

CLEAN ENERGY

CLUSTER PROFILE | FORT COLLINS, CO

The Clean Energy Cluster is comprised of companies who develop, produce, and distribute technologies that promote more efficient and sustainable production and use of power. The dominant player in the Fort Collins Clean Energy Cluster is Woodward. Advanced Energy and its subsidiary AE Solar are also global leaders in clean energy. Anchored by the research at CSU and its Engines and Energy Conversion Lab, the Clean Energy Cluster is active in its pursuit of innovative energy solutions. The City of Fort Collins and Fort Collins Utilities further support the cluster as a large purchaser and by providing access to the power grid for testing purposes. A true triple helix partnership is what makes this cluster tick.



The City of Fort Collins supports the Clean Energy Cluster through its sponsorship of the Colorado Clean Energy Cluster (CCEC) and the Rocky Mountain Innosphere. In addition, the City has offered direct business assistance to Clean Energy companies in the form of rebates on the manufacturing use tax for qualifying equipment purchases.

From 2011 through 2012, the City invested \$50,000 in the CCEC. Other members contributed a total of \$157,582 in the cluster organization. In addition, the CCEC raised \$210,000 to support the supply chain initiative, of which the City contributed \$10,000. The City also invested \$120,000 in Innosphere. The five clean energy client companies in Innosphere raised \$8.4 million and created 57 jobs in 2012. Finally, the City invested \$833 in tax rebates for a private investment of \$55,500. In all, the City spent \$1 for every \$86 other private and public participants invested.

2011-2012 NEWS & ACHIEVEMENTS

- In 2012, the White House honored CSU's Amy Prieto, founder of **Prieto Battery**, with the Presidential Early Career Award. Dr. Prieto is working to commercialize a new battery technology.
- *Popular Science* listed the **CSU Engines and Energy Conversion Lab** as one of the nation's top 25 academic laboratories.
- **Stewart Energy** and **VanDyne Super Turbo** graduated from the Innosphere and moved into permanent spaces in Fort Collins.
- **FortZED's** demonstration project proved able to reduce peak-load demand in the Zero Energy District by more than 20% by using a distributed power system and demand side management.

SPECIALTIES: SMART GRID • DISTRIBUTED POWER • ENGINES & ENERGY CONVERSION • WATER / ENERGY NEXUS • BIOFUELS • ENERGY STORAGE

RESOURCES & ASSETS

RESEARCH

- ◆ Colorado Renewable Energy Collaboratory – includes CU-Boulder, Colorado School of Mines, and the National Renewable Energy Laboratory
- ◆ CSU's Clean Energy Supercluster
- ◆ CSU's Engines and Energy Conversion Lab
- ◆ CSU's Center for the New Energy Economy
- ◆ CSU's Center for Networked Distributed Power
- ◆ CSU's Hydromachinery Laboratory & Turbine Research

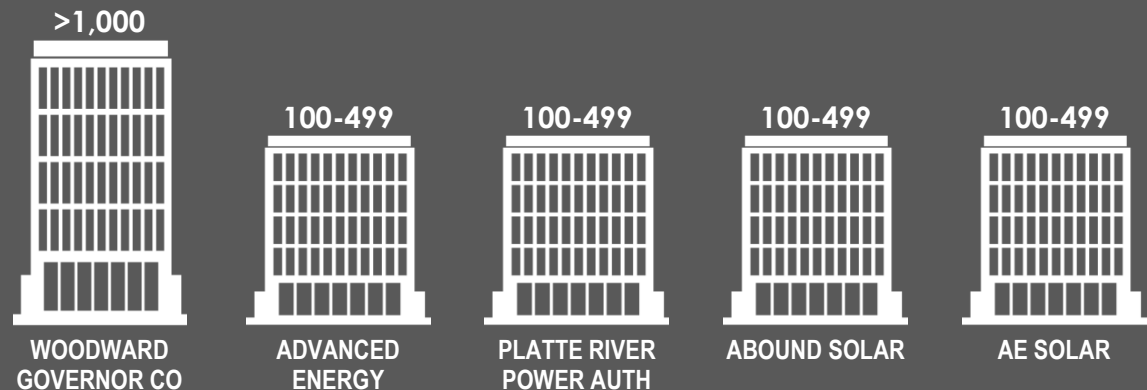
INCUBATION & COMMERCIALIZATION

- ◆ CSU – Engines and Energy Conversion Lab – Integrid Lab
- ◆ Colorado Renewable Energy Collaboratory
- ◆ CSU Ventures - Cenergy
- ◆ Rocky Mountain Innosphere

FUNDING & TECHNICAL ASSISTANCE

- ◆ NoCo Capital / Angels
- ◆ CSU Clean Energy Supercluster Seed Grants

TOP 5 EMPLOYERS (BY NUMBER OF EMPLOYEES)



Source: QCEW

BY THE NUMBERS

AS OF JUNE 30, 2012:

OF FIRMS



24

EMPLOYMENT



2,345

EMPLOYMENT
CHANGE 2011-12



-139

EARNINGS PER
WORKER



\$78,778

NON-CITY \$ TO CITY \$
INVESTED



\$86

Source: QCEW, City of Fort Collins

INNOVATION

2011-12 SBIR AWARDS: \$2.1 MILLION

COLORADO POWER ELECTRONICS received a Phase I and a Phase II SBIR grant for their work on a modular power processing unit for Hall thrusters.

PLASMA CONTROLS received a Phase I SBIR grant for their effort to develop a thermoelectric generator module appropriate for water heat recovery applications.

SYMBIOS received a Phase I SBIR grant and two Phase II grants to further their work on the Symbios Plasma Reactor for nanoparticle research and water remediation.

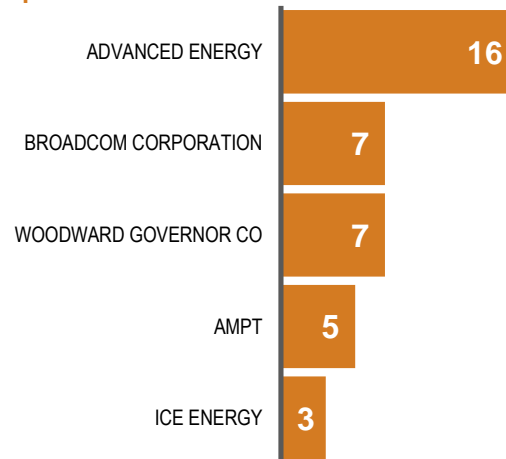
Note: SBIR awards refers to the Federal Government's Small Business Innovation Research program.

Source: SBIR.gov

PATENTS AWARDED 2011-2012



Top Patent Producers



Note: Patent Producers are identified based on the assignee name.

Source: US Patent Office

BUSINESS FORMATION & EXPANSION

2012 INCUBATION & ACCELERATION

Companies	5
Employees	57
Venture Capital Raised	\$8.4 million
City Investment	\$8,571

Note: City contribution is the share of the overall contribution to Innosphere dedicated to clean energy companies.

Source: Rocky Mountain Innosphere, City of Fort Collins

EXPANSION & RELOCATION:

Companies	1
New Jobs	n/a
Capital Investment	\$55,500
City Investment	\$833

Source: City of Fort Collins



Launched in 2006, the Colorado Clean Energy Cluster is a non-profit, member-based organization that is focused on growing the clean energy sector through projects and initiatives that directly benefit Colorado clean energy companies. Central to the CCEC's success is the collaboration between the private sector, the public sector, and academia – the Triple Helix.

The CCEC's current projects are FortZED, the International Cleantech Network, and the Supply Chain Initiative. FortZED is designed to be a high profile demonstration project to show the potential for distributed power systems and demand side management in a Zero-Energy District. The International Cleantech Network aims to provide global access to Colorado clean energy companies. The Supply Chain Initiative is meant to increase the competitiveness of local companies.

