## FRANCIS C. "FRANK" MONASTERO

ASSOCIATE FOR RENEWABLE ENERGY, WATER AND GEOLOGY
WAYNE ARNY & ASSOCIATES, LLC

FRANK.MONASTERO@WAYNEARNYASSOCIATES.COM; (775) 772-5330



Dr. Monastero is the Principal of FCM Consulting and an Associate with Wayne Arny Associates, LLC. His expertise lies in the field of the geothermal and financial industries regarding geothermal energy project valuation, exploration, development, and resource management. He also continues to write peer-reviewed technical papers dealing with geology, tectonics, and geothermal energy exploration and development.

From March 2008 through February 2010, Dr. Monastero was the President of Magma Energy (US) Corp. (now Alterra) with headquarters in Reno, NV. Alterra is a renewable energy (geothermal, wind, and run-of-river) development company with offices in Vancouver, B.C., Canada, Reno, NV, Santiago, Chile, Lima, Peru, and Soda Lake, NV. In the role of President of U.S. geothermal development, Frank was responsible for all activities in the U.S. related to exploration, development, operations, and maintenance for the company. In July 2009 Dr. Monastero played a major role in the Initial Public

Offering for the company, resulting in a raise of more than \$110 million in the first public offering in nine months on the Toronto Stock Exchange. As of December 2010, the company controlled 27 geothermal properties worldwide covering approximately 650,000 acres. In two short years, MEC became the second largest primary producer of geothermal energy in North America. The core assets of the company are located in five areas – Iceland, western U.S., western Canada, Peru, and Chile. Alterra produces 570MW of electricity from geothermal, wind, and run-of-river projects. In-ground and inferred reserves are more than triple that number making it one of the largest renewable energy companies in the world.

From 1989 until 2008 Dr. Monastero was the Geothermal Program Manager for the U.S. Department of the Navy. This office is responsible for the development of geothermal resources located beneath all lands controlled by the Department of Defense. In this capacity he oversaw the permitting, construction, operation, and maintenance of the 270 MW power generation project located at Coso, Naval Air Weapons Station, China Lake, CA – the third largest geothermal project in North America. He also directed geothermal development activities at NAS Fallon, NV; Naval Airfield El Centro, CA; and the Hawthorne Army Ammunition Plant, NV. Dr. Monastero was the technical expert in Public/Private Venture (PPV) contracting for energy projects, which is the leading edge business tool for power systems on DOD facilities. Because of this he was selected as Project Manager to oversee the Repowering of the Naval Support Facility, Diego Garcia.

Starting in the late 1970s, Frank spent ten years in the oil and gas exploration industry, primarily in the field of reflection seismic exploration. Mineral resource management has always been an underlying theme in his career, and he has experience in energy resource exploration in the offshore California, Alaska, and Southeast Asia areas as well as onshore California, Montana, Wyoming, and Nevada. Dr. Monastero was CEO of two small energy development companies engaged in the search for, and development of geothermal, oil, and natural gas resources. He was Vice President of Survey Services for Raytheon Ocean Systems Company, and was Vice President of Oceanographic Surveys and Services for JAYCOR.

Following the energy shock of 1973, Dr. Monastero gained national recognition for his achievements in design and execution of the controversial offshore environmental studies program conceived by the Minerals Management Service. In that capacity, he managed a \$52 million/year budget to determine the impact of a broad spectrum of activities related to the exploration for, and development of, oil and gas beneath the outer continental shelves of the U.S., and to prepare more than 100 million acres of the U.S. continental shelves for Federal leasing for oil and gas. For his efforts in this regard, Dr. Monastero was awarded the William A. Jump Memorial Award for Exemplary Achievement in Public Administration; the highest civilian award in the category.

Dr. Monastero was also a technical advisor to the U.S. Law of the Sea Marine Mining negotiating team in which capacity he provided cost and feasibility alternatives in conjunction with the mining industry for various types of manganese nodule recovery systems. He was also the Interior Department's representative on the U.S.-Japan Natural Resources Marine Mining Panel from 1972 to 1974, and he served in a similar capacity to the National Academy of Engineering Marine Board on Operational Safety in Marine Mining. He was a member of the Interagency Committee for Marine Environmental Protection, a participant in the White House-sponsored National Planning Conference for the Commercial Development of the Oceans, and a member of the Senior Advisory Board for the Center for Energy and Environment Research at the University of Puerto Rico.

Dr. Monastero has served two terms (2005-2009) on the Board of Directors of the Geothermal Resources Council (GRC), and completed a two-year term as President of the GRC in February of 2011. He continued to serve on the GRC Board as the immediate Past President of the organization through January 2013. Besides the GRC, he is a member of the Geological Society of America, International Geothermal Association, the Society of Exploration Geophysicists, and the American Geophysical Union. He has more than one hundred publications in the areas of natural resource management, structural geology, tectonics, and geothermal exploration. Dr. Monastero has a BS in Biology and an MS in Geology from Temple University. His PhD is in the field of Oceanography, especially Geology & Geophysics, from The Florida State University. He resides in Reno, NV.