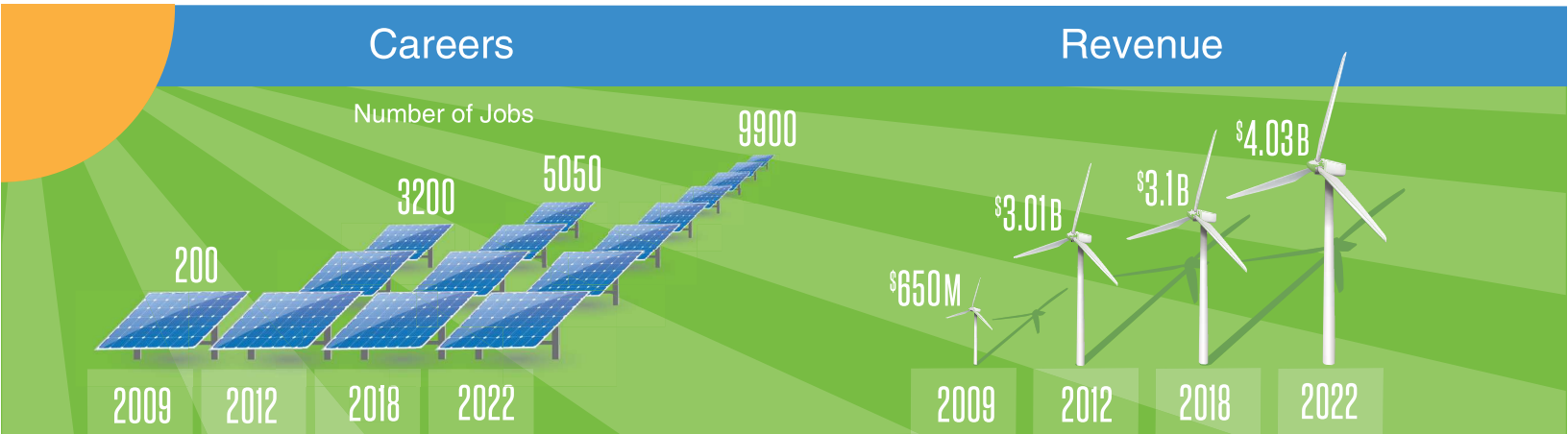


Huge Growth in the Regional Clean Tech Sector

In the past three years, despite the pandemic and the economic upset it caused, the number of jobs and annual revenue in our regional cleantech sector have jumped up dramatically. The number of jobs is up 96% (to 9,900) and the revenue is up 29% (to \$4 billion) according to our latest survey. Over the past decade, jobs have been growing at 15% per year. This is a stunning achievement. However, there has been a substantial number of clean tech businesses folding during this period. By our count 20 companies disappeared. But 47 new ones more than replaced them. We now have 111 core companies in this sector that have businesses based on protectable IP and can scale well.

When we launched CleanStart in 2005 and said it could be an engine of growth for the entire area, we believed the clean tech hub could become self-sustaining if it reached 10,000 jobs and \$5 billion in annual revenue. At that level, it would be easier to find the talent needed to start and grow businesses and investors would see the area as a good place to find good companies to fund. That goal is clearly within reach and we are already seeing the effects of becoming self-sustaining in the jump in new companies, the cleantech investment dollars flowing into the region, and the boost in hiring of local talent.



Regional Clean Tech Stepping onto the Big Stage

- ✓ Record investment
- ✓ National and international investors and corporate partners

The total amount of investment in regional companies that began as startups hit a new record of \$1.95 million since 2019. For perspective, that amount was more than the total VC investment in clean tech globally in 2003. For the first time, 5 of these regional companies have attracted attention from national and international investors and corporate partners—Infinium, Origin Materials, Sierra Energy, ClipperCreek, and Hank. Origin became a public company (NASDAQ: ORGN) through a merger with a Special Purpose Acquisition Company or SPAC at nearly a billion-dollar valuation and made the *Fast Company* list of the World's Most Innovative Companies in 2022. As a result, the Sacramento region is attracting more investor attention as a good area to prospect for high potential cleantech startups.

5 of these regional companies have attracted attention from national and international investors and corporate partners:



Early Stage Funding for Clean Tech Very Favorable

Our region is benefiting from very positive trends for those launching new clean tech companies and are well prepared to seek funding.

Cleantech investment from venture capital and private equity funds was more than three times higher in 2021 than in 2020.²

The deal size has nearly quadrupled, valuations have become much more generous, and the number and size of exits has reached new record highs. These trends are evident throughout the VC sector, but what is new is that 14% of all VC investments are now in what is being called “climate tech.”

In addition, Clean Tech is being propelled by companies wanting to demonstrate to shareholders and customers that they are making serious

Global investment in the low-carbon energy transition hit nearly **\$1T** in 2021 up from **\$400B** in 2018¹

14% of all VC investments are now in what is being called climate tech²

commitments to GHG reductions. According to the Cleantech Global 100 Report, the year 2021, building on the momentum of 2020, saw a strengthening stream of net zero pledges from corporations.

There has also been a boost in the price of carbon allowances in California that is improving the economics of some clean tech products. The higher the allowance

63% increase in companies taking climate action in the first three quarters of 2021

price, the more a GHG emitter is willing to pay to avoid having to buy the allowances. The price doubled from \$17 per metric ton of CO2-equivalent in 2019 to a high of \$35 in 2021 and is now at \$29. That price may increase dramatically as the target level drops to 60% of the 1990 emissions by 2030, improving the economics of clean tech products.

¹Bloomberg New Energy Finance

²PwC report

State Making Gains on Lower GHG Emissions

The boost in clean tech is contributing to meeting the important climate change reduction goals set by the state. According to data from the California Air Resources Board, it appears the state’s 2020 goal of emissions no higher than 1990 will be met. But there is still a long way to go to meet the 2030 goal of reducing emissions to less than 60% of the 1990 level.

Trends in CA GHG emissions from CARB

(Million MT CO₂ Equiv.)



Source: California Air Resources Board (2021). California Greenhouse Gas Emission Inventory - 2021 Edition. Data available at: <https://ww3.arb.ca.gov/cc/inventory/data/data.htm>
3https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf

CleanStart Achieving Its Goals

CleanStart's mission is to stimulate the development and success of cleantech companies by accelerating the commercialization of sound ideas into the market. The overall goal was to see the region become a self-sustaining hub of clean tech companies, one where talent, investment, and recognition would propel further **growth**. To do this, CleanStart focuses on three activities:



Educating innovators on the best practices in bringing their ideas to market

We have established the "Clean Tech CEO Crash Course", a 10-12 week intensive class, the only one in the area with a specialized clean tech focus. Twenty-four people have now graduated from this course and a new session will launch in June. In addition, we have provided two seminars on Customer Discovery, provided over fifty individual coaching sessions, and pointed companies to some of the general entrepreneur education resources in the area, particularly from the Carlsen Center at Sacramento State and the Mike and Renee Child Institute at UC Davis. Now as a part of the Blue Tech Valley Consortium, we can link innovators to classes and coaching offered by Fresno State, Chico State, and Sierra College.

Perhaps our most far-reaching education programs are the weekly podcasts and monthly meetups that have resulted in an archive of over 300 recorded sessions and blogs of presentations from successful entrepreneurs, of advice from service providers, and of policy-makers that are shaping the future of clean tech markets. We make all that available for free through our website.

Clean Tech
CEO Crash
Course with
24 graduates

50+
coaching
sessions

300+
podcasts, blogs
& videos
available for free



Connecting innovators to a network of supporters and peers

Many studies have shown that connections are vital to success in the startup world. We have put particular emphasis on this, since creating a network is time-consuming if each company does its own in isolation. It is much better to bring companies into a large, established network. We now have a network of 2000+ followers and subscribers through our social media and newsletter channels.



Providing Opportunities for innovators to get funded

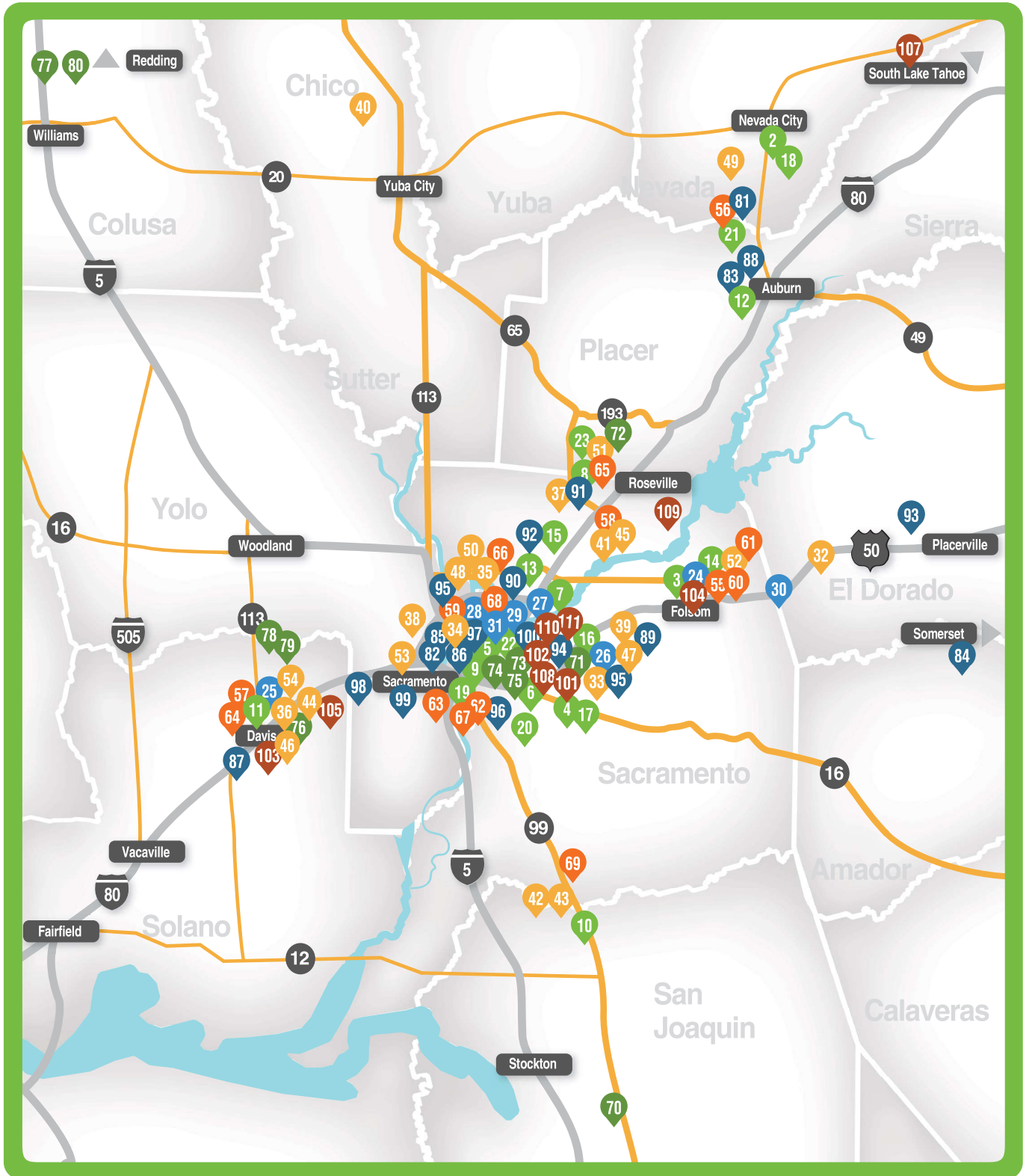
CleanStart is not an investment fund, but we help companies get ready to go in front of funding sources. Our main avenues for that are the CalSEED program funded by the CEC and the CleanTech Open. So far 10 companies have been awarded \$150,000 Phase 1 CalSEED concept development grants and 5 have gone on to win \$450,000 Phase 2 grants. We prepare companies to pitch to investors and point them in the right direction. We work especially to get companies on a stepwise path through funding sources, starting with sources of grants and contracts that do not involve any reduction in equity ownership and need no repayment. CalSEED and CleanTech Open both give companies exposure to some of the most interested investors, something otherwise very difficult to achieve. Through our Spotlight event, we have investment-ready companies present to a group of investors and experts. This serves as a funnel to networks like Rocket Fund from Pasadena, Valley Ventures in Fresno, CVF Capital Partners and Impact Venture Capital in Sacramento.



CalSEED

impact
VENTURE CAPITAL

Valley Ventures



Sponsors & Supporters



Ten New Rising Stars to Watch

Building

- 1 Airco Mechanical
- 2 Ajo
- 3 Altery Systems
- 4 Anchored Tiny Homes
- 5 Arch Nexus
- 6 Bagatelos Architectural Glass Systems, Inc.
- 7 Brighton Energy
- 8 Brower Mechanical
- 9 Capitol Energy Systems
- 10 Cardinal Glass
- 11 Davis Energy Group
- 12 GMAA
- 13 Hank
- 14 Johnson Controls Inc.
- 15 L&H Airco
- 16 Off the Wall Energy LLC
- 17 Rex Moore Group, Inc
- 18 Smart Light Systems
- 19 Sunoptics Skylights (Acuity Brands)
- 20 Tesco Control Systems
- 21 Thermeshade
- 22 Villara Building Systems
- 23 Vistar Energy

Efficiency

- 24 SynapSense Corp. (a Panduit Co.)
- 25 ZYD Energy, Inc.
- 26 D3 LED
- 27 Electro Scan
- 28 Empow Lighting
- 29 Lucent Optics
- 30 Terzo Power
- 31 Comarc Robotics

Generation

- 32 8minutenergy Solar Energy
- 33 ACR Solar International
- 34 Alto Energy (Pacific Ethanol)
- 35 Baywa R.E. (Enable Energy)
- 36 Blue Oak Energy
- 37 Capital City Solar
- 38 Citadel Solar and Roofing
- 39 Cybo Energy
- 40 FAFCO
- 41 GoodLeap (Loan Pal)
- 42 Henwood Associates
- 43 PowerSoft, LLC
- 44 Solar Roof Dynamics
- 45 SPI Energy
- 46 SunPower R&D Ranch
- 47 SunSystem
- 48 SunWorks
- 49 Sustainable Energy Group
- 50 Facet
- 51 T3DP
- 52 Trimark Associates
- 53 Triton Energy Solutions
- 54 Wind Harvest International

Grid + Storage

- 55 eZESystems
- 56 Box Power
- 57 DAE Tech
- 58 Energy Exemplar
- 59 Engie Services
- 60 Grid Rabbit
- 61 GridSME
- 62 Kepler Energy Systems
- 63 Kutter Energy, LLC
- 64 Repurpose
- 65 SMA America
- 66 SPIN Systems
- 67 Tolo
- 68 Vortex Energy
- 69 Willdan

Low Carbon Fuel

- 70 Aemetis Biomass
- 71 Clean Energy Systems, Inc.
- 72 Energy 2001, Inc
- 73 Greenleaf Power LLC
- 74 Greyrock Energy
- 75 Infinium
- 76 Sierra Energy
- 77 Springboard Biodiesel LLC
- 78 West BioFuels
- 79 Woodland Biomass
- 80 Maas Energy-Dairy Digesters

Mobility

- 81 Area 13 (formerly Bolton eBikes)
- 82 Build the Lanes
- 83 ClipperCreek
- 84 CR Flight
- 85 e-Mission Control
- 86 Eco-Alpha
- 87 Efficient Drivetrains
- 88 Flyers Energy LLC
- 89 Glide Cruisers
- 90 Jerico Energy
- 91 kWh Bot
- 92 Lion Electric
- 93 Marrs Cycles
- 94 Propel Fuels
- 95 Rumble Motors
- 96 Siemens Mobility
- 97 California Fuel Cell Partnership
- 98 Nissan Technical Center
- 99 PEM Motion
- 100 Pacific Fleet Charging

Sustainability

- 101 California Electronic Asset Recovery
- 102 Ethicli
- 103 Marrone Bio Innovations
- 104 MLM Engineering LLC
- 105 Novozymes, Inc.
- 106 Origin Materials
- 107 RecyclePVSolar
- 108 T3 Office Recycling Solutions
- 109 AQUAOSO
- 110 Intake Works
- 111 Waterhound Futures



Low cost inverter and home energy storage



Transparent film to reduce heat loss through windows



Microgrid in a box



Simplified way to apply for EV Incentives and loans



AI-powered tool for choosing optimal decarbonizing investments

Off the Wall

Low cost inverter and home energy storage



Leading E Bike builder



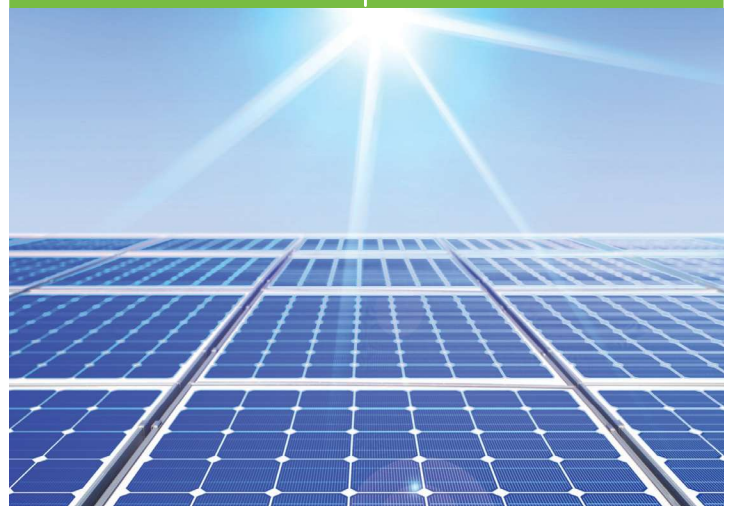
90% more efficient hydraulic system



Novel small wind turbine to maximize yield at existing sites



Home energy storage and dual-use heat pumps



Outreach Trailer: Stimulating Interest in Clean Tech Innovation

In 2022, CleanStart built the CleanTech Connect Innovation trailer to get out into the community and share the energy transition with everyone. We are leveraging funding for new technology, community improvements, and job training, to extend our successful networking and education programs by creating an interactive media trailer to engage more people and demonstrate the commercial processd Innovation in the region.

The trailer is going to events around the Greater Sacramento Region, so be on the lookout!



Partner Network

CleanStart has built a wide network to plug startups into. Building strong connections helps turn the region into a cleantech hub.



Testimonials

One of the most important things on anybody's journey is a supportive network in a community... That's how CleanStart has been amazing for me as a business owner in the clean tech space... CleanStart has been there from the beginning.

— Mike Terzo,
Founder & CEO of Terzo Power Systems

CleanStart is important today because it gives entrepreneurship in the clean tech space a central point to communicate.

— Mike Hart
President & CEO of Sierra Energy

CleanStart has been instrumental in connecting [us] with mentors, expertise and other entrepreneurs all over the region. For those of us who did not get two years of business school, CleanStart...[has] really raised the level of our game!

— Will Brieger
Co-founder of Pacific Fleet Charging LLC

Follow out Linktr.ee to sign up for our newsletter and follow us on



<https://linktr.ee/cleanstart>

