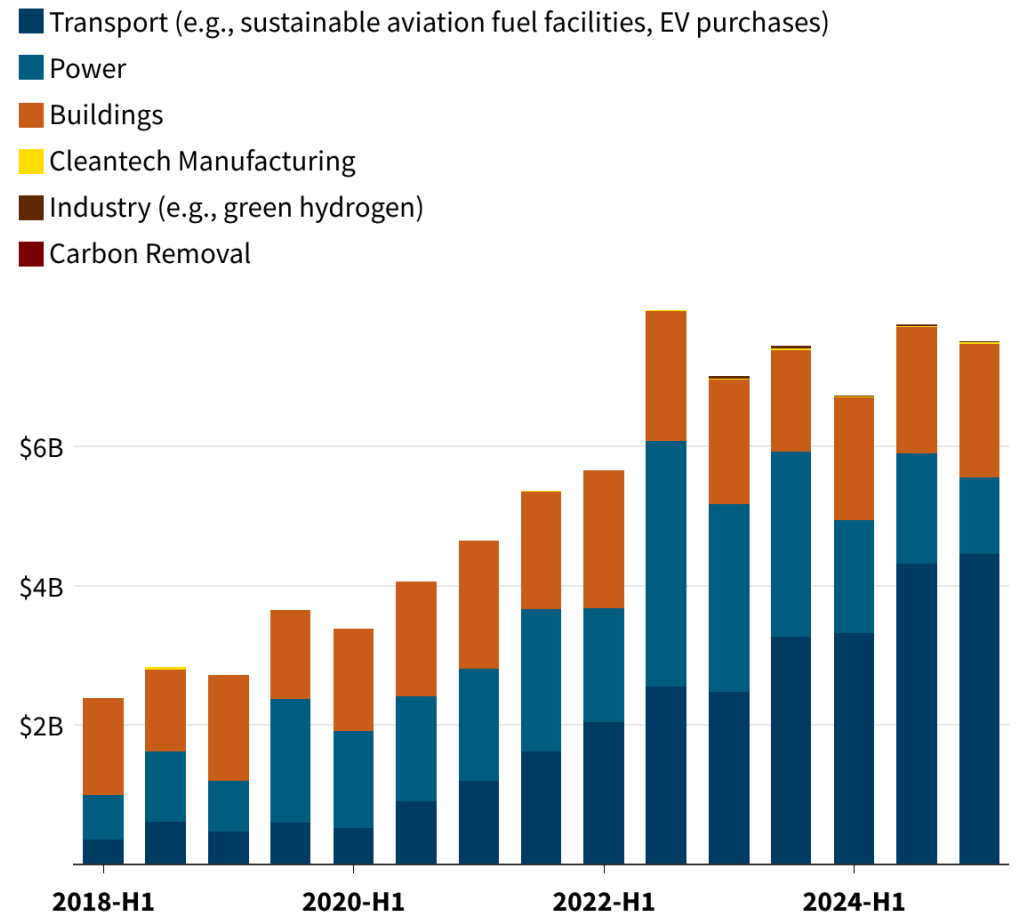
Cleantech investment in the United States



Source: Clean Investment Monitor



Cleantech investment in Florida

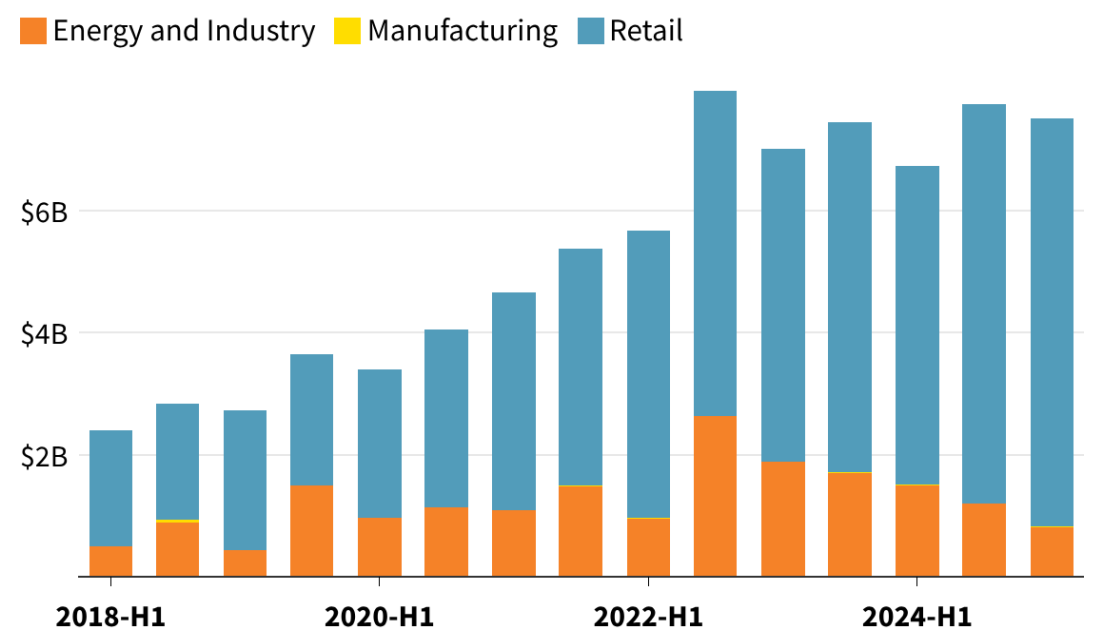


Source: Clean Investment Monitor



Consumer and business spending drive cleantech investment in Florida while manufacturing lags

Cleantech investment in Florida by segment

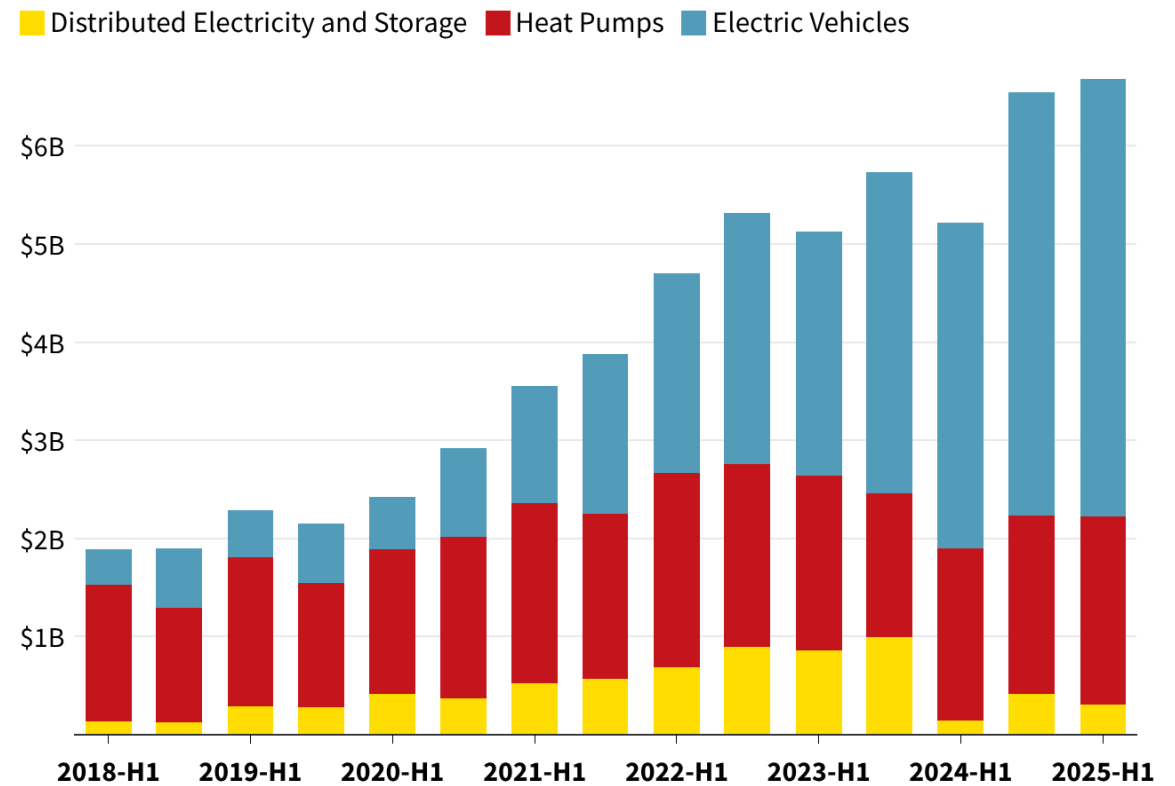


Manufacturing refers to investment in the manufacturing of clean technology. Energy and industry refers to the deployment of clean technology to produce electricity and clean up heavy industry. Retail refers to the purchase and installation of clean technology by individual households and businesses.

Source: Clean Investment Monitor



Retail-level cleantech investment in Florida



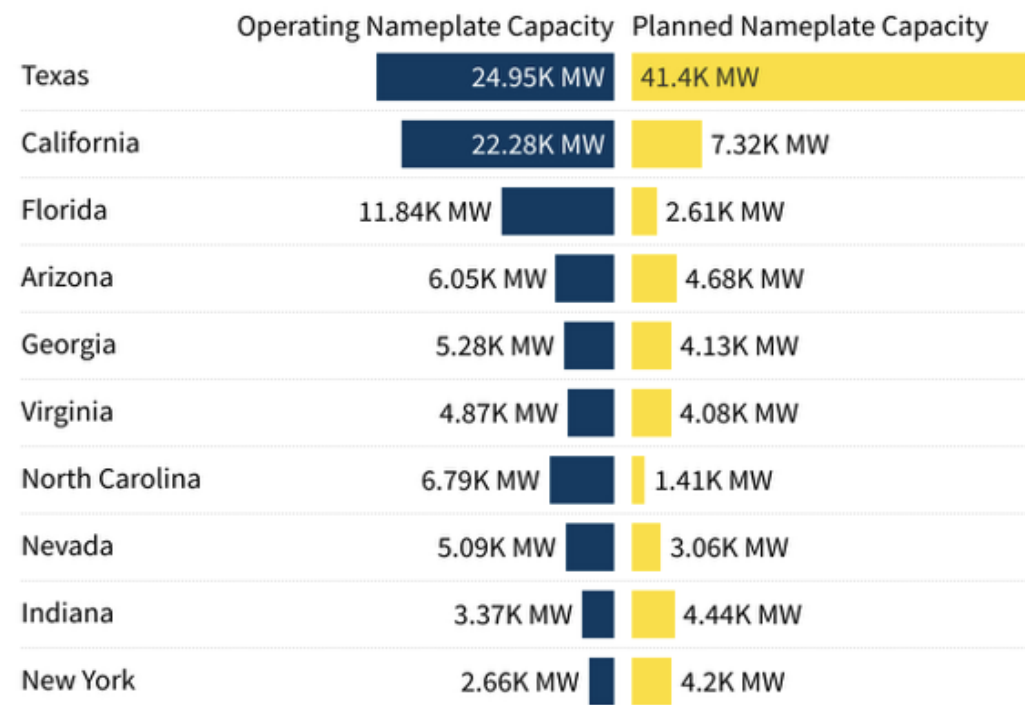
Source: Clean Investment Monitor



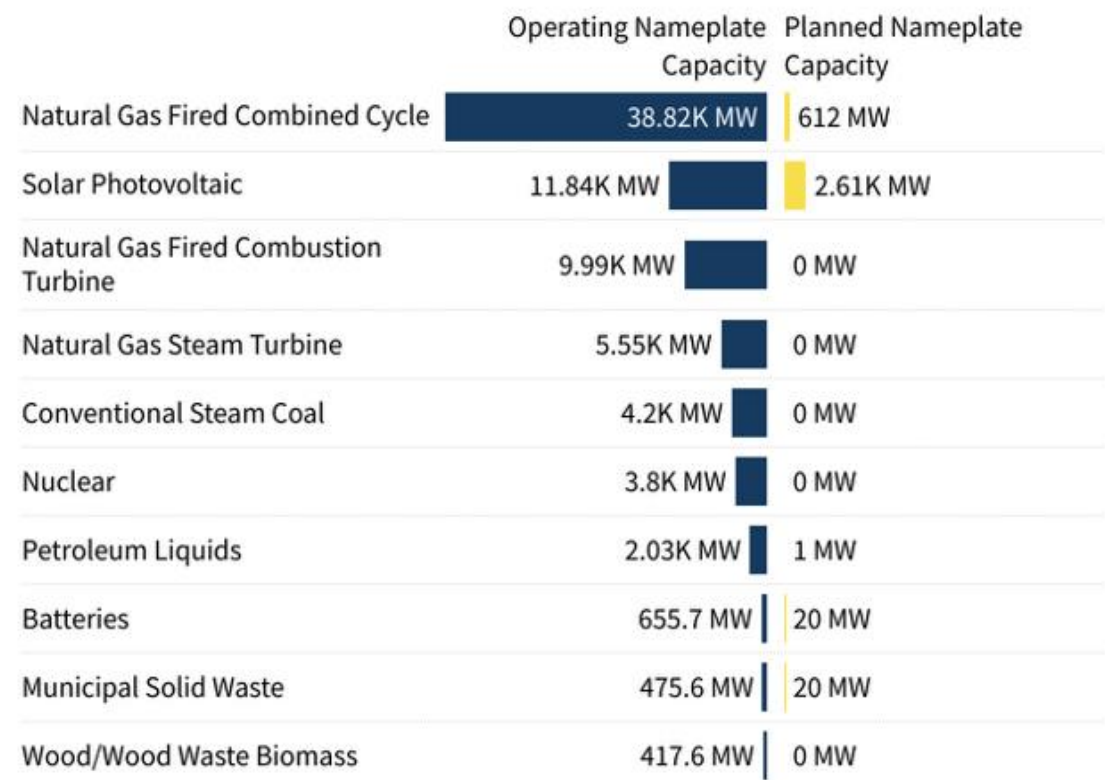
The story of solar in Florida is mixed

The state is a national leader in absolute solar generation, but gas still dominates the grid.

Top Ten States for Utility-Scale Solar Generation

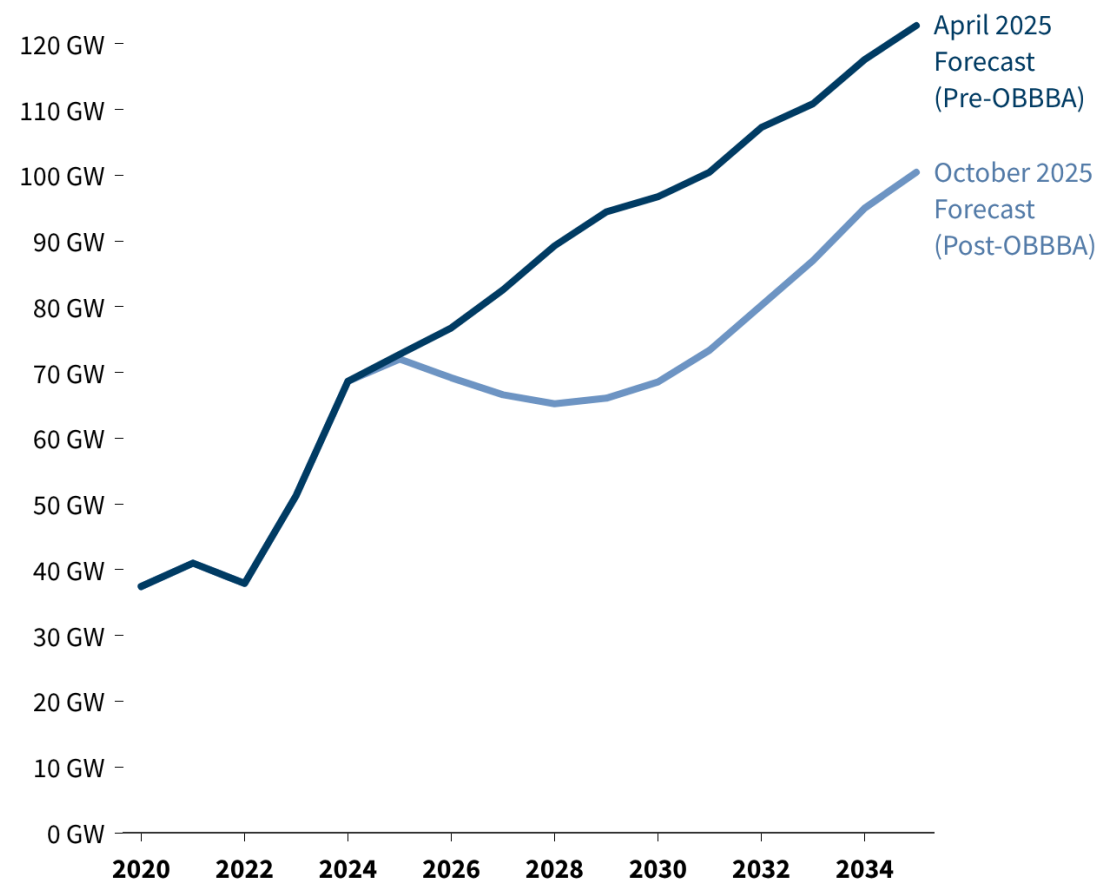


Top Ten Sources for Utility-Scale Electricity Generation Capacity in Florida



Clean energy deployment will likely rise despite federal policy uncertainty; manufacturing investment has stalled

Projected annual new build for solar, wind, and storage in the United States



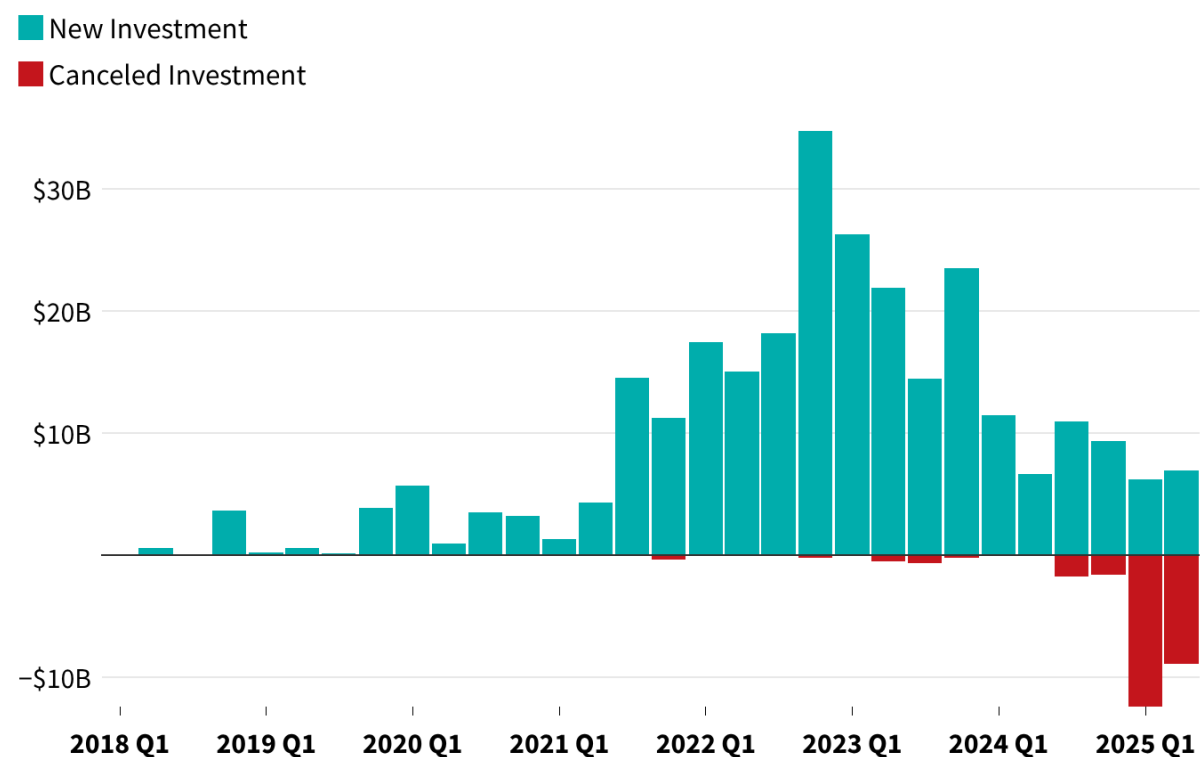
OBBA refers to the "One Big Beautiful Bill Act."

Source: BloombergNEF



Advanced energy manufacturing investment in the US boomed, then faltered

In the first half of 2025, announced cancellations outpaced announced new investment.



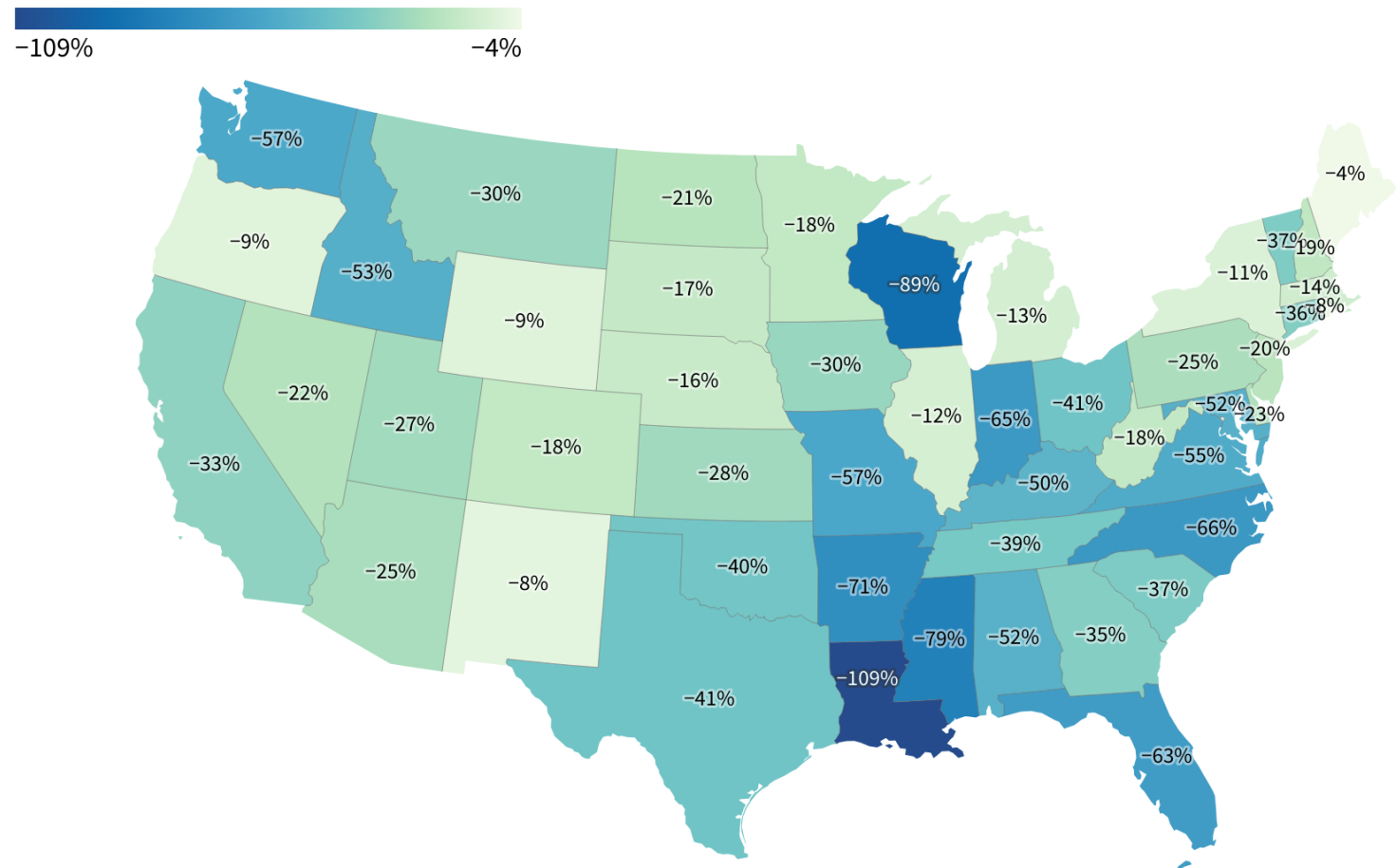
Source data, current to June 30, 2025, shows quarterly investment in manufacturing of batteries, electric vehicles, heat pumps, electrolyzers, minerals, solar energy, wind energy, transmission & grid components.

Chart: RMI • Source: Clean Economy Tracker



Slower deployment would likely hit Florida hard

One Big Beautiful Bill Act Impacts on State-Level Electricity-Generation Capacity Build by 2035

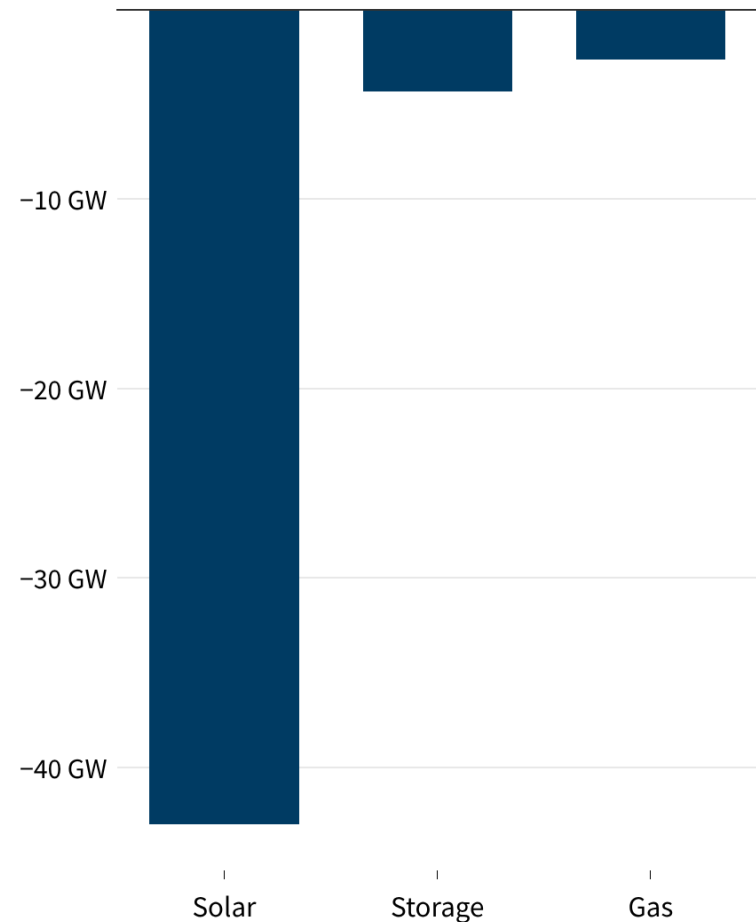


Percentages denote change in new electricity-generation capacity build by 2035 as a percent of electricity-generation capacity in 2025.

Source: Energy Innovation



OBBBA impact on new electricity generation-capacity build in Florida



OBBBA = One Big Beautiful Bill Act.

Source: Energy Innovation





South Florida Economic Development Context

South Florida economic development context



Resilience tech is an emerging focus for economic development and preparedness.



Workforce development focuses on tech innovation.



Despite the region's finance prowess, local investment capital, community lending, and green lending are all limited.

South Florida is active on resilience and climate policy

- **Miami-Dade and Broward counties have been some of the most proactive in the state in addressing climate and resilience needs.**
 - Broward County Climate Action Plan: reduce emissions, increase resilience to climate impacts
 - Miami-Dade County Climate Action Strategy: reduce emissions by focusing on energy and buildings, land use and transportation, and water and waste
- **Limited state policy support creates challenges for local government.**

Resilience tech is an emerging focus for economic development and preparedness

- **The Risk & Resilience Tech hub exemplifies these efforts, particularly in cement and the blue economy.***
 - Miami-Dade County is focused on becoming a cement production leader to meet regional industrial demand and leverage South Florida's export capabilities.
 - The region increasingly views the blue economy as a high-value industry, with investment and innovation to date focused on managing stormwater, flooding, and sea-level rise.
- **Cooling and energy efficiency in buildings are emergent areas of interest for building and housing stakeholders.**
- **Counties have invested in aviation and port improvements to maintain standing as a leader in transport, trade, and tourism.**

The workforce development ecosystem is focused on tech innovation

- There is a strong talent pipeline for high-road jobs in innovative technology development and deployment, supported by local universities, workforce development organizations, and job placement partnerships with local companies.
- Workforce development for cleantech innovation is nascent and underdeveloped compared to South Florida's emphasis on resilience.



Even in an international financial center, community lending and green lending are limited

- **South Florida has relatively few CDFIs (16) and community lenders, limiting options for low-cost, risk-tolerant finance.**
- **Community lenders collaborate substantially to refer business and engage in the community.**
- **Locally invested capital remains a constraint, especially for affordable housing and small businesses.**
- **Green lending experience is confined to Florida's Solar and Energy Loan Fund (SELF) and national banks Climate First and Self-Help Credit Union.**



Competitiveness

Competitiveness Key Messages



South Florida's economy is diverse, attracting complex industries and providing a strong economic foundation.



The region has a relatively strong base of construction trades, especially in HVAC, from which to develop a construction workforce focused on energy-efficient construction and cooling.



South Florida's high-volume ports can be a proving ground for energy-saving measures and offer opportunities to deploy resilience measures.

Understanding economic competitiveness: High feasibility, high complexity industries are more likely to attract investment

Feasibility is a measure of how related an industry is to all the high-concentration industries in a region, in terms of those industries' shared productive capabilities. Feasibility can be used to predict which industries are more likely to appear in a region — or grow faster than the average — in terms of employment or output.

Complexity is a metric that captures the breadth and depth of a region's productive capabilities — and the capability requirements of different industries. *Regional complexity* therefore reflects the density of high-concentration industries in an area and the relative ubiquity of these industries in the rest of the country. *Industry complexity* is based more explicitly on the industry's ubiquity and whether it is present in cities with a diverse composition of other industries.

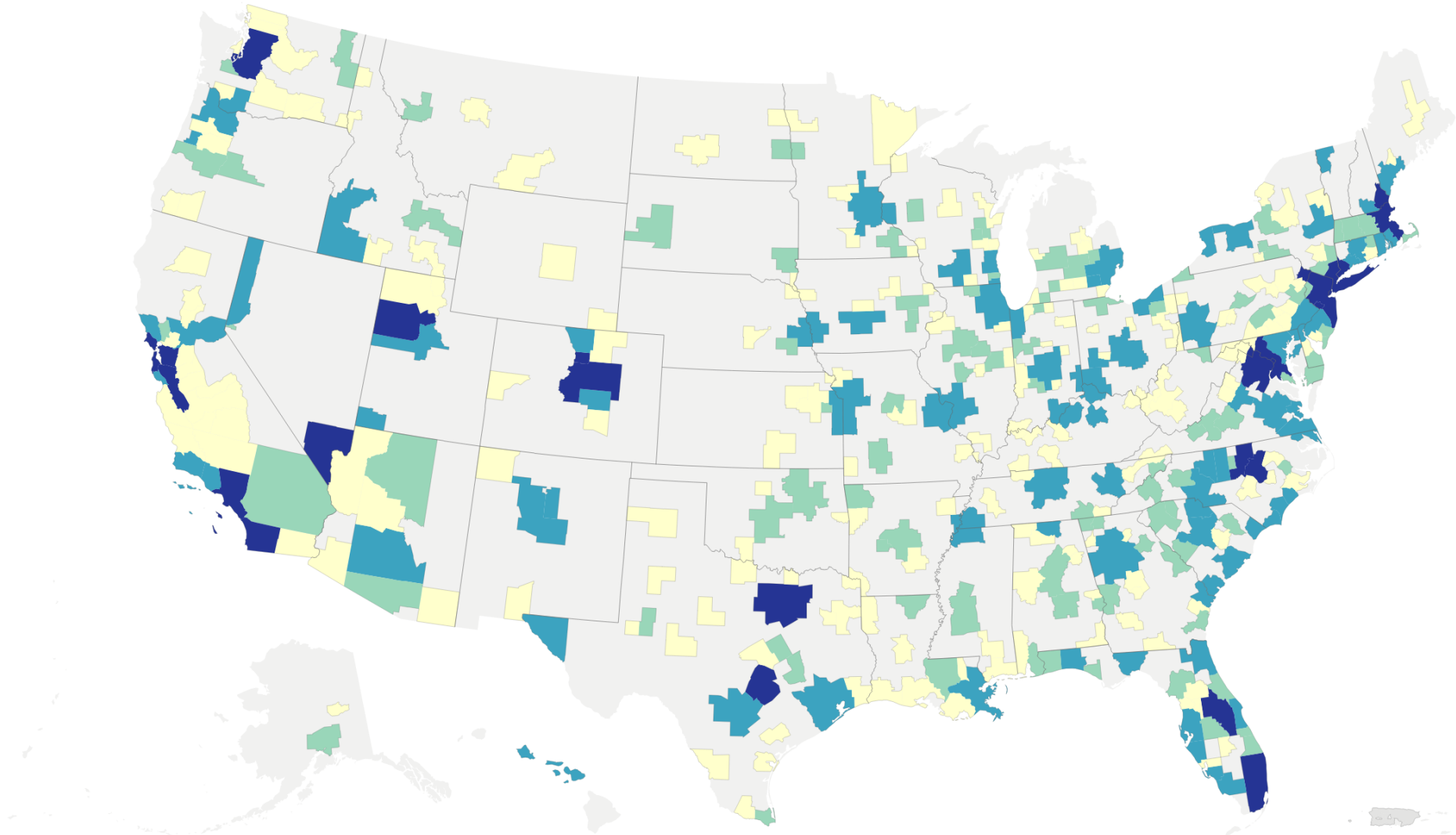
Miami is among the most economically capable metros in the country

Miami scores in the top 5% of metros nationwide in economic complexity.

Economic complexity of metropolitan statistical areas (MSAs) nationwide

Economic Complexity Percentile

< 50 50–75 75–95 ≥ 95



Economic complexity "captures the ability of a city to make many products and services, and thus host many industries, including those that are hard to host in capability-poor cities" (for more on complexity calculations, see Daboin et al 2019, "Economic Complexity and Technological Relatedness: Findings for American Cities"). Economic complexity index (ECI) scores represent standard deviations from a mean; percentiles are derived from a ranking of raw ECI figures.

Granular industry data – at six-digit NAICS level for industries associated with key clean technologies – reinforces the outsized role of buildings-related employment, as well as the importance of South Florida’s innovation and research capabilities.

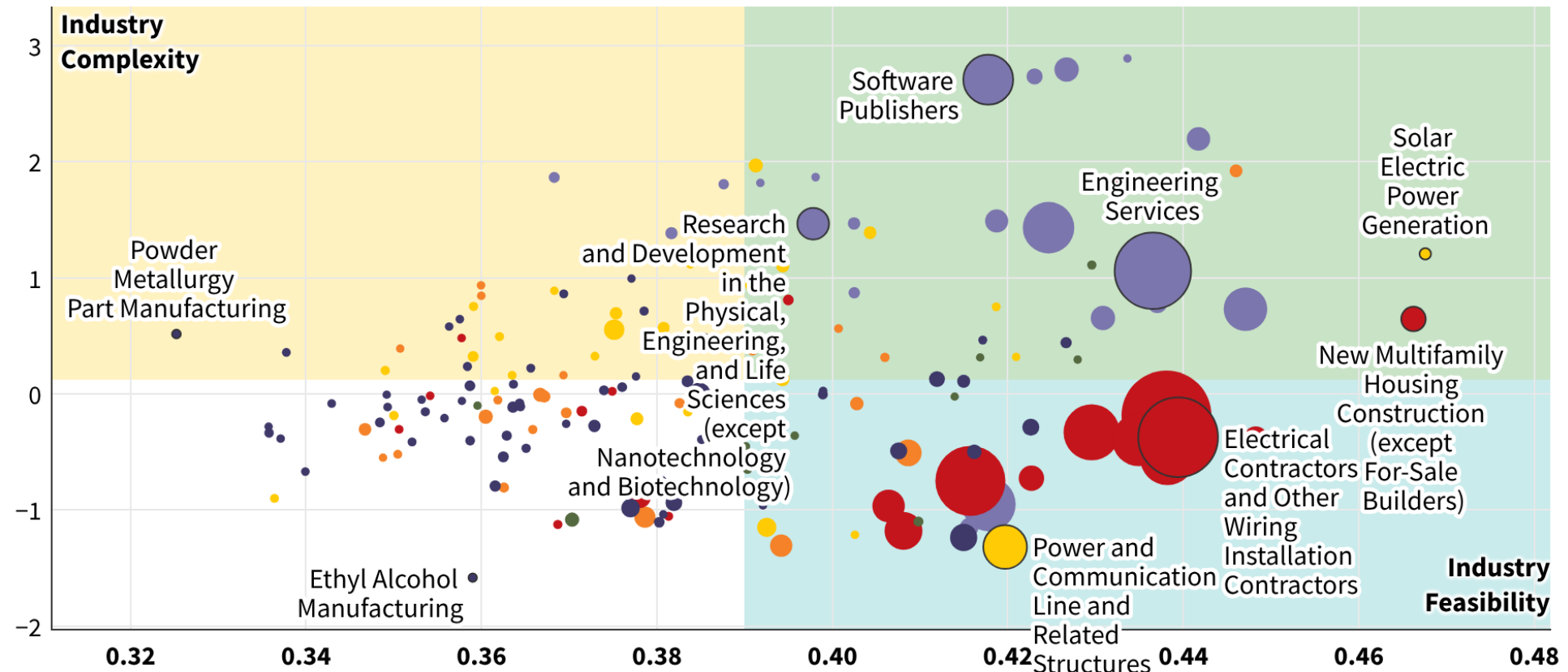
Complexity & feasibility of clean energy-aligned six-digit NAICS industries for Metro Miami

Six-digit industry codes are the most granular classification available in the North American Industry Classification Standards (NAICS) system. Dots are colored according to their corresponding clean energy sector. Note that "Transition Enabling Sector" refers to innovation-economy activities.

● Energy End-Use Sector
 ● Buildings End-Use Sector
 ● Industrial End-Use Sector
 ● Transition Enabling Sector
 ● Transition Mineral and Metal Mining Sector
 ● Transition Chemical, Mineral, and Metal Manufacturing Sector

Industry-Aligned Jobs (Local)

○ 2,000 ○ 8,000 ○ 20,000



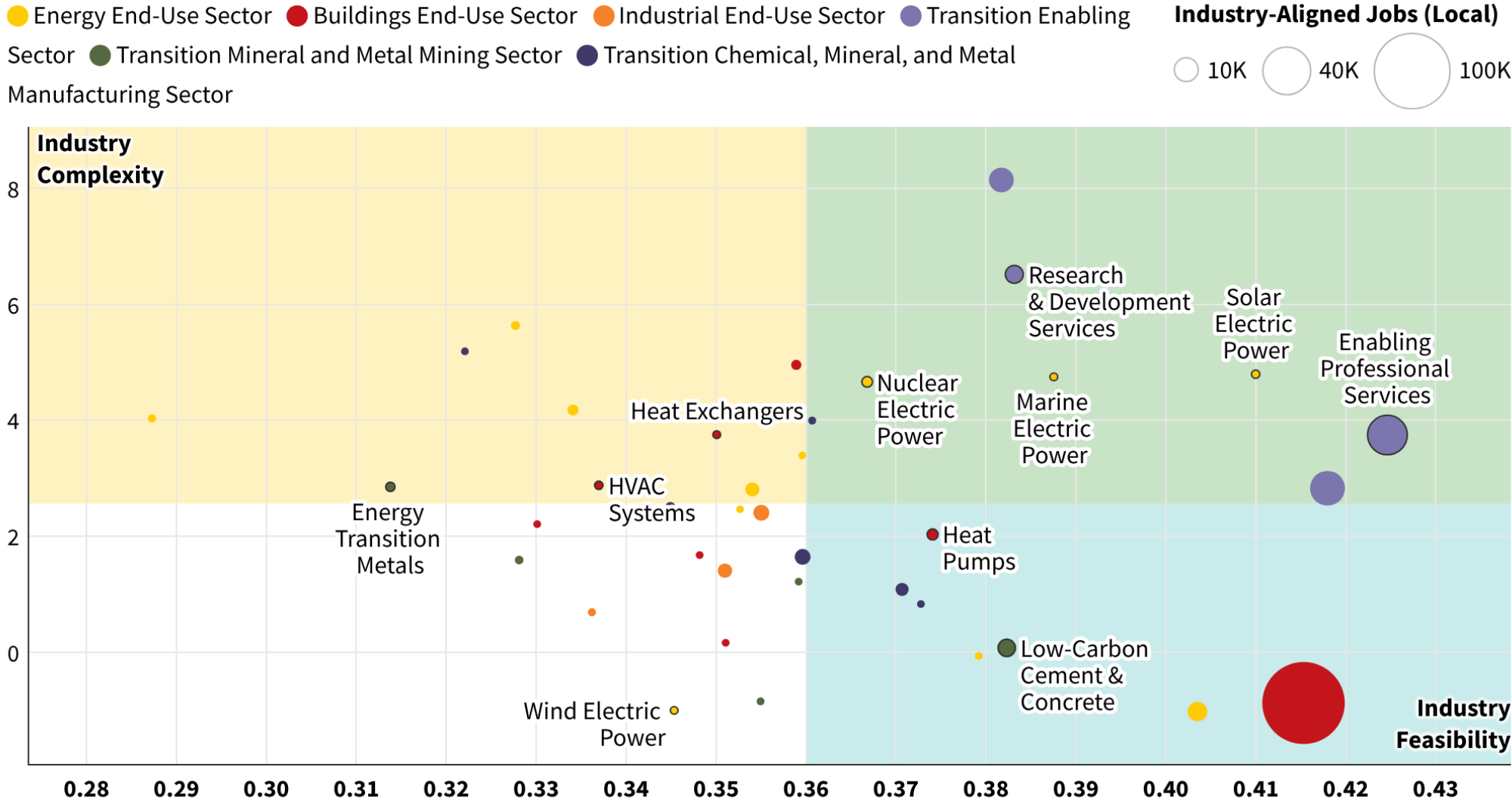
Complexity scores represent standard deviations from the mean. Feasibility scores represent the share of the target industry’s total proximity, measured nationwide from all industries, that is accounted for by industries already present or highly concentrated in Miami.

The majority of the most promising opportunities are related to innovation-economy activities like research and development.

Other high-feasibility, high-complexity industries, like solar deployment, involve fewer total jobs.

Complexity & ceasibility of clean energy industries for Metro Miami

Industries in the top-right quadrant represent the industries with relatively local high specialization requirements (as measured by the relative ubiquity of these industries nationally) that align strongly with the area's existing economic strengths.



Complexity scores represent standard deviations from the mean. Feasibility scores represent the share of the target industry's total proximity, measured nationwide from all industries, that is accounted for by industries already present or highly concentrated in Miami.



Constraints

Constraints Key Messages



Real estate and land for housing and manufacturing are limited and expensive.



Although South Florida is a finance hub, capital is a constraint across sectors, leading to funding gaps, and there are few players in the climate lending space.



There is insufficient construction workforce training and job placement to meet the high need for energy-efficient building retrofits and new construction.



The state policy environment hinders clean energy deployment that could advance economic development.

Limited land in South Florida constrains both housing and manufacturing

- The limited availability of buildable land drives up costs.
- New construction in Miami-Dade and Broward counties is focused on increasing density in urban areas through multifamily and high-rise developments, including for affordable housing.
- Some manufacturing has been successful in the region, but it must produce high-margin products given the cost of land.
- Weather and flood concerns make insurance costly for home and business owners.

South Florida is a finance hub, but capital is still constrained

- **Fewer community lenders compared to other cities means less capital for local businesses and small clean energy projects.**
 - Past bad actors in R-PACE and solar financing have deterred customers.
- **Banks and traditional lenders often overlook immigrant-owned small businesses.**
- **Limited lender coordination leaves lending gaps.**
 - Miami-Dade County's attempt to address lack of coordination with a green lending network didn't get off the ground.
- **Major barriers to financing across the three counties include high property insurance costs, rising commercial property values, and low credit scores.**
- **Miami Homes for All has identified [a \\$1.5 billion gap in funding for 100 identified projects totaling over 13,000 affordable homes](#).**
 - Securing this gap funding would unlock more than \$3.3 billion in additional available sources, including tax-exempt bonds, non-competitive tax credits, and private mortgages.
 - The Greater Miami Funders Collective launched in 2025 to match funding sources with a vetted pipeline of affordable housing projects.
- **Investment capital is constrained regionally, and with limited state funding, many startups compete for federal dollars.**
 - The Florida Opportunity Fund has started to alleviate this situation somewhat by investing in local startups and small businesses.
- **Local venture capital and accelerators tend to favor software-oriented technologies because of shorter time to scale and lower cost, leaving hardware-focused companies without the financial support they need to scale.**
- **Because of the number of stakeholders involved and the cost of projects, port financing is fragmented and difficult to coordinate.**

South Florida needs both retrofit and new construction, especially for affordable housing

Retrofit

“With the establishment of the comprehensive Climate Action Strategy, targets have been aimed at mitigating environmental impact and fostering energy efficiency across community and county-owned buildings...

Additionally, the [Miami-Dade] County aims to **retrofit 167,500 homes by 2030**, prioritizing low to moderate-income households to **reduce energy costs by 28%.**”

Southeast Florida Priority Climate Action Plan (2024)



New construction

“Miami-Dade County is short more than **90,000 affordable units**, as residents struggle to find and keep attainable housing across South Florida.

The county is lacking **90,181 units for households earning below 80 percent of the area median income**, which comes out to about \$75,000 a year, according to a report released by the nonprofit Miami Homes For All.”

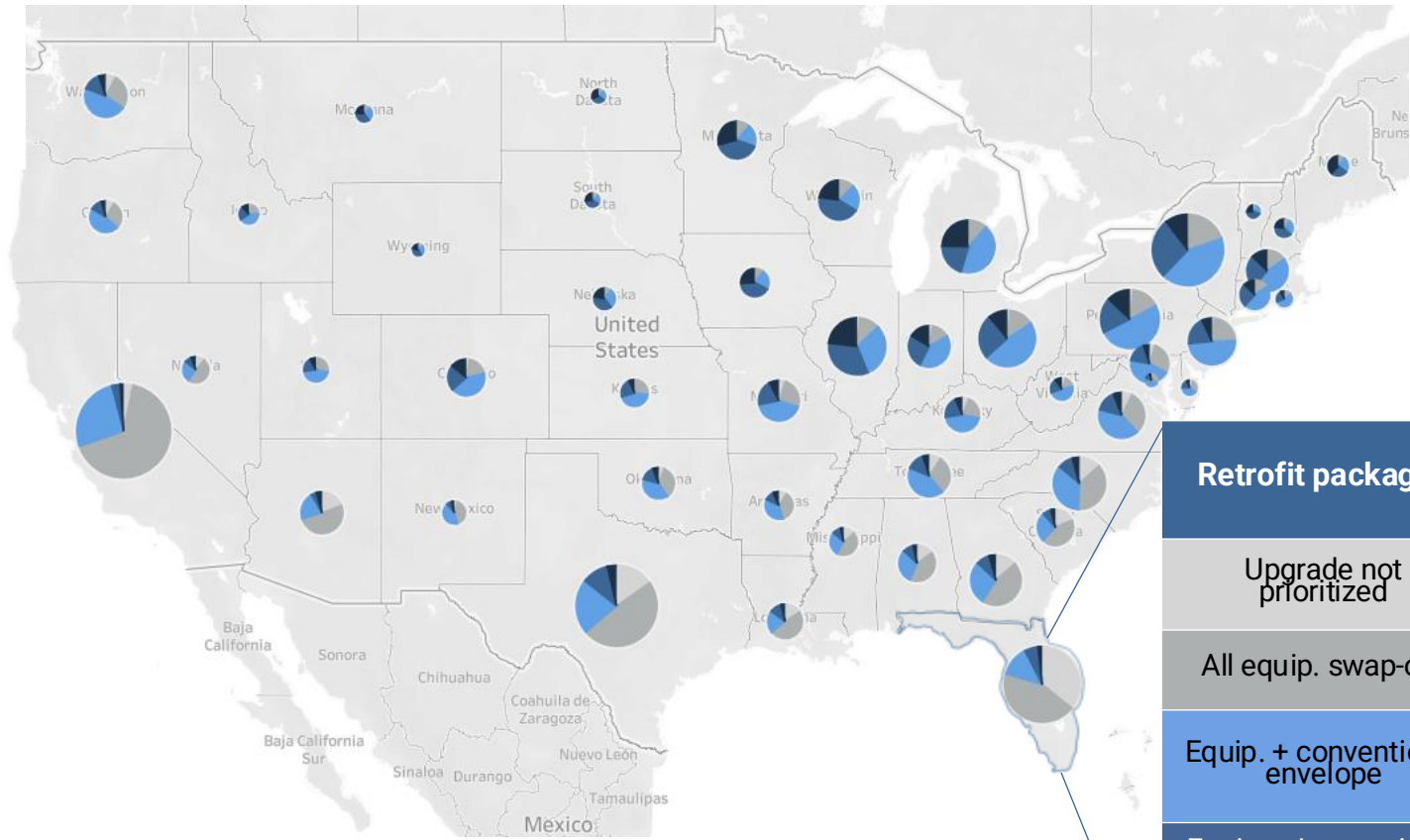
Accelerating Affordable Housing: The Funds Miami-Dade Needs Now (2024)



The majority of Florida's residential buildings require a retrofit for weatherization and efficiency

64% require an HVAC equipment upgrade

20% require envelope improvements



ABC-C / RMI / LBNL / NREL / PNNL

Retrofit packages	Number of units	Percent of FL res. building stock
Upgrade not prioritized	3,269,011	36%
All equip. swap-out	3,996,130	44%
Equip. + conventional envelope	1,181,357	13%
Equip. + International Energy Conservation Code (IECC) envelope	531,478	6%
Equip. + Passive House Institute (Phius) envelope	158,596	2%

* Figure refers to the goal of transitioning the building stock to: No on-site fossil fuel use, low power and thermal loads, obtains all energy from a carbon-neutral grid and/or carbon-neutral local resources currently or before 2050 under a planned scenario, and reduces impact on the grid through peak and general demand reduction and grid interactivity (or, alternatively, through off-grid operation).

Construction workforce development falls short of needs

- **South Florida does not have specific training for energy-efficient approaches to new construction or retrofits.**
 - The South Florida Academy of Air Conditioning provides a pipeline for training and deploying HVAC technicians, but companies like Blue Frontier still struggle to recruit enough technicians.
- **South Florida lacks workforce training for industrialized construction.**
 - The region has workforce programs for advanced manufacturing and traditional construction.
 - Skills from both programs can be brought together to create high-road industrialized construction technician careers.



Coordination

Coordination Key Messages



South Florida has a strong foundation of cross-sector stakeholder coordination — including in resilience and the blue economy — that could support cleantech uptake.



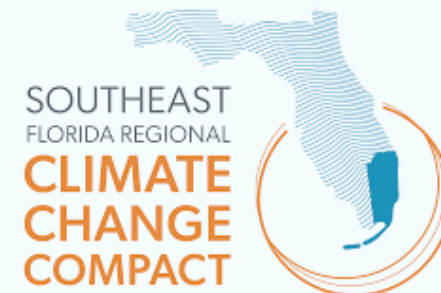
Coordination is strong within each county but limited across the three counties.



Coordination between workforce organizations, universities, and companies in the innovation space provides a model for workforce development in other industries.

South Florida successfully coordinates on local priority industries

- These collaborations have had some success in their respective industries, especially with the blue economy.
- Examples of diverse coalitions that engage a range of stakeholders across industries:
 - The Marine Research Hub's broad coalition of local government, universities, industry, and research institutions has enabled expansion of blue economy jobs and financial success.
 - The Risk and Resilience Tech Hub's team brings together government, blue economy, and buildings industry actors, research institutions, and local universities to support innovative technologies through all phases of the tech-to-market journey.



County silos inhibit economic development

- **Past regional economic development efforts that have been less successful suffered from:**
 - Long timeline from initial conversations to implementation
 - Disconnect between initial program goals and lasting results
- **Stakeholders coordinate within each county, but there is limited cross-stakeholder coordination across the three.**

South Florida's strong tech workforce provides a pipeline model for building trades

South Florida workforce developers, universities, and employers coordinate well on tech workforce development and job placement.



Energy efficiency-focused construction trades could similarly benefit from a structured approach providing training, apprenticeship, and job placement.

South Florida can deepen its coordination efforts to promote economic development

- Financial institutions can coordinate to share experiences and build capacity to advance cleantech financing.
- South Florida ports can work with each other and their large customers (like cruise lines) to advocate for the power they need for full port electrification.
- Existing affordable housing coordination can support the construction sector.
 - Enterprise and Miami Homes for All are leading a Funders Collaborative for housing that has an opportunity to advance energy efficiency retrofits and new builds.
 - Additional coordination with workforce development organizations to provide job placement could expand the local construction ecosystem and retrofit capabilities.
- Greater Miami Chamber of Commerce can host events for resilience tech and energy efficiency, including building on their green jobs forum.



Sector Deep Dives



South Florida's Port Electrification Opportunity

PortMiami and Port Everglades can continue to implement shore power, further electrify cargo handling equipment, and electrify drayage trucks to remain competitive, cut costs in the long term, and attract new business.

Ports can shift activities from fuel to electricity



Shore Power

Using electric power for ships when docked instead of auxiliary diesel engines

- In progress at PortMiami and Port Everglades



Cargo Handling Equipment

Electrifying cargo handling equipment like cranes, forklifts, and terminal tractors

- Some investment at PortMiami and Port Everglades



Drayage Trucking

Transitioning to the use of battery electric or hydrogen fuel-cell trucks

- Opportunity for investment at PortMiami and Port Everglades

Each element of electrification has benefits

	Shore Power	Cargo Handling Equipment (CHE)	Drayage Trucking
Economic Development Benefits	Shore power can attract customers, like cruise lines, that are interested in reducing their emissions and meeting sustainability goals. Shore power can enable job creation.	Due to energy efficiency and lower maintenance costs, electric equipment can reduce operational costs in the long term. There is a potential for construction and technician job creation.	Electrifying drayage trucks can lower fuel and maintenance costs. Locating drayage truck charging depots slightly away from ports can provide additional charging capacity for other fleets and vehicles.
Community Benefits	Shore power can improve local air quality by reducing air pollutants from idling ships by up to 98%.	CHE electrification can reduce emissions by up to 45% in the US compared to baseline CHE. Electrification can also lead to better water quality, which benefits marine ecosystems and coastal communities.	Fleet electrification can improve air quality and health outcomes for drayage truck drivers, nearby residents, and port employees. Placing charging depots away from ports can reduce congestion and reserve port power consumption for other activities like shore power.

South Florida ports have made progress

The ports have been awarded more than \$78 million for electrification efforts

Port Everglades

- **In the process of designing shore power for 8 cruise berths**
 - Phased implementation
 - Expected to avoid over 11,000 metric tons of carbon dioxide
- **Received a grant from USDOT's Port Infrastructure Development program to support a Port and Maritime Electrification Plan that will include hybrid and electric equipment**
- **Received an EPA Clean Ports award to upgrade emissions inventory**

PortMiami

- **Now has 5 shore power berths**
 - Expected to reduce greenhouse gas emissions from port operations by 25% by 2030
- **Through USDOT's Infrastructure for Rebuilding America (INFRA) grant the port will get electric and hybrid cargo handling equipment**
- **Working to develop an end-to-end net-zero supply chain**

Port electrification can support regional goals

- **By investing in electrification, the South Florida ports can gain competitive edge and remain leading cruise ports.**
 - The ports are both large employers and economic drivers, generating almost \$90 billion a year for the region.
 - PortMiami is the largest cruise port in the world by passengers, and Port Everglades is the fifth; remaining competitive is important for the local economy.
- **Miami-Dade and Broward counties have net-zero goals, and the ports will need to electrify operations to help meet those goals.**
- **Electrification meaningfully reduces air and water pollution.**

Port electrification needs upgraded electricity distribution and coordinated finance

- **Ports need upgraded electrical distribution and transmission to support further electrification.**
 - PortMiami has only enough power to use three of five berths at a time.
 - A microgrid or substation could help meet capacity needs and increase resilience.
- **Electrification's high up-front costs are a barrier to adoption.**
 - Costly port electrification interventions are getting cheaper; electric yard tractors and RTG cranes are becoming cost-competitive with diesel.
 - An electricity rate structure that accounts for when cruise ships dock would increase cost transparency for the ports, cruise lines, and operators.

Stakeholders need to align and work together for port electrification

- **Local government:** Grants, tax credits, electrification targets
- **Utilities:** power supply, demand response, tariffs
- **Cruise lines, terminal operators, trucking companies, truck charging providers, and cargo owners:** Finance and co-investment
- **Innovative and collaborative financing is needed to cover costs:**
 - Financing for port electrification could stack public and private capital.
 - The concentration of facility operators and tenants at ports presents an opportunity to jointly procure equipment, creating economies of scale.

Successes: The ports of Los Angeles and Seattle formed public-private partnerships and stacked public and private capital.

- Port Los Angeles and private partners like terminal operators matched federal grants to finance the electrification of infrastructure and equipment.
- Port of Seattle has combined federal and state grants to finance shore power and secured initial funding from a cruise line.



South Florida's Building Opportunity

Investing in resilient, efficient buildings will ensure the health and safety of residents, reduce energy demand on the grid, and increase the quality of the housing stock.

Building sector investments have diverse benefits



Cooling



Retrofit



Industrialized Construction

Economic Development Benefits

Research and development for next-generation cooling technologies, including dehumidification and passive cooling, can establish South Florida as a leading innovator, poised for global export.

Workforce training and support for small business owners can create a talent training pipeline to develop trades and to help contractors in developing small businesses.

Streamlining deployment for innovative industrialized construction approaches can provide a pipeline of new high-quality multifamily, single-family, or urban infill housing.

Energy Efficiency Benefits

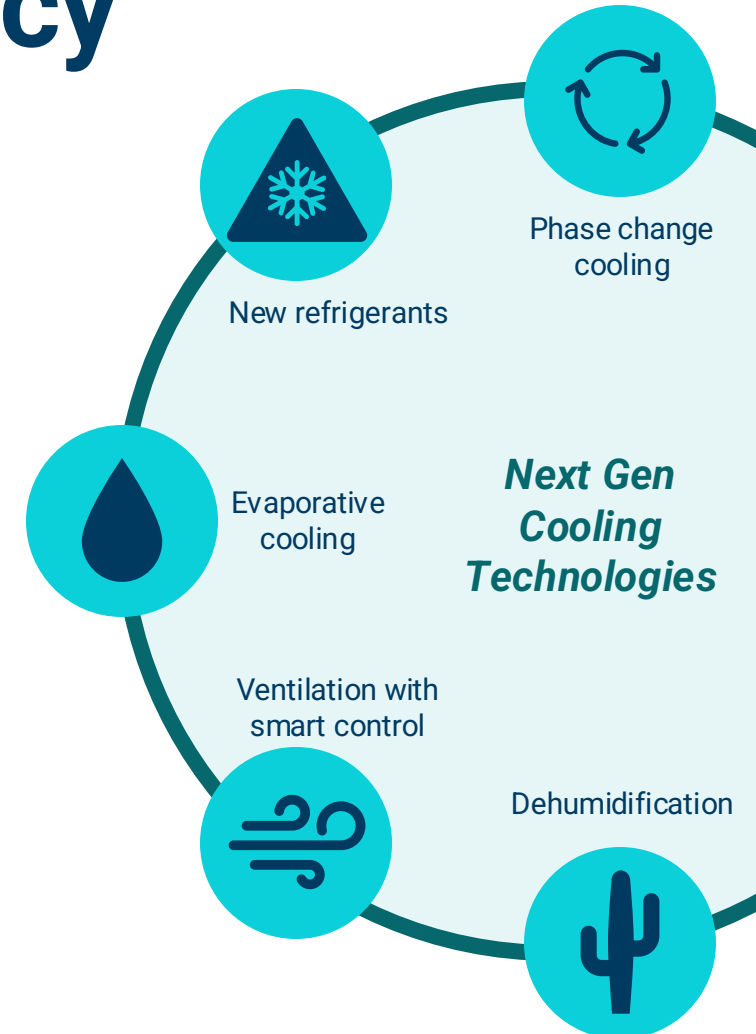
Improved cooling efficiency can reduce energy costs for low-income residents, keep residents safe from extreme heat, and reduce the burden on the grid.

Improving the existing building stock in South Florida will reduce the cost of energy for all residents, including LMI households, while protecting against future weather events.

Industrialized construction “prebakes” energy efficiency into building construction, ensuring energy costs are kept low and buildings are resilient in weather events and electrical outages.

Next generation cooling uses advanced technologies to improve efficiency

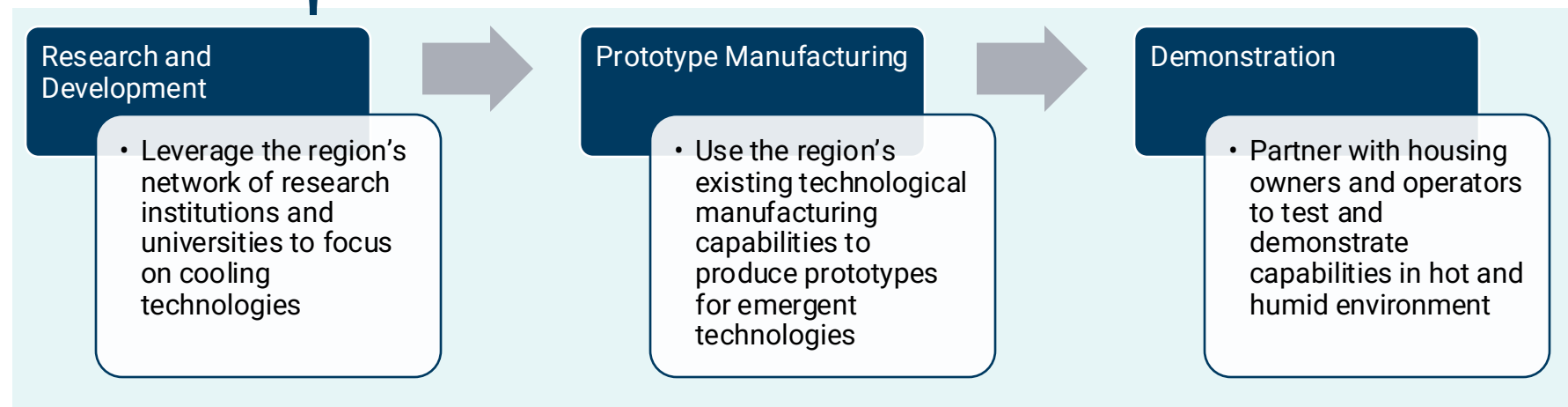
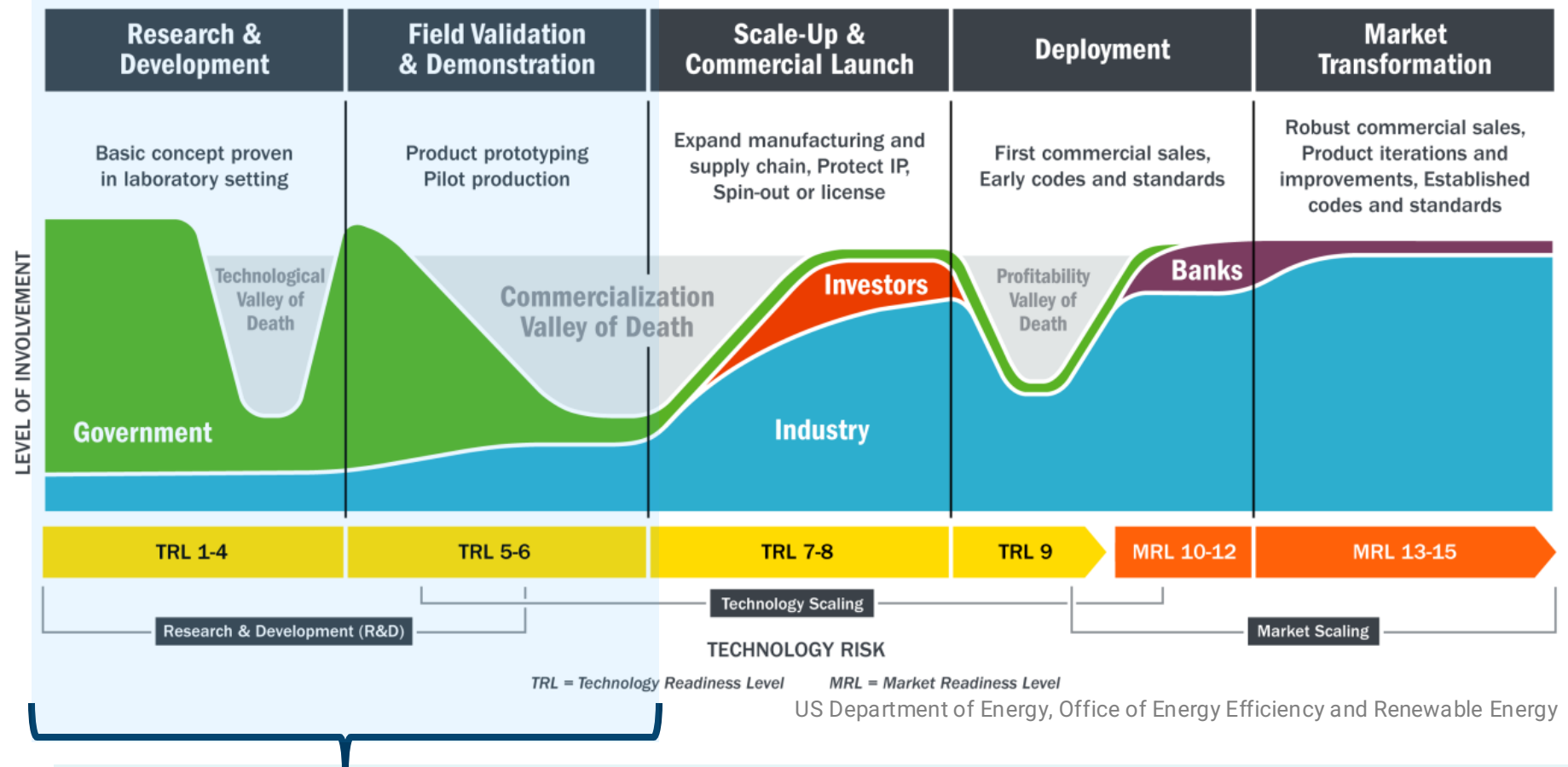
- **Florida has the highest number of cooling degree days and lowest number of heating degree days within the continental United States.**
 - South Florida is projected to have five times as many extremely hot days by 2050.
 - These impacts will be felt first and worst by low-income households and small businesses.
- **Technologies that increase energy efficiency reduce the cost of cooling and the load on the grid.**
- **Innovations in technologies and refrigerants can also reduce air pollution and emissions.**



South Florida can leverage its technology and research ecosystems to advance innovation in cooling and pilot these technologies

- **Universities and local research assets can prioritize cooling technologies, including next generation cooling, dehumidification, and passive cooling.**
 - University of Miami's Climate Resilience Institute can highlight cooling and heat mitigation as a priority focus area.
 - Florida Atlantic University's Research Park can provide facilities for testing and certification of next gen cooling systems.
 - South Florida's technical manufacturing abilities allow for pilot manufacturing.
 - Miami-Dade Innovation Authority and other local incubators/accelerators can center cooling in future challenges to incentivize local support in growth-stage technologies.
 - South Florida's affordable housing can support demonstration and scaling of cooling to demonstrate success in a hot and humid environment.
- **Cooling technologies successfully piloted in South Florida can be exported and used across the United States and globally.**

South Florida can accelerate tech-to- market for innovative cooling tech



Building retrofits require a trained workforce to scale enhancements



Insulation and air sealing:
Add attic, wall, floor, and ductwork insulation to reduce heat transfer.



Envelope enhancements:
Upgrading windows and doors as needed for storm prep and to reduce heat transfer.



Ventilation:
Ensure proper ventilation to reduce moisture build up, improve air quality, and reduce humidity.



HVAC:
Upgrade or repair HVAC systems as needed to reduce energy load profile with efficient cooling.

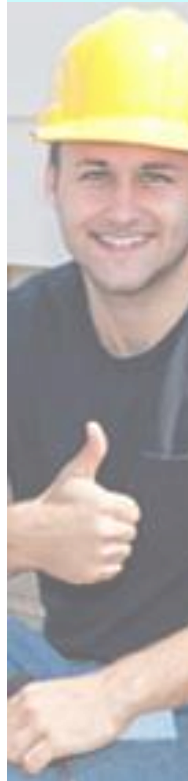


Structural improvements:
Address any outstanding repairs and ensure exterior leaks are addressed.

Miami-Dade County aims to retrofit 167,500 homes by 2030, prioritizing low to moderate-income households to reduce energy costs by 28%.

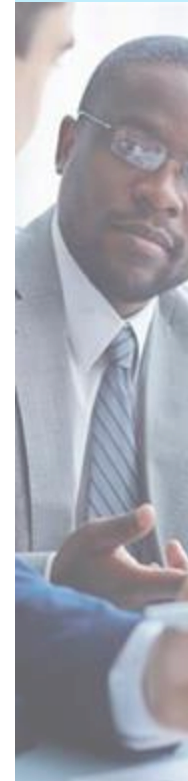
To meet these retrofit goals, South Florida should **train and deploy local trades** and support established contractors **growing their small businesses.**

Develop local trades: Expand workforce training programs



- Ensure employment opportunities through affordable housing and local portfolio owners/operators.
- Create local partnerships between education, community groups, workforce organizations, and trade organizations to provide contractor training and deployment.
- Examples: NYSERDA's Regional Clean Energy Hubs, Goodwill of North Georgia

Invest in small business: Train experienced contractors



- Community groups and banks can provide additional small business-focused trainings.
- Empower local trades to create high-road jobs and scale economic development.
- Support trade placement opportunities.

Industrialized construction can provide high-quality new housing at scale

Streamlined manufacturing methods provide for **high-performance, resilient buildings.**

-  *Higher productivity and faster delivery to drive affordability, speed, and scale*
-  *Reduced disruption*
-  *Increased schedule and budget certainty*
-  *Reduced waste*
-  *Enhanced quality control*
-  *Workforce benefits, including improved safety and job certainty*
-  *Regional economic development*

-  *Reduced energy expenditures*
-  *Weather event resilience, including passive survivability*
-  *Increased thermal and acoustic comfort*
-  *Improved indoor air quality and health*
-  *Quality reduces regular maintenance*
-  *Load reduction provides electricity system benefits*
-  *Reduced indoor and outdoor air pollution*

Industrialized construction can be applied to a range of building typologies

Approaches include **volumetric** (assembly of whole rooms off site), **panelized** (assembly of flatpack components off site), or the combination of the two. For example, prefabricated bathroom pods combined on site with prefabricated wall or ceiling panels.



Volumetric industrialized construction



Panelized industrialized construction

Multifamily



Single family



ADUs



Industrialized construction saves time and money – and can scale these savings

Industrialized construction can accelerate project timelines by up to **50%** while reducing costs by up to **20%**, and may be **easier to execute on urban job sites** with less storage and preparation space.

Example apartment-project-construction duration, traditional vs off-site 3-D volumetric, months



South Florida can scale industrialized construction for urban densification



Affordable housing nonprofits like Miami Homes for All can educate developers on industrialized construction approaches and benefits and promote its use.

- Industrialized construction can reduce the timeline and cost for deployment of multifamily housing, with reduced time and space needed for staging.



EDOs can attract industrialized construction manufacturers to the region.

- Leverage “last mile manufacturing” for lighter local manufacturing footprint than basing all production in South Florida.



Local code officials can build a “catalog” of preapproved template designs to reduce permitting burden, streamline approvals, and build in energy efficiency from the start.

- Preapproved designs can be accessed and shared by interested manufacturers to create a local IC manufacturing hub.
- Los Angeles ADU code catalogue could serve as and be built upon as a guide.



Workforce developers like OIC and education institutions like Miami-Dade College can create a curriculum for high-road careers, including in robotics, digital fabrication, computer numerical control machinery, and unionized traditional construction trades.

- Coordinate with local labor groups to establish buy in and partnership, such as with Factory OS and Northern California Carpenters Regional Council.

Affordable multifamily housing suffers from a lack of local, fit-for-purpose finance

- **County funding is available for weatherization retrofits for single-family homes and condominiums, but multifamily housing faces substantial underinvestment.**
 - Technical assistance for multifamily retrofit projects is expensive and is typically a barrier to moving retrofit projects.
 - Miami Homes for All has led successful technical assistance programs with emerging developers to rehabilitate affordable homes. More public funding for similar technical assistance can help scale multifamily weatherization.
- **Multifamily affordable housing new construction also faces a funding gap.**
 - Miami Homes for All and Enterprise have made strides toward closing that gap by bringing the Funders Collaborative model, originated in Atlanta, to the Miami area.
 - Elevating benefits of industrialized construction approaches and planned multifamily projects could help build momentum for a local industrialized construction industry.
- **More locally based lending capacity could drive capital toward housing and support community development lending.**



Thank you

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