

Private Equity Fund Commitment



The Energy & Minerals Group Fund III, L.P.

May 1, 2014

See Last Page for Disclaimer

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The Energy & Minerals Group Fund III, L.P. – Private Equity Fund

Overview

- Fund size : Target \$4.0 billion
- Deal size: \$150M to \$400M equity investments; Enterprise values up to \$1B
- Geography: Global natural resources (predominantly USA, then Canada, Australia, South Africa)
- Sectors : Oil and gas, iron ore, coal mining
- Approach: Access the entire energy value chain and spectrum of steel industry inputs, coal, platinum and base metals
- Value add: Specialized management teams and industry executives partner with portfolio companies for strategic planning, accessing capital, positioning for exit, financial management, analysis of consolidation and acquisition opportunities

Fund Strategy

- Focus on non-substitutable industrial commodities (Oil, gas, iron ore, coal)
- Three-dimensional diversity by geography, commodity, business function
- Adapt to ever-changing energy investment landscape
- Invest in jurisdictions with historical rule of law and general operating practices

Investment Team

- 3 seasoned industry veterans on Investment Committee;
Includes retired ExxonMobile CEO and Chairman of the Board
- 8 investment professionals;
- 12 person tax, reporting, and finance team

The Energy & Minerals Group Fund III, L.P. – Private Equity Fund

GP “Value Add” to Portfolio Companies

- Focused investor with global network of relationships
- Experience in fundamental industry valuation and return analytics
- Success in navigating complicated global transactions with multiple layers of structuring complexity

Performance as of (9/30/13)

Fund Name	PSERS Commitment	Vintage Year	Net Multiple	Net IRR
EMG Fund I, L.P:	None	2007	2.1x	24.5%
EMG Fund II, L.P:	None	2011	1.1x	27.4%
All funds since inception:			1.6x	23.3%

Market Opportunity

- Global energy demand driven by developing countries
- Continued reliance on fossil fuels to meet demand growth
- Over \$16 trillion capital investment needed in the energy industry globally
- Growth in North American oil and gas from unconventional plays has increased infrastructure needs

Risks and Mitigants

Risk: Low natural gas prices due to unconventional resource play production

Mitigants: Deals are structured to produce attractive returns at prices below current trading levels;
Strategy allows opportunistic options to pursue midstream operations, mining investments,
or any of a number of energy related options within the fund’s expertise areas

Risk: Loss of any one of the strong leadership team trio on fund performance

Mitigants: Probability of loss of a Key Person appears low;
Limited Partnership Agreement has adequate failsafes to protect LP’s interests;
Experienced internal management and large pool of energy industry talent available

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History with PSERS

- This would be PSERS first commitment with The Energy & Minerals Group

Board Issues

- Pennsylvania Presence - The MarkWest Liberty JV investment in EMG Fund I was focused on Marcellus Shale “rich gas” production in southwest Pennsylvania
- Placement agents – Credit Suisse
- PA political contributions – None
- Relationship with consultant – Portfolio Advisors - None

Recommendation

- Staff, together with Portfolio Advisors LLC, recommends that the Board invest an amount not to exceed \$100 million plus reasonable normal investment expenses

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April 10, 2014

Board of Trustees
Pennsylvania Public School Employees' Retirement System
5 North 5th Street
Harrisburg, PA 17101

Re: The Energy & Minerals Group Fund III, L.P.

Dear Trustees:

The Energy & Minerals Group Fund III, L.P. (the "Fund" or "EMG III") is being established by The Energy and Minerals Group, LP ("EMG" or the "Firm") to continue the Firm's strategy of making investments alongside strong management teams in the global natural resources industry, with a focus on the global energy, minerals and metals industries. EMG III has closed on \$3.0 billion to date and is receiving strong demand from investors. The Fund is expected to hold a final close at the hard cap of \$4.0 billion in May 2014. The General Partner will make a commitment to the Fund of at least \$80.0 million. Investors in prior EMG funds include: Adams Street partners, APG Investments, J. Paul Getty Trust, Makena Capital Management, National Railroad Retirement Investment Trust, Tulane University and Northwestern University.

EMG pursues investments across the natural resources industry with an emphasis on the energy, minerals and metals industries. In order to generate attractive risk-adjusted returns across the natural resources industry, the Firm utilizes an investment strategy which emphasizes "three dimensional" diversity by geography, commodity, and business function, providing the Firm the ability to adapt to the ever changing investment landscape. The Firm will seek to partner with accomplished management teams in companies which may require equity investments of up to \$1.0 billion (in some instances greater than \$1 billion) with commitments from the Fund ranging from \$150 million to \$400 million and the balance typically funded through a combination of Limited Partner co-investors and strategic investors.

As a natural resource focused investor with a global network of relationships and the capability to pursue opportunities in multiple jurisdictions, EMG has executed transactions in the United States, Canada, South Africa and Australia. The Firm's strategy is to invest in jurisdictions that have a historical precedent of rule of law and general operating practices, which has manifested itself in EMG's track record of investing in the previously mentioned countries, with the majority of capital being invested in North America. As shown below, ~70% of capital invested to date has been in U.S. companies. In addition, EMG has expertise across the entire energy value chain and spectrum of steel industry inputs, coal, platinum group metals, and base metals that should enable it to understand current sub-sector dynamics and identify areas of attractive investment opportunities. Unlike many energy-related private equity firms, EMG is not solely focused on one sub-sector of the industry in one region (e.g. North American upstream oil and gas) and therefore it



can allocate capital to what the Firm believes are the most attractive risk-adjusted opportunities across the natural resources industry.

Portfolio Advisors' recommendation is based upon the following analytical factors and is made within the context of PSERS' investment guidelines.

- Detailed due diligence, including interviews with industry peers and private equity professionals.
- Evaluation of the composition of the investment team, how they work together, compensation structure and other factors that help determine whether a group is likely to be able to replicate past successes as currently configured.
- Evaluation of the Fund's proposed investment strategy within the context of the current investment environment.
- The strategy proposed for the Fund is appropriate for the Private Equity Partnership component of the portfolio.

The individuals at Portfolio Advisors who were primarily involved in the due diligence process for the Fund are:

Gregory Garrett - Managing Director, Connecticut Office
Jeff Gruccio – Senior Vice President, Connecticut Office

Based on the above, Portfolio Advisors recommends that PSERS commit to up to \$100 million of limited partnership interests in The Energy & Minerals Group Fund III, L.P. Portfolio Advisors makes this recommendation considering the General Partner's qualifications and PSERS' overall investment guidelines.

This recommendation is given solely for the benefit of PSERS and cannot be relied upon by other investors considering an investment in the Fund, since their needs, objectives and circumstances may not be identical to those of PSERS. The scope of this recommendation is limited to the investment merits of the Fund. Portfolio Advisors does not provide legal or other non-investment-related advice.

Sincerely,

WILLIAM J. INDELICATO
MANAGING DIRECTOR