

# GRC President Frank Monastero

## Q & A with GRC President Frank Monastero

Editor's note: Shortly following GRC's Annual Meeting in Reno, Magma Energy (US) Corp. President and current GRC President Frank Monastero, PhD, met with GRC Communications Director John Galbraith to reflect on the record-breaking meeting attendance and surging worldwide interest in geothermal energy.



Frank Monastero, GRC President.

### What are your initial thoughts regarding the GRC Annual Meeting?

**Monastero:** Well, aside from the obvious excitement about it being the largest gathering of the geothermal community in North America, it also was one of the most productive meetings from the point of view of business being conducted in the sidebar

meetings. There was a very healthy mix of technical people, developers, and financiers — such that meaningful interaction could take place. Everyone that is anyone in the geothermal business was at the meeting, so there was ample opportunity to have key people from all three sectors getting together to move projects and companies forward.

Favorite moments: Joe Moore receiving the Pioneer Award is significant. Head of the Energy and Geoscience Institute at the University of Utah, he is one of the most unheralded yet dedicated people in the industry. A most deserving reward for a long-time warrior in the geothermal arena.

Highlights: DOE's Jacques Beaudry-Losique's comments at the opening session were very meaningful, timely, and a portent of things to come. The breakfast meeting with Mr. Beaudry-Losique was also a significant opportunity for direct contact with an authority figure in the current Administration that has sway over future events that will affect the geothermal industry. It isn't often that you can get top executives of the largest geothermal developers and financiers in the same room with someone that can help shape the path for the industry.

### Describe your Reno City Council Proclamation experience and your role as a media spokesman during the Annual Meeting?

**Monastero:** The Reno City Council Proclamation is a sincere declaration on the part of a grateful community for geothermal being an important part of the local economy. This city has a much more in-touch relationship with the geothermal industry because it touches so many businesses and is so visible on an everyday basis. They are acutely aware of the importance of the industry to the local economy and are setting the stage for a stronger, even more supportive relationship in the coming years. As far as being the spokesman for GRC on this matter, I very much enjoyed being able to represent our colleagues and the membership on this matter. I just hope I did a good job of it.

**GRC had a whopping 1,300 attendees (up from 1,055 in 2008 and bettering the 1979 record of 1,075). That includes 92 students who joined us**



Reno City Councilman Dave Aiazzi presents proclamation of "Geothermal Awareness Day" to GRC President Monastero.

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**this year. What does the record attendance say about the Annual Meeting? The Geothermal Energy industry?**

**Monastero:** The GRC meeting is the place to be each year if you want to have a career or future in the geothermal industry. As I mentioned earlier, everyone that is anyone in this business



*President Monastero meets with Jacques Beaudry-Losique (L) and top geothermal developers and financiers.*

attends, and it offers an opportunity to learn the latest and greatest about the full spectrum of things that affect us (e.g., technical, legal, policy, financial, transmission, permitting, etc., etc.). The attendance, especially the growing number of students that attend, bodes well for the future of the industry. Make no mistake; the robustness of the market has a lot to do with attendance and the heightened interest in the geothermal sector. That said, the GRC Annual Meeting is viewed as the premier event for networking within the industry, so, if you miss it, you are missing a very meaningful opportunity for yourself or your company.

**Sacramento is the next Annual Meeting destination in October 24-27, 2010. The event will signify the 50 years of The Geysers and 40th year of GRC. What excites you about the event?**

**Monastero:** The 2010 GRC Annual Meeting will be held in the state capitol of the nation's largest producing geothermal energy state. It's

a tribute to the longevity of the industry in the U.S. There are a number of big issues regarding permitting in California, for instance, the number of agencies involved, the protracted process, the ambiguities that the laws establish by requiring greater growth of renewables, while at the same time making the task more daunting, that need an open forum to move them along. The recent agreement between Governor Schwarzenegger and Secretary Chu regarding streamlining of the permitting process is a good sign, but there is still a lot of spadework that needs to be done to actualize the concept.

We ought to plan a delegation of industry executives under the GRC banner meeting with the California Assembly and Senate to inform them of the state of the industry in their state and the factors that influence its future success. An orchestrated event like that would most assuredly get the attention of the media, and, in turn, the people of California.

**What are the greatest opportunities you see for the geothermal industry?**

**Monastero:** Three years ago in my opening remarks as Annual Meeting General

Chairman, I challenged the members to avail themselves of the opportunity provided by expanded Renewable Portfolio Standards (RPS) and favorable energy prices to move the industry forward. That challenge is even more meaningful today. We have made significant strides in getting lands leased, but now the challenge is to get the exploration work done to determine the extent of the resources on those lands. An almost unprecedented package of incentives for the industry is currently in place, and hopefully more will follow. The prospect of a national RPS and a carbon cap-and-trade system are further enticing for investors.

**What can be done to continue to drive the expansion of geothermal use and development?**

**Monastero:** The industry needs a long-term commitment from the Federal and State governments to insure that geothermal (and all of the renewables for that matter) becomes the energy of choice going forward. The fact has been

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overlooked that earlier versions of these same government entities made conscious decisions in the early 1900s (1915-1917) that oil and gas would be the fuel of choice for powering the nation during the (then) anticipated growth of industry and commerce during the succeeding 50 years or so. Once they did that, they instituted a comprehensive program of tax and other financial incentives that made investment in the fledgling hydrocarbon very attractive. The result of that was the unprecedented growth in the oil and gas business for the duration of the century with attendant investment of massive amounts of money, and creation of even more massive amounts of new wealth amongst shareholders and investors. It is that kind of long-term commitment that will help insure that there is a fundamental change in the energy budget of the US, and will foment the type of private equity investment that is the foundation of growth of any industry. It should be noted that all of the cumulative incentives for the oil & gas industry remained in place until 1973 when the Congress decided that their excessive profits were being made during the Arab oil embargo (Windfall Profits Tax). That was the first hint of any disincentive for the hydrocarbon industry. Mind you, most of the really meaningful incentives are still in place after nearly one hundred years, and the oil and gas business is bigger than ever.

### How is the Obama administration's stimulus package currently impacting the industry?

**Monastero:** In a very positive manner. All three aspects of the stimulus package – the cash grants on qualifying facilities, the DOE ARRA Funding Opportunity Announcement (FOA), and the loan guarantees – are timely and directed toward the areas of greatest need at this time. The cash grants, in lieu of investment or production tax credits are an acknowledgement of the weakness of the tax equity market, and the \$30 million tag is a meaningful amount of money to receive against investments in physical plant. Tax incentives that could be monetized before the market issues began in late 2008 are more or less useless today. As the markets recover, and companies begin incurring tax

liabilities, the tax equity markets will return. At that time it is important for lawmakers to realize that continuation of tax incentives are important instruments for enticing long-term capital investment in the geothermal market. The FOA provides incentives for creative exploration and development approaches and funds high-risk drilling. That part of the package augments company investment to move projects toward the goal line of production of electricity. Finally, loan guarantees help bolster confidence on the part of the investment community that their investments in geothermal development projects are going to be protected by the Federal government. This, of course, helps bolster weakness in the debt markets, which means that the large sums of capital needed for project construction are going to be more readily available, which, in turn, translates into more generation on line.

### How has the current economic crisis impacted renewable energy development, as a whole, and geothermal development, specifically? What strategies are being employed to continue the expansion of geothermal development?

**Monastero:** Well, like everything else, the economic crisis has hampered development of renewable energy projects, but not as much as some industries. In particular, the geothermal industry has been making some progress, and I emphasize some, not lots, over the past 12 months. Growth in energy demand has slowed fairly dramatically, but that trend is somewhat offset by the sustained push throughout the economic downturn for greater production of energy from renewable sources. Example of that is the RPS for



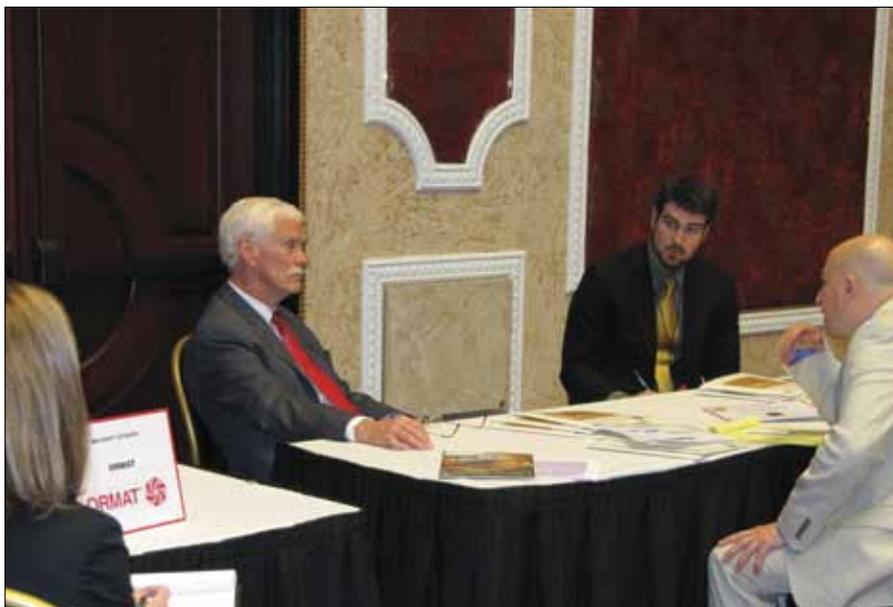
Monastero answers questions about GRC's Annual Meeting for KRNVTN (NBC) news in Reno.

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both California and Nevada have both increased in this period of time, and there is significant movement at the US Congressional level for a national RPS and a carbon cap-and-trade program. As discussed above, the Department of Energy has what appears to be a meaningful stimulus program in place. Work should now begin on formulating a strategy for long-term incentives to insure development success parallel to that of the oil and gas industry in the 20th century.

**Enhanced Geothermal Systems (EGS) are the new technologies that are capable of capitalizing on hydrothermal sources, which are not conducive to traditional geothermal energy-producing technology. That said, what are the impediments to advancing EGS and what efforts need to be made in order to address those issues?**

**Monastero:** Impediments are mostly technical in nature, although currently there is a very emotional reaction to induced seismicity that perhaps would benefit from a rigorous scientific treatment by a reputable third-party to put it in the proper perspective. Who engages that study is all important, but someone, or some organization, with broad credibility should do that. The National Academy of Sciences or the National Academy of Engineering come to mind. That aside, there are a number of purely technical



Monastero fields questions from Jon Mainwaring of CleanTech magazine.



# Geothermal Resource Group

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issues about fracturing geothermal reservoirs that can, and will be, addressed by the dedicated scientific community. Things like dealing with overpressured formations, directionality in fracturing, imaging fractures before and after stimulation, etc., are a few of the items that come to mind. The DOE program is certainly focused on advancement of EGS technology, which is good in the short term. Commercialization of the EGS technology, however, is going to be a long-term proposition (10 years and possibly longer) that requires sustained investment. This is a very appropriate thing for the U.S. Department of Energy to be funding because of the size of the potential payoff in terms of the volume energy production in the domestic market and energy security. ■