Press Kit

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About Dandelion Energy

Dandelion Energy is the nation's leading home geothermal provider, specializing in designing and installing cost-effective, high-performance, earth-powered geothermal heating and cooling systems for single family and multifamily residential buildings. By making ground source heating and cooling simple and affordable, Dandelion empowers modern homeowners and home builders to adopt premium, emissions-free heating without a premium price tag.

Dandelion's proprietary products include its groundbreaking heat pump, the Dandelion Geo, which is the most powerful and efficient heat pump on the market, as well as LoopLink, the leading geothermal design software in the United States. Dandelion also runs a fleet of geothermal drilling rigs that are optimized for residential yards to enable fast, clean and cost-effective ground loop installations.

How Does Geothermal Work?

Geothermal heating and cooling systems take advantage of the consistent temperature underground to transfer heat between the home and the earth at very high efficiency. These systems have two major components: ground loops, which extend 300-500' deep and circulate a water and non-toxic antifreeze mixture, and a heat pump, which sits inside the house.

In the summer, water circulates through the ground loops, where it's warmed up by the earth. The warm water flows back into the geothermal heat pump, which concentrates the heat and distributes it throughout your home. The water returns to the earth to repeat the cycle. In the summer, warm air from the home is drawn into the geothermal heat pump. The heat is extracted and pumped into the ground loop, where it is cooled down by the earth. The now cool water is used to absorb more heat from the house.

These systems often work with existing ductwork, but there are geothermal heat pumps that work with radiant heating systems as well although they are less common. Geothermal heat pumps, like all heat pumps, run on electricity, allowing homeowners to move beyond heating fuels like propane, fuel oil, and natural gas.

"Geothermal heat pumps are the most energy-efficient, environmentally clean, and cost-effective systems for heating and cooling buildings."

- US Environmental Protection Agency

Dandelion's Google X Beginnings

The Dandelion Energy team began its work on creating a more cost-effective geothermal solution while working at X, Alphabet's innovation lab. X was initially launched by Google for the development of their self-driving car and evolved into a research and development facility known for working on big ideas to help improve the future. X now operates as a subsidiary of Alphabet Inc. In May of 2017, the Dandelion team decided to launch as an independent company to experiment with the commercial viability of their product.

Timeline

- **May 2017** - The Dandelion Energy team spun off from the X and launched as an independent company in New York City
- **July 2017** - Dandelion raised a $2MM seed round led by Collaborative Fund
- **March 2018** - Dandelion raised $4.5MM led by NEA bringing their total funding to $6.5MM
- **March 2018** - Dandelion acquired Geo-Connections, which is the nation's leading geothermal SaaS company
- **February 2019** - Dandelion raised $16MM in Series A funding led by GV & Comcast Ventures, bringing their total funding to $23MM
- **April 2019** - Dandelion partnered with Con Edison to offer Westchester homeowners up to $5,000 off their geothermal installation
- **August 2019** - Dandelion featured in The New York Times
- **October 2019** - Dandelion featured on This Old House
- **January 2020** - Dandelion sells 500th geothermal system in NY State
- **February 2020** - Dandelion raises $12MM Series A-1 led by Comcast Ventures bringing Dandelion's total funding to $35MM + brings on new CEO, Michael Sachse
- **April 2020** - Dandelion moves to a completely virtual sales and system design process to keep customers and employees safe during the COVID-19 pandemic
- **August 2020** - Dandelion's Customers Surpass 100,000 tons of carbon pollution avoided
- **February 2021** - Dandelion raises a $30 million Series B led by Bill Gates' Breakthrough Energy Ventures.
- **March 2021** - Dandelion expands sales and service to Connecticut
- **June 2021** - Dandelion expands sales and service to Long Island and Western NY
- **October 2022** - Dandelion celebrates 1,000th geothermal installation.
- **November 2022 -** Dandelion Energy closes $70M Series B1 funding round to scale geothermal heating and cooling solution to meet surging demand
- **July 2023** - Dandelion Energy announces Dan Yates as new CEO
- **August 2023 -** Dandelion Energy Ranks No. 2,470 on the 2023 Inc. 5000: Nation's Leading Residential Geothermal Company Honored Among America's Fastest-Growing Private Companies
  October 2023 - Dandelion breaks ground on geothermal installations for a 70 home development in eastern Long Island

- **February 2024** - CNBC named climate tech innovator Kathy Hannun a CNBC Changemaker on the inaugural list.
- **September 2024** - Dandelion Energy launches the roll out of a nationwide installation network to make geothermal heating and cooling available nationwide

Dandelion Leadership Team

Kathy Hannun, CTO & Founder

Kathy co-founded Dandelion in 2017 after incubating the company within Alphabet's X Lab. She served as Dandelion's CEO until assuming the role of President in 2020, where she now oversees the Engineering, Policy and People teams as CTO.

Hannun has been recognized as a CNBC Changemaker, a TED Fellow, one of Fast Company's Most Creative People in Business, in MIT Technology Review's "35 under 35," and as the recipient of a C3E Award from the U.S. Department of Energy. She earned her B.S. in Civil Engineering and M.S. in Computer Science from Stanford University.

Dan Yates, CEO

Before becoming Dandelion's CEO in August 2023, Dan served as Dandelion's Executive Chairman since the company's early days.

Before Dandelion, Yates was Co-founder and CEO of energy efficiency software company Opower. Dan led Opower through a $1Bn+ IPO (NYSE: OPWR) in 2014 and its sale to Oracle in 2016. Opower helped consumers save more than 13 terawatt hours of energy and eliminated more than $60 million from energy bills, making it the largest residential clean energy company in its time.

Yates has been recognized as an Ernst & Young Entrepreneur of the Year, one of Fortune's 40 under 40 and a Washingtonian Tech Titan. Dan earned his B.S. in Computer Science from Harvard University.

Lauren Howard, CRO

Lauren Howard joined Dandelion as Chief Revenue Officer in 2024 as the commercial leader responsible for driving growth strategies and leading go-to-market teams.

Before joining Dandelion Energy, Lauren served as Chief Revenue Officer at Airtower Networks, One of the Fastest-Growing Private Companies in America (Inc. 500). At Airtower she was responsible for leading, building, and scaling all aspects of the commercial organization. Lauren also spent five years as Global SVP at JLL Technologies, a division of Jones Lang LaSalle (JLL). Under Lauren's leadership Sales, Sales Engineering, and Business Development at JLL scaled across North America, Asia Pacific, and Europe bringing emerging prop-tech and sustainability solutions forward into new global markets. Lauren also has held various sales and

commercial leadership roles within the healthcare technology sector including spending eight years at McKesson Corporation.

Lauren currently serves on the Board of Directors of the Exceptional Women's Alliance (EWA) and was recognized as an Exceptional Woman Awardee in 2022. Lauren was previously honored as a Young Hispanic Corporate Achiever, 40 under 40 by The Hispanic Association on Corporate Responsibility (HACR). Lauren earned her B.S. in Business Administration from Oglethorpe University.

Wyatt Roberts, VP, New Construction

Wyatt is a builder and a building scientist, and is passionate about reducing the impact of our built world on the global environment. He is also a Certified Passive House Designer (CPHD).

Wyatt is a veteran in the building industry, and prior to joining Dandelion, he specialized in high-performance home construction in upstate New York. Wyatt works with partners across a variety of sectors to better understand, design, and deploy geothermal in all of our buildings.

Ryan Carda, Senior Director of Engineering

Co-author of the International Ground Source Heat Pump Association (IGSHPA) Residential and Light Commercial Geothermal Design and Installation Manual. with Dr. Charles Remund, President, GeoPro, Inc.. It's a must-have reference for all geothermal system designers and installers.

Ryan is also co-founder of Geo-Connections (acquired by Dandelion) and co-creator of LoopLink PRO, the world's first web-based commercial geothermal design software. The subscription based program is a full featured loop design tool that allows engineers to design and size geothermal ground heat exchangers for heating and cooling commercial spaces like manufacturing facilities, shopping malls and schools.

Ryan earned her B.S. and M.S. degrees in Engineering from South Dakota State University, with honors.

Benefits of Dandelion's Geothermal System

Cost Savings

- Geothermal is the most effective and efficient heating and cooling technology:
  - 400% to 500% more efficient than fossil-based heating systems
  - 200% more efficient than the best air source heat pumps
  - Uses 25-30% as much electricity as air source heat pumps on the coldest days
  - No need for fossil fuel backup even in the coldest climates

Here is an example of what cost savings look like in a multifamily development, per apartment:

Builder value (per unit)	CONVENTIONAL	DANDELION GEOTHERMAL
Equipment and installation	$2,000	$14,000
State geothermal incentive	$0	-$800
Federal 45L efficient homes credit	$0	-$2,500
168E accel. depreciation (NPV)	$0	-$3,000
Federal Investment Tax Credit (40%)	$0	-$6,600
Net Install Cost	$2,000	-$1,100

Renter value	CONVENTIONAL	DANDELION GEOTHERMAL
10-year Operating Costs	$12,000	$7,700
Savings vs conventional		$4,300

Representative data from 1,000 sq ft apartment

Here is an example of what cost savings look like in a single family development, per home:

dandelion

Builder value (per home)	CONVENTIONAL	DANDELION GEOTHERMAL
Equipment and installation	$8,104	$21,200
State geothermal incentive	$0	-$9,125
Federal 45L efficient homes credit	$0	-$5,000
Net Install Cost	$8,104	$7,075

Homeowner value	CONVENTIONAL	DANDELION GEOTHERMAL
12-year Heating and Cooling costs	$11,760	$8,040
Federal Investment Tax Credit (30%)	$0	-$9,300
Equipment Replacement	$8,104	$0
12 Year Cost of Ownership	$19,864	-$1,260

Representative data from 2,800 sq ft townhome

Here is an example of what cost savings look like in a retrofit project for a homeowner:

Cost Savings	CONVENTIONAL	DANDELION GEOTHERMAL
Equipment	$10,000	$10,000
Installation	$6,000	$35,000
State + Federal Credits	$0	$35,000
Upfront Cost	$16,000	$24,500
Annual Utility Costs	$4,000	$1,500
7-year Total Cost	$44,000	$35,000
Increase in Home Value	$0	$20,000

Example price comparison, 2,500 sq ft single family home in Maryland

Environmental Impact

- By reducing peak demand events, geothermal significantly reduces the need for peaker plants, which are disproportionately expensive and polluting
- Geothermal reduces both direct CO_2 emissions and emissions from electricity
- Switching to geothermal reduces home emissions by up to 75%
- The only heating and cooling technology that reduces power prices at 100% deployment

Infrastructure Efficiency

- Geothermal reduces summer peak demand by 3-4 kW compared to traditional air conditioning and winter peak demand by 3-6 kW compared to a cold-climate air source heat pump
- Decreasing peak demand events decreases congestion on both high-voltage, interstate transmission lines as well as local, low-voltage distribution lines, putting less strain on the grid. According to a recent study by the US DOE, widespread deployment of geothermal could result in:
    - $1 trillion electricity grid services savings
    - $19 billion/yr consumer heating bill savings
    - 11%-13% less electricity generation needed
    - 33%-38% less electricity transmission expansion needed
    - Less infrastructure investment; could reduce cost of power for all
    - $50 million in grid savings from homeowners with installed Dandelion systems to date
    - Over $25 billion in potential grid savings if adopted in 1M homes

Photos