



COLORADO

ADVANCED INDUSTRY

ENERGY & NATURAL RESOURCES



INDUSTRY FACTS

2013 TOTAL EXPORTS

\$500
MILLION

TOP 3 EXPORT MARKETS

1. Canada
2. Japan
3. Mexico

NUMBER OF COMPANIES



AVERAGE ANNUAL EMPLOYMENT



3.7% EMPLOYMENT CONCENTRATION

Colorado is a leader in the Balanced Energy Economy with abundant natural resources like solar, wind, biofuels, natural gas, oil and coal.

Colorado's energy and natural resources industry includes companies involved in the extraction of naturally occurring fuels used to produce energy, as well as the generation, transmission and distribution of energy resources. Colorado's energy companies also provide mining, exploration and related support services, in addition to metal ore and nonmetallic mineral mining and quarrying operations. Energy companies in this industry develop and deliver products and technologies across solar, wind, biomass, fuel cells and hydroelectric resources that improve operational performance, efficiency or productivity. Companies that manufacture renewable energy equipment, storage and power transformers are also included.

Energy & Natural Resources Assets

Colorado is among the top 10 energy rich regions in the nation and is a top producer of oil, coal and natural gas. The state produced a record 64.1 million barrels of oil in 2013, driven by new wells—particularly in Colorado's Denver-Julesburg Basin and Niobrara formations. The Niobrara is estimated to hold as much as 3.6 billion barrels of oil, which could drive 20 to 30 years of local production.

The state is also among the top 10 states for wind energy generation and solar energy production, and is one of the top five states for advanced biofuels companies. Also, Colorado has one of the highest per-capita concentrations of federal research facilities in the nation. The state's 30 federal laboratories contributed \$2.3 billion to Colorado's economy in 2012. The federal laboratories foster innovation and stimulate technology transfer between companies and local educational facilities. Among the state's federally funded research laboratories, Golden-based NREL is a vital asset to the state's energy and natural resources industry.

Major Employers

- Agilent Technologies
- Amtel Corporation
- Anadarko Petroleum
- Colorado Springs Utilities
- Encana Corporation
- Halliburton
- Noble Energy
- Vestas
- Woodward
- Xcel Energy

Workforce

Colorado's energy and natural resources industry includes a large pool of talented, well-educated, and highly skilled workers. Compared with the age distribution across all industries, the energy and natural resources industry has a larger share of employees that are between the ages of 25 and 34 years old, 45 and 54 years old, and 65 years and older.

Education and Training

The higher education system in Colorado provides an excellent support system for the energy and natural resources industry in the state and offers a broad range of business,

TOP OCCUPATIONS BY EMPLOYMENT

1. Plumbers, Pipefitters, and Steamfitters

2. First-Line Supervisors of Construction Trades and Extraction Workers

3. Managers, All Other

4. General and Operations Managers

5. Construction Laborers

ANNUAL
PAYROLL
\$9.9
BILLION

DID YOU
KNOW?

CO produced nearly 64.1 M barrels of oil in 2013. (Colorado Oil and Gas Conservation Commission, 2014)

Colorado ranked fourth on the 2014 "U.S. Clean Tech Leadership Index." (Clean Edge, 2014)

Colorado has one of the highest per-capita concentrations of federal research facilities in the nation. (Colorado Labs, 2014)

Colorado's solar installation costs are among the lowest in the nation. (Lawrence Berkeley National Laboratory, 2013)

Note: An establishment is defined as a single physical location that produces some form of economic activity. One company can have multiple establishments.

Sources: QCEW Employees, Non-QCEW Employees, Self-Employed, & Extended Proprietors – EMSI 2014.2 Class of Worker; WISERTrade.

management, engineering and technical degrees. There are 28 public institutions of higher education in Colorado, consisting of 13 four-year and 15 two-year public institutions offering energy and natural resources-related programs. In addition, there are more than 30 private and religious accredited institutions and nearly 20 private occupational and technical schools offering nearly 240 energy and natural resources-related programs throughout the state.

Key Locational Factors

1. Access to one of the most energy rich regions in the United States

- Colorado ranked sixth among natural-gas producing states, accounting for 7.2 percent of U.S. natural gas production. (U.S. Department of Energy, Energy Information Administration, 2013)

2. Newly enacted requirements for renewable energy generation and access to clean energy resources

- Colorado ranked 8th nationally for solar power generated per capita. Solar power systems in Colorado can generate 270 megawatts of electricity or 52 watts per person. (Colorado Solar Industries Association, 2013; Environment Colorado Research & Policy Center, 2013)

3. Proximity to energy-related higher education programs and research centers

- Colorado School of Mines in Golden is one of the few universities in the world to offer programs from baccalaureate through doctorate levels in all key fields related to energy. (Colorado School of Mines, 2014)
- Education Corporation of America's Ecotech Institute is the first and only college in the U.S. focused on training students for careers in cleantech. The Institute offers seven two-year associate's degree programs in a variety of fields including solar and wind energy technology, renewable energy technology, and power utility technology. (Ecotech Institute, 2014)

4. Access to the research of a broad collection of federal laboratories and private R&D activities

- Golden-based NREL is the U.S. Department of Energy's only laboratory committed to research, development, commercialization, and deployment of renewable energy and energy efficiency. NREL contributed \$814.8 million to the state's economy in 2012 and garnered more than 200 awards and honors for its programs and scientific research in recent years. (National Renewable Energy Laboratory, 2014)

5. Business organizations and public policy programs designed to encourage industry growth.

- The Colorado Energy Coalition, a consortium of leaders and stakeholders in Colorado's diverse energy industry, works to make Colorado an even more competitive place for all energy-related sectors to do business and to market Colorado's dynamic energy economy nationwide. (Colorado Energy Coalition, 2014)

Colorado's advanced industries include aerospace, advanced manufacturing, bioscience, electronics, energy and natural resources (including Cleantech), technology and information and infrastructure engineering. For more information about available grants, visit www.advancecolorado.com/aiprograms.

Learn more about Colorado's energy & natural resources industry at www.advancecolorado.com/energy.



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