Colorado 'Green Collar Jobs' forecast: 613,000 jobs from renewable energy and energy efficiency by 2030

ASES / MISI study highlight's Colorado's new role as a national leader in the rapidly growing green economy

BOULDER, CO – 1/15/2009 – Colorado is well positioned to take advantage of new growth in the renewable energy and energy efficiency industries, creating long-term opportunities in rapidly growing fields. The renewable energy and energy efficiency industries (RE&EE) generate \$10.2 billion in annual revenue and provide more than 91,000 jobs in Colorado (2007) with potential for these industries to grow sixfold by 2030.

These are some of the report's conclusions from the state's first comprehensive 'Green Collar Jobs' report, produced by the nonprofit American Solar Energy Society (ASES) based in Boulder, and by Management Information Services, Inc (MISI), an internationally recognized research firm based in Washington D.C. This report, which also includes new national jobs data, provides some of the most detailed analysis yet in the rapidly growing RE&EE industries.

"In a surprisingly short time Colorado has effectively positioned itself as a national leader in the green economy," said Brad Collins, ASES' Executive Director. "Colorado's experience offers a good case study for other states about how to tap into the tremendous economic opportunities in the renewable energy and energy efficiency sectors."

According to the *advanced* scenario in the report, which represents the upper limit of what is technologically and economically feasible, RE&EE would generate about 613,000 jobs and \$61.5 billion in annual revenue by 2030. It's one of three forecast scenarios highlighted in this report. Under the *base case* (business as usual) scenario, which assumes no major change in policy or initiatives, the green job forecast is about 192,000 jobs and nearly \$20 billion in revenue in Colorado by 2030 – less than one third the jobs and revenue than the advanced scenario. The third scenario assumes moderate policies and initiatives and forecasts 238,000 jobs and more than \$24 billion in revenue by 2030.

Key conclusions from the report include:

- Renewable energy and energy efficiency industries are already significant
 economic drivers in Colorado and are well positioned for future growth. In 2007
 RE/EE generated \$10.3 billion in sales and provided over 91,000 jobs in Colorado,
 accounting for more than 4% of the gross state product. This could grow to as much as
 \$61.5 billion and 613,000 jobs by 2030 with continued leadership, research,
 development, and policy efforts.
- Despite fierce competition, Colorado is a disproportionately large player in the renewable energy industry. Colorado's gross state product accounts for only about 1.7% of the U.S. GDP, but in 2007 Colorado had about 6% of the U.S. wind market, nearly six percent of the photovoltaics market, and about 5% of the biofuels market.

- **Hottest sectors include:** wind, solar thermal, solar photovoltaics, fuel cells, biofuel, R&D (federal government), recycling, energy efficient windows/doors, green building
- The vast majority of jobs created by RE&EE are in roles similar to roles that are in other industries. Hot job areas include: electricians, truck drivers, welders, machinists, roofers, accountants, cashiers, software engineers, civil engineers, energy efficient construction, energy audit specialists.
- While renewable energy sectors are growing more rapidly than the energy
 efficiency industry, the energy efficiency industry is much larger and will see the
 greatest number of new jobs added.
- Current RE/EE jobs are located throughout the state, in urban centers, suburbs, small towns, and rural areas. Most of the firms are relatively small, though they range in size significantly. These firms employ workers at all skill levels, from basic and rudimentary to very highly skilled technical and professional.
- RE&EE generates about 70% more jobs than the oil and gas sector. RE&EE is an
 effective job creation mechanism, generating more than 2.5 times as many jobs per
 revenue as the oil and gas sector.

The report also detailed over 160 of RE&EE occupational specialties and emerging areas, as well as corresponding salaries, and education requirements representing a wide range skills. While some positions require advanced degrees, many others offer relatively high salaries with a high school diploma, trade school, or apprenticeships. Examples include: solar operations engineer (\$87,400), solar installation electrician foreman (\$58,236), wind field service technician (\$44,344), and field energy consultant (\$60,076).

This green jobs study is jointly commissioned by the Governor's Energy Office, Xcel Energy, Department of Local Affairs, Office of Economic Development and International Trade, Department of Labor & Employment, City and County of Denver, Workforce Board of Metro Denver, and Red Rocks Community College. The results of this study will help guide policymakers, business leaders, and education officials in their ongoing efforts to support industry growth.

Last year several high-profile companies announced plans to bring thousands of private sector jobs to Colorado, including Vestas wind turbine manufacturing, Conoco-Phillips alternative energy research center, AVA Solar manufacturing facility, IBM's green-data center, RES Americas' new U.S. headquarters, and Siemens wind research center. These announcements further illustrate the increasing role Colorado is playing in the New Energy Economy.

About the American Solar Energy Society

For more than 50 years the American Solar Energy Society (ASES) has been leading national efforts to promote education, public outreach, and research about solar energy and other sustainable technologies. www.ases.org

About Management Information Services, Inc

Management Information Services, Inc (MISI) is an internationally recognized, Washington D.C.-based economic research and management consulting firm with expertise in economic forecasting, analysis of energy, environmental and electric utility issues, and labor markets. www.misi-net.com