

The Critical Role Private Equity Plays in America's Energy Transition

APRIL 2023



Executive summary

PE has a long and storied history in the energy sector, and the industry's efforts to produce cleaner energy is worth highlighting on Earth Day 2023. While this report focuses on PE's impact on the energy sector, PE's impact on sustainability can extend to thousands of other companies as well. That's because PE sponsors implement portfolio-wide environmental initiatives that can produce incredibly positive results for several companies at once.

Within the energy sector itself, today's PE investors sponsor energy producers of all stripes. Aside from the producers that help keep the country running 24/7, PE firms also invest in and improve energy service providers like transportation companies and storage facilities, electric and gas utility grids, and the energy equipment manufacturers that serve one of America's biggest industries.

Not least, PE firms are at the forefront of America's energy transition. Sponsors routinely invest in solar and wind farms and hydroelectric facilities around the country, investing over \$130 billion over the past decade. Because of their resources, PE firms can hire the best graduate students to put to work in those efforts. When smart people get involved in those investments, innovation blossoms. Even traditional energy sources like oil and gas can be extracted more cleanly with PE investors at the helm. Investors can establish "brown-to-green" initiatives that can improve energy production—all the way down to its business model—while bolstering emissions technology, decarbonizing portfolio companies, and decarbonizing the supply chain of the energy sector.¹

**This report includes a modified and more exclusive methodology around cleantech and renewable energy transaction activity, which is smaller than previous AIC reports on renewable energy.*

- Executive summary
- PE's contribution to energy
- The cleantech revolution
- More capital to wind and solar
- Creating new energy producers from scratch
- Behind the scenes
- Keeping the lights on

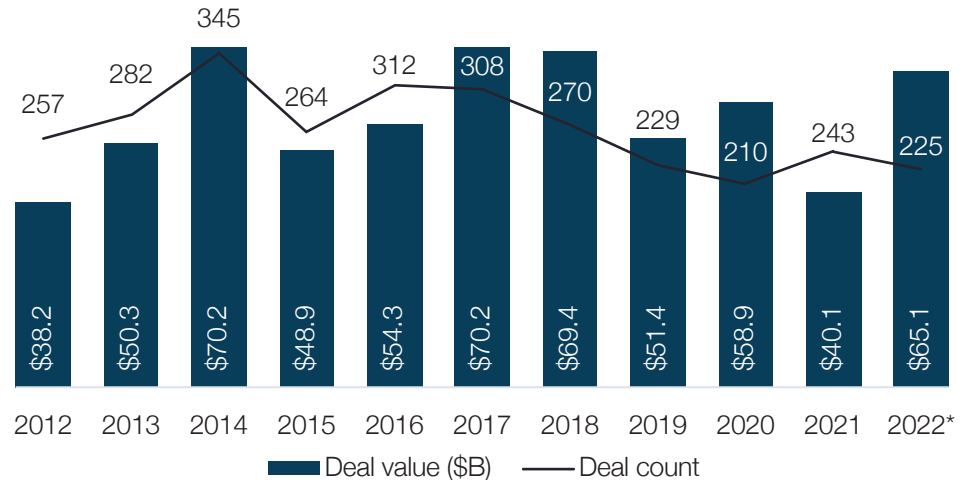
¹: ["McKinsey Global Private Markets Review: Private Markets Turn Down the Volume," McKinsey & Company, March 31, 2023.](#)

PE's contribution to energy

Private equity's contribution to the energy sector is substantial and widespread across the country. Most importantly, PE invests in the energy sector even when others avoid it, which can help reduce prices for everyday Americans. Since 2012, PE sponsors have backed almost 3,000 energy companies, to the tune of \$617 billion. PitchBook figures show annual investment totals between \$40 billion and \$70 billion in any given year, making PE firms a steady source of capital. About a third of those investments go to middle-market energy companies, underscoring PE's effort to back energy companies large and small.

Most striking is the geographic dispersion of PE investment. In 2022, a third of investments went to the South, which includes Texas; another 19% went to the Mid-Atlantic region, which includes Pennsylvania and West Virginia; 13% went to the West

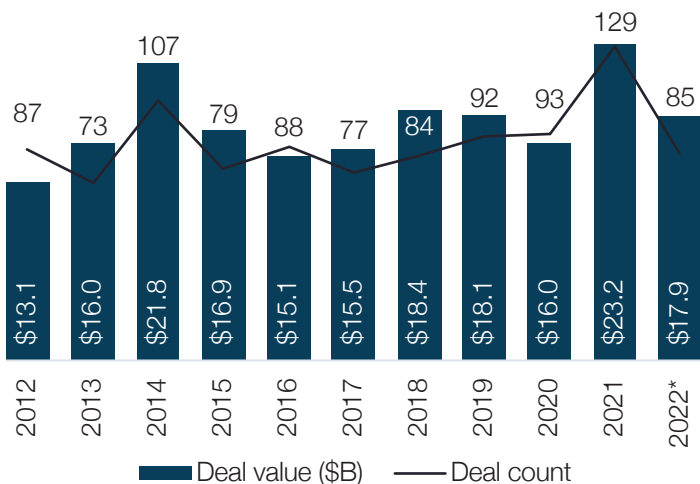
Energy PE deal activity



Source: PitchBook | Geography: US
*As of December 31, 2022

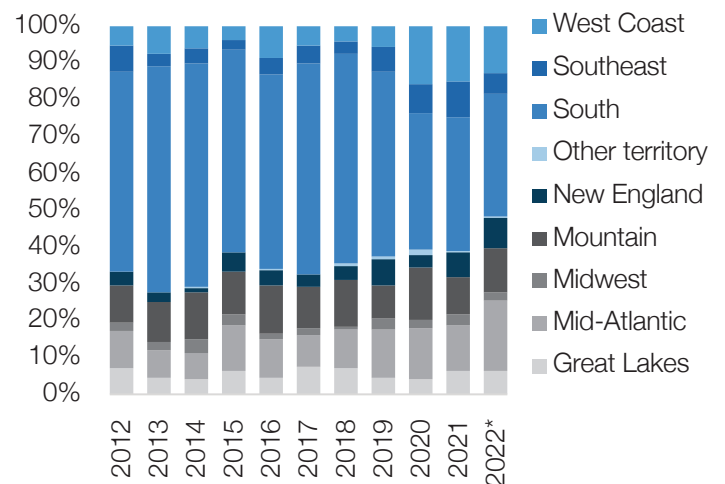
Coast, which includes California-based renewable energy producers; while 12% went to the Mountain region, reflecting the resources in Colorado, Utah, New Mexico, and Wyoming.

Energy PE middle-market deal activity



Source: PitchBook | Geography: US
*As of December 31, 2022

Share of energy PE deal count by size bucket

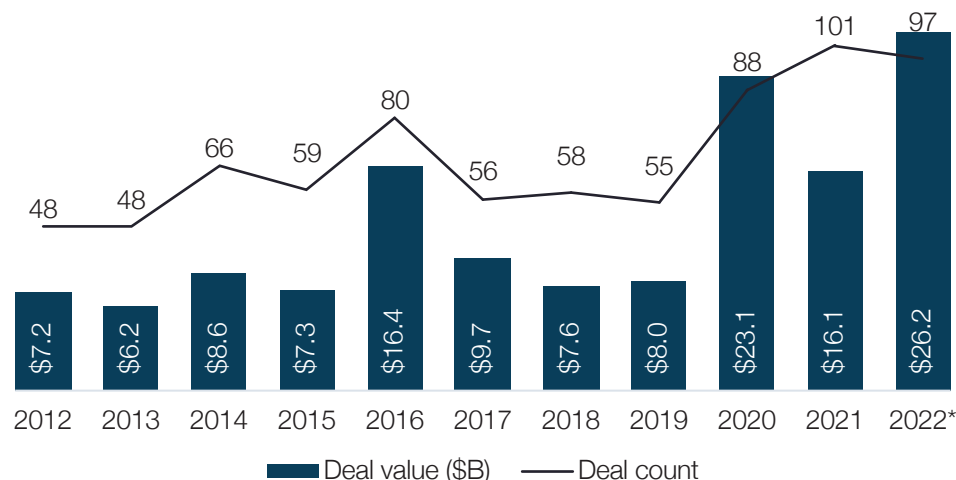


Source: PitchBook | Geography: US
*As of December 31, 2022

The cleantech revolution

Today's PE industry is an active and growing player in renewable energy. According to PitchBook, over \$136 billion has been invested in cleantech companies since 2012, across 756 investments. Almost 300 of those sponsorships have happened in the last three years, including \$65 billion worth of capital infusions. In 2022, the market saw a single-year record \$26 billion invested, and more big numbers are around the corner. Other PitchBook data shows a wide distribution of deals across the country, with no one region dominating the market. The Mid-Atlantic, West Coast, Mountain, New England, and Southern regions all recorded at least 10 transactions each last year.

PE activity in renewable energy and cleantech



Source: PitchBook | Geography: US
*As of December 31, 2022

Perhaps the biggest driver of PE investment is in solar. In 2019, PE firms backed 15 solar companies, but that number has climbed every year before hitting a record high of 42 investments in 2022. In solar alone, PE firms have

funneled almost \$22 billion into energy producers since 2012. Investors have helped solar-based producers strengthen their technologies, expand

their geographic footprints, and connect more towns and businesses to solar grids, both large and small.

Private equity at work



Summit Ridge Energy is a leading player in the community solar industry—a growing pocket of the renewable energy sector. Since its founding in 2017, Summit Ridge garnered VC financing as it grew its solar generation capabilities. In July 2022, AIC member Apollo gave Summit Ridge another \$175.0 million to scale its platform. If you haven't heard of community solar before, that's because it's a new phenomenon: Community solar projects sell solar energy to businesses and nonprofits by connecting local solar farms to end users at lower rates compared to utility bills. It's part of a larger effort to bring underserved communities into the renewable energy market, and Summit Ridge is using the money to expand its reach to more customers across the Midwest, Mid-Atlantic Northeast, and New England markets.²

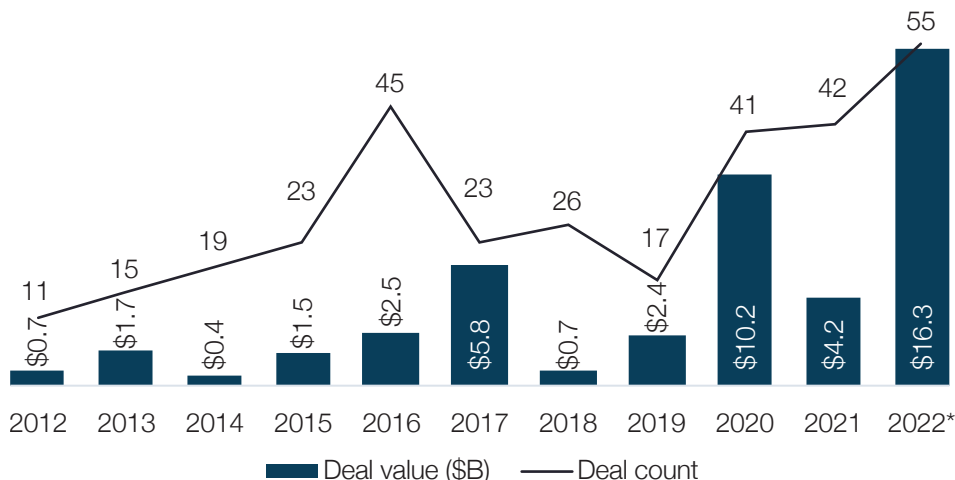
2: "Apollo Funds Announce \$175 Million Strategic Investment in Summit Ridge Energy, a Leading Owner-Operator of Community Solar," Apollo, July 13, 2022.

More capital to wind and solar

Private equity is a growing force in renewable energy—specifically in wind and solar. It’s a natural fit for growth-oriented, long-term investors like PE. In years past, many clean energy producers relied on government subsidies for capital. With PE sponsors, wind and solar companies get much more than that—a patient source of capital, knowledgeable sponsors who can help companies navigate regulatory hurdles, and growth-oriented investors who can push clean energy producers to new heights.

According to PitchBook, PE investment in wind and solar broke records in 2022. Over \$16 billion was invested across 55 companies, and those numbers are poised to increase going forward. In all, PE firms have sponsored over 300 wind and solar companies since 2012, to the tune of

PE activity in wind and solar



Source: PitchBook | Geography: US
*As of December 31, 2022

\$46 billion combined. Those numbers will only get bigger as more investors focus on America’s energy transition,

which represents a multi-trillion dollar opportunity for sponsors with the resources and knowledge to do it.

Private equity at work



TerraForm Power is one of the world’s biggest producers of renewable power, including solar and wind. It’s also capable of growing even bigger in the years ahead. That’s why AIC member Brookfield invested \$1.4 billion in the company in 2017, with aims of expanding its global reach. The investment was made with discipline in mind, and Brookfield went to work creating long-term stability for the company’s balance sheet, as well as strengthening its relationship with key regulators. Brookfield also focused on TerraForm’s strength in China and India, where pollution is a major contributor to the global environment.³

3: “Renewable Power for a Cleaner, Brighter Tomorrow,” Brookfield, n.d., accessed April 13, 2023.

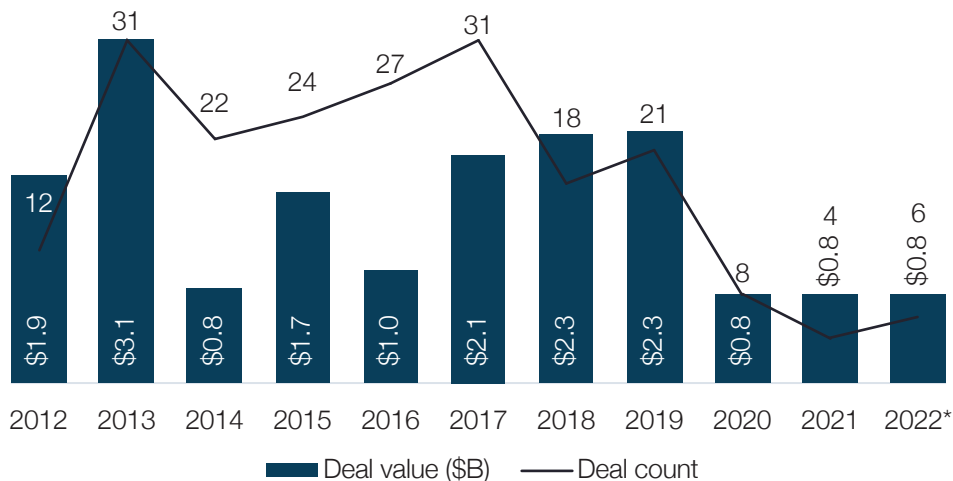
Creating new energy producers from scratch

One of private equity's most valuable capabilities is creating new companies out of thin air. It's actually very common to see in the energy industry. Since 2012, PE firms have created more than 200 new energy producers from scratch. Called "platform creations," PE sponsors can build new energy producers with safety, decarbonization, and high-end innovation in mind from the start.

The effort to decarbonize

PE capital can be used for many things, but in the energy sector, much of it is being funneled to decarbonization efforts. With sponsors behind them, traditional energy companies can invest more money into clean energy initiatives and implement "brown-to-green" strategies that shift away from pollutant-heavy business models.⁴ And while it's a relatively new phenomenon, PE firms can also harness the "digital oilfield" to transform traditional oil &

Energy PE platform creation deal activity



Source: PitchBook | Geography: US
*As of December 31, 2022

gas companies, using data analytics and machine learning to improve inspections and increase worker safety while reducing carbon emissions by significant amounts.

Private equity at work



AIC member EnCap Investments has created many energy companies over the years. There are even families of energy companies, one of which is the Cordillera batch. Cordillera III was the third company of the bunch, which EnCap formed in 2007 alongside industry veteran George Solich. Cordillera III operated in the Western Anadarko Basin, which straddles North Texas and Oklahoma. The effort was rewarded five years later when it was acquired by Apache for \$3.1 billion. Success stories like Cordillera helped propel EnCap Energy Capital Fund IV to a 23.4% return to its investors, including the California State Teachers' Retirement System, Indiana Public Retirement System, the Commonwealth Fund, and the endowments of the University of Michigan, University of Pittsburgh, University of Virginia, and Texas Tech University.⁵

⁴: "McKinsey Global Private Markets Review: Private Markets Turn Down the Volume," McKinsey & Company, March 31, 2023.

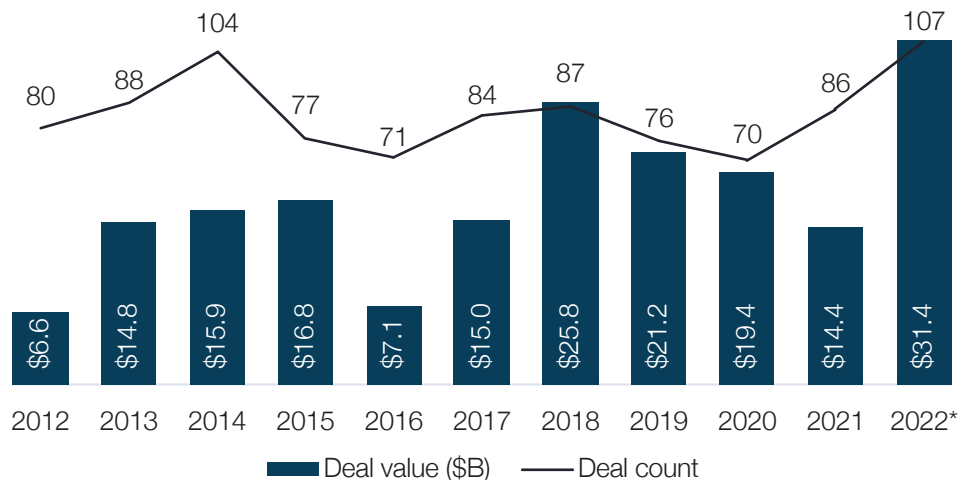
⁵: "Cordillera Energy Partners III, LLC Completes Merger With Apache Corporation," EnCap Investments, May 1, 2012.

Behind the scenes

There are thousands of energy service providers in the US that help producers store and transport the energy from point A to point B. Since 2012, PE firms have sponsored over 900 energy service providers, investing over \$188 billion in the process. Service providers are vital to American energy production because they act as connection hubs between the two coasts and everywhere in between.

They're also a vital cog in the energy transition because they can help at the company level, and create a more sustainable future one investment at a time. Improvements can be made at every step of the process, and private equity sponsors can finance them. PE firms can also make their portfolio companies safer. According to a former PE executive, investors focus on safety because it reduces compliance and regulatory issues, boosts employee

Energy services PE deal activity



Source: PitchBook | Geography: US
*As of December 31, 2022

morale and reduces turnover, and ultimately allows for better wage negotiations.⁶

Private equity at work



In 2016, AIC member Genstar Capital created a new independent company called Sphera, which had been a division of IHS.⁷ Sphera is a software company that focuses on ESG data and consulting, helping its clients identify and mitigate ESG risk. Sphera set itself apart by helping companies measure and report their emissions at the product level, which gives clients much more detail and nuance about their environmental impact.⁸ Genstar turned the former subdivision into the world's leading ESG software provider before selling the company to AIC member Blackstone in 2021. Blackstone is poised to expand Sphera's reach on an even bigger scale.⁸

6: "Private Equity Buyouts and Workplace Safety," SSRN, Jonathan B. Cohn, Nicole Nestoriak and Malcolm Wardlaw, December 30, 2020.

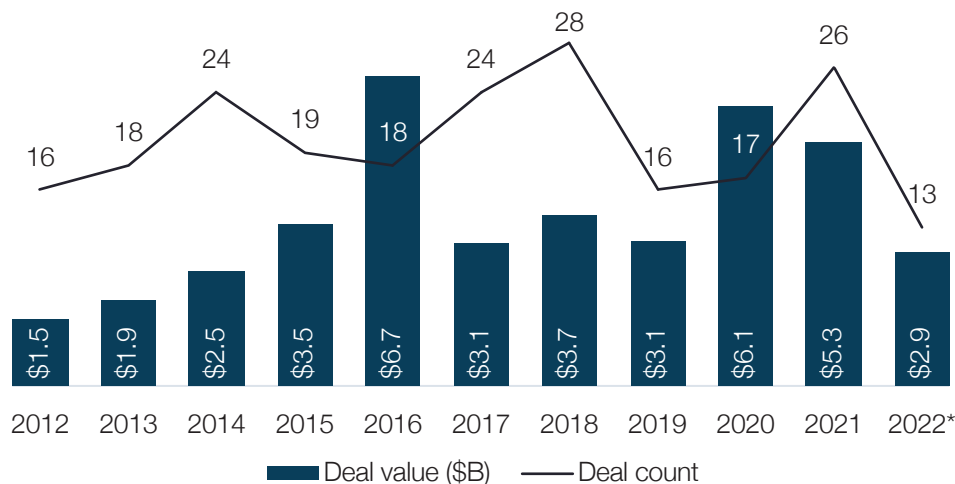
7: "Genstar Capital Announces Acquisition of IHS Operational Excellence & Risk Management Business," Genstar, June 1, 2016.

8: "Behind the Deal: Blackstone's Investment in Spheram," Blackstone, June 13, 2022.

Keeping the lights on

America’s energy grid—which includes electricity transmission, gas utilities, and water facilities—is slowly becoming obsolete. Upgrades are needed, and the utility sector becomes front page news when the weather gets extremely hot or extremely cold. That’s one reason that PE firms, which can make substantial improvements in a short amount of time, have invested so heavily in utilities over the past decade. Since 2012, PE firms have backed more than 200 utility companies, with more than \$40 billion invested altogether. PE-backed utility companies include Puget Sound Energy, Hawaii Gas, El Paso Electric, AES Indiana, and People’s Gas, which serves Pennsylvania, West Virginia, and Kentucky.

Energy utilities PE activity



Source: PitchBook | Geography: US
*As of December 31, 2022

With financial backing from PE sponsors, utility companies can focus more time and energy on keeping facilities safe and making them cleaner, leading to

cleaner environments in American cities. Among other things, investors can help modernize utility grids through nuanced data collection, especially as more

customers use “smart home” energy readers. Keeping track of energy usage at the utility level will significantly reduce greenhouse gas emissions.

Private equity at work

FIRST RESERVE

Scranton, Pennsylvania is known as the “Electric City,” a moniker that goes back to the 1880s. Scranton was one of the first American cities to have working electricity and the first city to have completely electrified streetcars.⁹ Thanks to private equity, Scranton continues to bolster its reputation around electricity. In early 2019, the Lackawanna Energy Center went online after three years of construction. AIC member First Reserve, alongside Invenery, a portfolio company of AIC member Blackstone, financed and developed the project from the start. Powered by a 1,485-megawatt generation facility, Lackawanna Energy Center came online ahead of schedule and its Administration and Control facility was given a LEED Gold certification. First Reserve was a major contributor to a \$1.5 billion investment in 2016, which helped create more than 1,200 construction jobs and thirty operations positions. Local communities benefitted greatly from the project, with more than \$285 million invested into the local economy, hundreds of thousands of dollars donated to local nonprofits, six scholarships granted to students at Lackawanna College’s School of Petroleum and Natural Gas, and \$170 million in compensation to construction workers.¹⁰

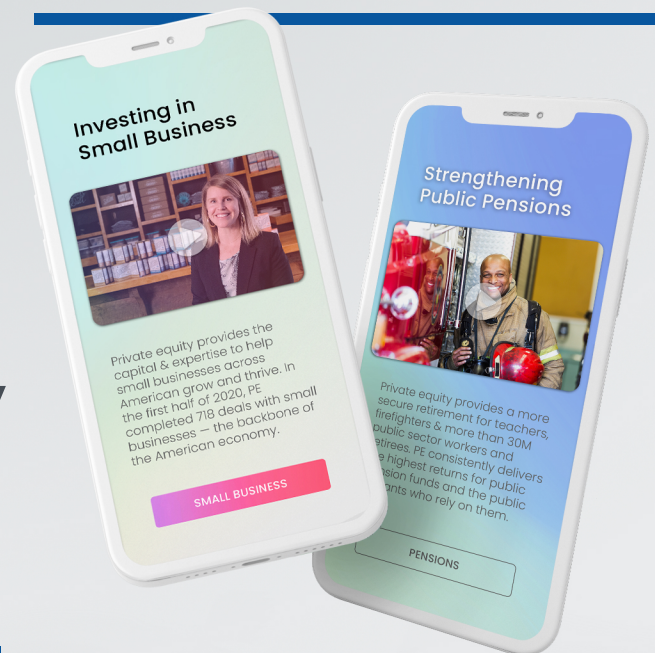
9: “Electric City Sign,” Lackawanna County Visitors Bureau, n.d., accessed March 10, 2023.

10: “State-of-the-Art Lackawanna Energy Center Goes Online Outside of The Electric City,” Invenery, January 15, 2019.

PRIVATE EQUITY INVESTING IN AMERICA

From urban to rural and everywhere in between, private equity is making a positive impact across America and investing in every community to:

- Back small businesses
- Support good-paying jobs
- Boost the American economy
- Strengthen public pensions



The American Investment Council (AIC) is an advocacy and resource organization established to develop and provide information about the private investment industry and its contributions to the long-term growth of the U.S. economy and retirement security of American workers. Member firms of the AIC consist of the country's leading private equity and growth capital firms united by their successful partnerships with limited partners and American businesses.

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