Hart, Lydia

Subject: ocation:

Mtg w/ Dan Goldman, Great Point Energy One Broadway, 14th Fl, Cambridge, MA

Start:

Wed 6/25/2008 1:30 PM Wed 6/25/2008 5:00 PM Out of Office

End: Show Time As:

Recurrence:

(none)

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:37 AM

То:

McGinty, Kathleen

.

Subject: GPE People

Tracking: Recipient

Delivery

Door

McGinty, Kathleen Delivered: 6/25/2008 10:37 AM Read: 6/25/2008 11:53 AM

Daniel Goldman, executive vice president and chief financial officer at GreatPoint Energy, is responsible for all financial matters including internal corporate accounting, controls, cash and treasury functions, capital raising, project finance, as well as strategy and planning. With 20 years of energy industry experience, Mr. Goldman brings a strategic understanding of the global energy market, technology applications within the market, and deep development, structuring and transactional experience in the venture and energy project finance arena. Over the course of his career, Mr. Goldman's experience has spanned the upstream, midstream and downstream oil, gas, coal and power generation sectors of the industry, and includes an extensive focus on renewable/clean energy and distributed generation technology and project investments.

Prior to joining GreatPoint Energy, Mr. Goldman was a co-founder, chief financial officer, and member of the board of directors of New Energy Capital Corp., a private equity fund focused on investments in renewable energy, renewable fuels and distributed generation projects. Mr. Goldman developed New Energy Capital's clean energy investment strategy and deployed capital in projects with a total cost of more than \$250 million. He oversaw the company's eight investments from its formation in July 2004, including three ethanol projects, a biodiesel production facility, a biomass-fired power plant acquisition, and a portfolio of three cogeneration projects; several of these projects have recently had successful exits.

From 1996-2001, Mr. Goldman held regional and corporate senior management positions in Hong Kong and Boston at InterGen, a leading power generation company co-owned by the Bechtel Group and Royal/Dutch Shell. While at InterGen, he was actively involved in more than \$4 billion of project development, acquisitions and non-recourse financings, and played a key role in strategy formulation and operational management of the global business. Prior to InterGen, he was a senior member of the energy consulting team at Arthur D. Little in Cambridge and Singapore from 1989-1996, with responsibility for the Asia Pacific Energy Consulting practice from 1992-1996. As a management consultant, Mr. Goldman advised a wide range of utilities, energy companies, multi-laterals and financial institutions regarding technology development, strategy formulation, organizational and operational issues, and investment planning.

Mr. Goldman currently serves as a non-executive director of Asia Environmental Partners Ltd, a to-be-listed fund focused on energy and environmental investments in Asia and, prior to joining GreatPoint Energy, he co-founded and currently serves as an executive advisor to the energy efficiency investment business launched in combination with MMA Renewable Ventures, a division of MuniMae (NYSE:MMA). He is also a founding investor in several clean energy technology companies, a co-founder of Environmental Entrepreneurs in New England, and a founding member and advisor to the New England Clean Energy Council.

Mr. Goldman received a B.S. from Cornell and a M. Sc. from the London School of Economics.

Andrew Perlman is the President and Chief Executive Officer of GreatPoint Energy. Since co-founding the company in 2004, Mr. Perlman has been deeply involved in all aspects of its growth, driving the development of its technology and building a highly experienced team which marries both scientific and commercial expertise. As CEO, he also has lead responsibility for the development and execution of all capital projects.

Mr. Perlman is an entrepreneur who has successfully co-founded six venture-backed companies. Prior to founding GreatPoint Energy, he served as the Chief Executive Officer and co-founder of Coatue Corporation, a microelectronics company which was purchased by Advanced Micro Devices (NYSE: AMD).

In 1995, Mr. Perlman founded Cignal Global Communications, a pioneer in voice over data network communications, and served as President until its sale in 2000 to one of the largest cable operators in Europe.

Mr. Perlman sits on the Board of GreatPoint Ventures, an investment firm focused on early stage commercialization of new, cutting-edge technologies.

He was selected by the Boston Business Journal as one of Massachusetts' most promising business people and has been profiled by the Wall Street Journal as a leading young entrepreneur.

Aaron Mandell, co-founder and senior vice president of technology at GreatPoint Energy, identified the original technology on which GreatPoint Energy was built, assembled the core engineering team, and led the company as chief technical officer from inception until July 2007. He also serves on the company's board of directors. In addition to GreatPoint Energy, Mr. Mandell co-founded GreatPoint Ventures, a specialized investment firm focused on early stage commercialization of new, cutting-edge technologies.

Prior to founding GreatPoint Energy, Mr. Mandell co-founded and served as CTO of Coatue Corporation, a microelectronics company developing novel polymer materials for use in the semiconductor industry. The company was acquired in 2003 by Advanced Micro Devices (NYSE: AMD), the world's largest manufacturer of flash memory chips. Mr. Mandell remained at AMD for one year as director of strategic intellectual property. Prior to Coatue, Mr. Mandell served as a lead scientific director for Optimod Software Systems, where he developed computer models for groundwater remediation.

Mr. Mandell founded and serves on the board of three other venture backed energy companies; Coskata, Ethos and Altarock

Mr. Mandell is a member of the board of advisors of the College of Engineering and Mathematical Sciences at the University of Vermont and a member of the board of directors of the Health Justice Collaborative.

Mr. Mandell holds both a B.S. and M. S. in Civil & Environmental Engineering from the University of Vermont and has held visiting scientist appointments at MIT and Tel-Aviv University.

Avi Goldberg, co-founder and chief operating officer at GreatPoint Energy, is responsible for managing all administrative, business development, legal, financial, and operational planning functions for the company. With close to ten years of start-up company experience, Mr. Goldberg brings a unique blend of strategic project management and entrepreneurial spirit to the company.

In addition to GreatPoint Energy, Mr. Goldberg is a managing partner at GreatPoint Ventures, a specialized investment firm focused on early stage commercialization of new, cutting-edge technologies. Since the firm's inception in 2001, he has leveraged his extensive operational, business development, fundraising and recruiting experience to form and build an impressive portfolio of companies active in a broad spectrum of investment sectors including energy, biotech, telecom, material science and semiconductors. Collectively, these companies have raised in excess of \$200M from some of the leading venture capital and private equity investors in the world.

In 2001, Mr. Goldberg co-founded Coatue Corporation, a microelectronics company developing novel polymer materials for use in the semiconductor industry. As the Chief Operating Officer and member of the board of directors. he was instrumental in assembling the executive team, securing venture and debt financing, and negotiating the acquisition of the company in June 2003 by Advanced Micro Devices (NYSE: AMD), the world's largest manufacturer of flash memory chips.

From 1998 through 2000, Mr. Goldberg served as director of worldwide sales & profit optimization for Cignal Global Communications, a pioneer in voice over data network communications, where he managed worldwide sales and cost containment for Cignal's core business units, generating over \$50 million a year in revenue. In 2000, Cignal was sold to United Pan-European Communications (NASDAQ: UCOMA), one of the largest cable operators in Europe.

Mr. Goldberg graduated magna cum laude from Boston University with a B.A. in Political Science and Strategic



ponald Anthony, Sc.D., chief technology officer at GreatPoint Energy, is responsible for the company's technology years of executive and technology management experience from the energy, chemical, engineering, construction ranging from research & development, to commercial design and plant operation.

prior to joining GreatPoint Energy, Dr. Anthony served as president and executive director of the Council for leading research universities, and 10 national laboratories. During his tenure, he was responsible for overall gasification.

In 2001, Dr. Anthony served as president, CEO and director of NineSigma, a rapidly growing entrepreneurial the company to cash breakeven in two years and negotiated a strategic alliance with Procter & Gamble.

In 1998, Dr. Anthony was named president and COO of ABB's \$550 million U.S. process automation business, having previously served as president and COO of the Bailey Controls Company, a \$300 million global supplier of automation technology.

From 1991 to 1995, Dr. Anthony held a number of management positions at Bechtel, including vice president, petroleum and chemicals technology, in which he was charged with overseeing the company's gasification efforts including (i) engineering design, construction, and start-up for Phase II of Tennessee Eastman coal gasification plant, (ii) engineering design, construction, and start-up for the TECO IGCC plant (Dr. Anthony was a member of Project Steering Committee), and (iii) forming strategic alliances with Conoco, Texaco and Shell to promote petroleum coke gasification; vice president of Asia Pacific operations; and vice president of worldwide refining.

Dr. Anthony completed his doctoral research on coal gasification at M.I.T. While on the M.I.T. chemical engineering faculty, he was consultant to one of the first fluid bed coal gasification technologies, FMC's COED process. In 1975 he joined Standard Oil to start a coal conversion research program. Five years later, he became manager of Standard Oil's commercial development efforts in synthetic fuels. These efforts included sponsorship of the Texaco Cool Water Demonstration project and partnership in the Hampshire Coal Gasification project. In 1985, he was named Vice President of Standard Oil R&D. Two years later, he became Vice President of BP America Research.

Dr. Anthony is a member of the University of Chicago Review Committee for the Energy Portfolio of the Argonne National Laboratory. He is a past member of the National Research Council's Energy Engineering Board and participated in a number of evaluations of coal gasification readiness and economics. He served as chairman of the board of the Glennan Microsystems Initiative and was an executive council member of the Northeast Ohio Regional Technology Coalition (NorTech). He is also a past member of the M.I.T. Department of Chemical Engineering Visiting Committee.

Dr. Anthony received his B.S. in Chemical Engineering from the University of Toledo and his S.M. and Sc.D. from M.I.T.

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:38 AM

Delivery

To:

McGinty, Kathleen

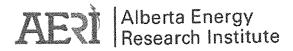
Subject: GPE Partners

Tracking: Recipient

McGinty, Kathleen Delivered: 6/25/2008 10:38 AM Read: 6/25/2008 11:53 AM

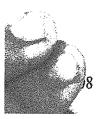
Partners

In addition to the considerable support and expertise provided by its investors, GreatPoint Energy has also established working partnerships and collaborations with a number of well respected research, development and commercial organizations.



AERI works with industry and other government ministries to promote innovation and technology that will enable Alberta's energy sector to evolve. AERI provides strategic direction to position Alberta for the future in energy development, and invests in research and technology to enhance the sustainable development of the province's abundant energy resources. More information about AERI can be found at www.aeri.ab.ca.

Together GreatPoint Energy and the Alberta Energy Research Institute are to collaborate on the development and scale-up of GreatPoint Energy's bluegas™ technology for converting petroleum coke, a waste product from oil sands upgraders, into high-value, clean, pipeline quality natural gas in the province. In the first phase of the collaboration, AERI will provide \$3 million of funding for GreatPoint Energy's program of laboratory and bench-scale analysis, pilot plant testing and commercial project evaluation. AERI is an arm of the Alberta provincial government that promotes energy research, technology evaluation and technology transfer as part of its Hydrocarbon Upgrading Demonstration Program (HUDP). The HUDP supports selected joint Alberta-Industry initiatives to develop and demonstrate



advanced technologies for upgrading Alberta's coal, bitumen and heavy oil resources to high value products. GreatPoint Energy and AERI are currently in discussions around the next phase of the project to support a large-scale demonstration facility in Alberta, which GreatPoint Energy has begun designing.

For further information about this opportunity please see the **Petcoke** section of the Markets page.

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:42 AM

To:

McGinty, Kathleen

Subject: GPE Environmental Profile

Tracking: Recipient

Delivery

McGinty, Kathleen Delivered: 6/25/2008 10:42 AM Read: 6/25/2008 11:53 AM

bluegasTM has the same environmental profile as drilled natural gas; the cleanest commercial fuel in use today. Chemically, bluegasTM is composed of 99.5 percent pure methane.

The bluegasTM process has overwhelming advantages in a carbon emissions constrained future. As part of the bluegasTM process, over half of the carbon found in coal - which would otherwise contribute to global warming - is removed and sequestered in local oil wells or coal bed methane mines. This is a key advantage to the bluegas™ process that cannot be achieved with conventional combustion and gasification technologies. In addition, the other harmful contaminants contained in coal are removed including sulfur, nitrogen, arsenic, mercury, and particulates. Once captured, most of these materials are sold to the chemicals industry and the remainder is disposed of in a safe non-leachable manner.

Carbon Sequestration

One significant benefit of GreatPoint Energy's pipeline grade bluegas™ process is the ability to locate gasification plants far from major population centers and gas markets.

As a result, it is both possible and desirable to locate production facilities in regions of the country where CO₂ can be sold and safely sequestered using currently available commercial technologies for oil and methane

For example, Wyoming's oil fields are, in most cases, declining in production, yet most of the oil forming the deposits in these fields remains underground. While unrecoverable by traditional production methods, significant amounts of oil in these fields can be recovered through enhanced oil recovery (EOR) techniques comprising the injection of a CO₂ stream into an oil reserve. After the oil is displaced, the CO₂ remains sequestered safely underground.

According to the Wyoming Geological Survey (WGS), approximately 8 billion barrels of original oil in place (OOIP) remain in Wyoming fields and between 5-15 percent of this OOIP can be recovered with EOR technologies. Therefore, a broad application of EOR using CO₂ produced by GreatPoint Energy could increase the state's ultimate oil production by anywhere from 400 million to 1.2 billion barrels and safely sequester this greenhouse gas to help prevent global warming.

Unlike conventional gasification technology, the bluegas™ plants produce an EOR/sequestration-ready stream of CO₂ with no additional cost except for compression. As a result, and when combined with bluegasTM higher overall efficiency (when burnt to produce power) bluegasTM CO₂ emissions are likely to be 40 percent less than equivalent coal-fired power plants.

The bluegasTM production facility recovers almost all of the contaminants in coal as useful by-products, e.g. sulfur as elemental sulfur, nitrogen as fertilizer-quality ammonia, and the mineral matter as useful road bed material.

6/25/2008

The bluegasTM process supplying an integrated gasification combined cycle power plant has significantly less The bluegated pollutant emissions than other coal utilization technologies. In fact, the the bluegasTM process produces very nearly as few criteria pollutants as a pure natural gas combined cycle power plant as illustrated in the chart

In addition to this, the bluegasTM process emits far less mercury than other coal utilization technologies. As part of the bluegasTM process, and in order to meet all pipeline specifications, mercury is removed by an additional step that is not typically employed in other coal gasification processes.

Commercial Development Strategy

GreatPoint Energy plans to build its bluegas™ facilities near coal mines and in the Alberta oil sands, where petroleum coke is a very low cost waste product and environmental liability sitting in large stockpiles. Biomass also represents a very attractive opportunity. GreatPoint Energy will gasify biomass in rural locations where it is available at low cost and transport the resulting natural gas by pipeline to power plants in high demand electricity markets. The electricity generated from this renewable feedstock will gualify the power plants in high demand electricity markets. The electricity generated from this renewable feedstock will qualify in many states for renewable energy certificates, thus creating further incentives to develop a clean, CO₂ reducing, and fungible end-product.

Partnering Strategy

Develop strategic relationships with investment grade partners who can enter into long term agreements:

- 1. Feedstock suppliers
- 2. Offtake partners
- Construction and operating partners

Siting Strategy

Focus on sites which can be readily permitted at or near:

- 1. Feedstock supply (minemouth, Alberta oil sands)
- 2. Interstate gas transportation networks
- 3. CO₂ sequestration regions (EOR) with access to other by-product markets (power, sulfur, ammonia)
- 4. Available water supply
- 5. Existing infrastructure to reduce capital cost

Project Execution Strategy

Minimize construction and operational risks:

- 1. Standardized, extensively modularized plant designs
- 2. Building extensive internal engineering and project management capabilities
- 3. Sequential vs. parallel development

PLOSUMOA

Failor, Debra L

From: Failor, Debra L

Sent: Wednesday, June 25, 2008 10:44 AM

To: McGinty, Kathleen Subject: GPE Investors

Tracking: Recipient Delivery Rea

McGinty, Kathleen Delivered: 6/25/2008 10:44 AM Read: 6/25/2008 11:53 AM

GreatPoint Energy is a privately-held company backed financially by leading venture capital firms.

ADVANCED TECHNOLOGY

Founded in 1979, **Advanced Technology Ventures (ATV)** is a bicoastal venture capital firm with more than \$1.4 billion in capital under management. ATV works closely with entrepreneurial teams in several technology markets to build emerging-growth business ventures into market leaders. More information about ATV can be found at www.atvcapital.com.



Draper Fisher Jurvetson is a pre-eminent venture capital firm with global presence through a network of affiliated funds, with offices in more than 30 cities around the world and over \$5.5 billion in capital commitments. DFJ's mission is to identify, serve, and provide capital for extraordinary entrepreneurs anywhere who are determined to change the world. More information about DFJ can be found at www.dfj.com.



Kleiner Perkins Caufield & Byers are committed to helping entrepreneurs build enduring market-changing institutions, defining new business sectors or expanding existing ones. Since 1972, its partners have supported hundreds of entrepreneurs in building over 475 companies. More information about KPCB can be found at www.kpcb.com.

khosla ventures

Khosla Ventures offers venture assistance, strategic advice and capital to entrepreneurs. Founded by Vinod Khosla (also founder of Sun Microsystems) in 2004 Khosla Ventures is based in Menlo

park, California. More information about Khosla Ventures can be found at www.khoslaventures.com.

citi

Sustainable Development Investments (SDI) is a private equity investment unit of Citi Alternative Investments (a division of Citi) focused on renewable energy, alternative energy, clean technologies, water management, waste management, energy efficiency and environmental credits investment. More information about Citi Alternative Investments can be found at www.citigroupai.com.



Dow is a diversified chemical company that harnesses the power of innovation, science and technology to constantly improve what is essential to human progress. Built on a commitment to its principles of sustainability, Dow has annual sales of \$49 billion and employs 43,000 people worldwide, providing a broad range of products and services to customers in more than 175 countries. References to "Dow" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted. More information about Dow can be found at www.dow.com.



AES is one of the world's largest global power companies, with 2006 revenues of \$11.6 billion. With operations in 28 countries on five continents, AES's generation and distribution facilities have the capacity to serve 100 million people worldwide. Our 13 regulated utilities amass annual sales of over 73,000 GWh and our 121 generation facilities have the capacity to generate approximately 43,000 megawatts. Our global workforce of 30,000 people is committed to operational excellence and meeting the world's growing power needs. More information about AES can be found at www.aes.com.



Suncor Energy Inc. is a major North American energy producer and marketer and a world leader in synthetic fuel production from oil sands. Suncor has three major business divisions in Canada and the United States, with more than 5,500 employees companywide. While working to responsibly develop hydrocarbon resources to meet today's energy demands, Suncor is also investing in clean, renewable energy for the future. More information about Suncor can be found at www.suncor.com.

6/25/2008

Page 3 of 3

peabody Energy is the world's largest private-sector coal company. Its coal products fuel approximately 10 percent of all U.S. electricity generation and more than 2 percent of worldwide electricity.

From: Failor, Debra L

Sent: Wednesday, June 25, 2008 10:45 AM

To: McGinty, Kathleen

Subject: GPE Board of Directors

Tracking: Recipient Delivery

McGinty, Kathleen Delivered: 6/25/2008 10:45 AM Read: 6/25/2008 11:47 AM

Andrew Perlman – is Co-Founder, President and Chief Executive Officer of GreatPoint Energy. Mr. Perlman is an entrepreneur who has co-founded six venture-backed companies in four separate industries. Prior to Corporation, a microelectronics company developing novel polymer materials for use in the semiconductor world's largest manufacturer of flash memory chips, in June 2003. In 1995, Mr. Perlman founded Cignal Global Communications, a pioneer in voice over data network communications, and served as president until 2000.

Aaron Mandell – is Co-Founder & Senior Vice President of GreatPoint Energy. Mr. Mandell indentified the original technology on which GreatPoint Energy was built, assembled the core engineering team, and led the company as chief technical officer from inception until July 2007. He also serves on the company's board of directors. In addition to GreatPoint Energy, Mr. Mandell co-founded GreatPoint Ventures, a specialized investment firm focused on early stage commercialization of new, cutting-edge technologies.

Ray Lane – is a Managing Partner at Kleiner Perkins Caufield & Byers, focused on helping entrepreneurs with technological and market insight, organizational development, team building, selling and managing growth. Before joining KPCB, Mr. Lane was President and Chief Operating Officer of Oracle Corporation.

Raj Atluru – is Managing Director at Draper Fisher Jurvetson and focuses on emerging clean technologies, business and consumer services, and wireless technologies. Mr. Atluru is one of the leading venture capitalists focused on the CleanTech sector and has over 14 years of venture capital, private equity, and leveraged finance experience both domestically and in emerging markets with a specific focus on India.

Bill Wiberg – is a General Partner at Advanced Technology Ventures and focuses on investments in the cleantech, wireless, telecommunications, and IT sectors. He was President of Lucent's Cellular and PCS Wireless Networks division from 1997 to 2000, and in his final year, he grew the business by 38 percent to \$5 billion in revenue.

George Crookshank – is an Executive Advisor to the Company and has over 25 years of finance experience in the oil & gas industry, including 17 years as the Chief Financial Officer of public companies. Most recently, Mt Crookshank was the CFO of OPTICanada where he oversaw growth from an initial capitalization of \$40million to a current level of approximately \$4.0 billion in 5 years.

Andrew de Pass – Mr. de Pass joined Citicorp in April 1996 and Citi Venture Capital International ("CVCI") in January 1997. In April 2007, Mr. de Pass was appointed head of Citi Alternative Investments' ("CAI") newl created standalone investment unit Sustainable Development Investments ("SDI"). Mr. de Pass is currently a board member of GreatPoint Energy, Inc. and of another SDI-funded company active in the water industry. While at CVCI, Mr. de Pass led the investments in Sindicatum Carbon Capital and Permolex International – Northeast Biofuels. Mr. de Pass is also on the advisory board of the Cleantech Venture Network and the Chrysalix Clean Energy Fund. Prior to his appointment to SDI, Mr. de Pass also completed private equity investments in the telecommunications, media, retail, packaging and food sectors. Mr. de Pass was employed

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Page 2 of 2

Morgan Stanley from 1989 to 1996, where he held positions in the Mergers, Acquisitions and Restructuring, Morgan Burner, Morgan Burner, Where he held positions in the Mergers, Acquisitions and Kestructuring, Corporate Finance, Equity Capital Markets (Hong Kong) and International Equity Derivatives Departments.

Mike MacSween – is Vice President of Strategy and Development for Suncor Energy Inc., a position he has held since July, 2006. Previously, he held a variety of technical and operational management positions at held since of sands operation in Fort McMurray, Alberta. From 2004-2006, Mr. MacSween was Vice President— Upgrading overseeing the operations of a 250,000 barrel/day integrated process facility with a value of over \$10 percent and producing over 10 percent and billion and producing over 10 percent of Canada's oil supply. He has over 17 years experience in the oil and gas industry including previous positions at Betz Process Chemicals Inc. and Shell Canada Inc. Mr. MacSween gas made and Shell Canada inc. and Shell Can Queens University.

Dave Gee - is Executive Vice President of the AES Company and President of their North America group. In that role he oversees approximately 20 generation plants and is also Chairman of Indianapolis Power and Light. Mr. Gee joined AES in 2004 and led AES's corporate strategy group. He spent 15 years at McKinsey & Company working on a wide range of issues across the energy industry. Prior to joining AES he was VP Strategic Planning at PG&E Corporation during the California energy crisis. He also worked for 6 years at Baker Hughes, an oilfield services company. He holds a Master of Science in Finance from the Sloan School of Management, Massachusetts Institute of Technology, and a BS in Chemical Engineering with highest distinction from the University of Virginia.

Board Observers

Vinod Khosla – founded Khosla Ventures in 2004 which offers venture assistance, strategic advice and capital to entrepreneurs. Mr. Khosla was formerly a General Partner at Kleiner Perkins Caulfield & Byers and also founder of Sun Microsystems.

Ken Bromfield - is commercial director of the Energy business for The Dow Chemical Company. Mr. Bromfield currently leads all energy commercial activities at Dow sites throughout the U.S. Mr. Bromfield began his career in 1990 with Accenture (formerly Andersen Consulting) as a consultant. He then became operations manager at Mascon, an international trading company. In 1996, he joined Union Carbide and after experiencing a series of assignments in various businesses, he was named global product manager for the Ethanolamines and Ethyleneamines businesses in 1999. After the merger acquisition of Dow and Union Carbide in 2001, Mr. Bromfield was named global product marketing manager for the Ethanolamines & Isopropanolamines businesses at Dow. Mr. Bromfield earned a Bachelor of Science degree in Management Engineering from Worcester Polytechnic Institute and a Masters of Business Administration degree from Cornell University.

Rick Bowen - is Senior Vice President BTU Conversion and Strategic Planning for Peabody Energy Inc. In addition to managing all corporate strategic planning functions for the organization, he oversees all technology development activities related to coal and its beneficial uses. Mr. Bowen joined Peabody in 2004 as President Peabody's Generation Group. Prior to Peabody he spent 17 years at Dynegy Inc. in various capacities, including Power Generation, Marketing and Trade, Asset Management, Development, Engineering and Acquisitions; completing his tenure as Executive Vice President, Marketing and Trade. Mr. Bowen holds a Masters in Finance from the Bauer School of Business at the University of Houston where he also received his undergraduate in Business Administration.

Page 1 of 1

Page 1 of 1

Failor, Debra L

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:46 AM

To:

McGinty, Kathleen

Subject: GPE Corporate Profile

Tracking: Recipient

Delivery

Read

McGinty, Kathleen Delivered: 6/25/2008 10:46 AM Read: 6/25/2008 11:46 AM

GreatPoint Energy is the leading developer of catalytic gasification technology to convert coal, petroleum coke and biomass into natural gas while allowing the capture and sequestration of CO₂. Utilizing its proprietary conversion and carbon capture technology, GreatPoint Energy produces ultra-clean natural gas from widely abundant domestic feedstocks. bluegasTM, GreatPoint Energy's natural gas product, is 99.5 percent pure methane, meets all environmental requirements and can be transported throughout North America by existing pipeline infrastructure, delivering an effective alternative to drilled and imported natural gas.

GreatPoint Energy intends to build, own, and operate bluegasTM production facilities and sell bluegasTM to regional distributors and customers in the power generation, industrial, heating and chemical sectors.

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:47 AM

To:

McGinty, Kathleen

Subject: GPE History

Tracking: Recipient

Delivery

Read McGinty, Kathleen Delivered: 6/25/2008 10:47 AM Read: 6/25/2008 11:44 AM

Gasification technology was first used in the 19th century to convert coal into 'Town Gas' (coal gas used for residential or industrial consumption) and was further developed by Germany during World War II to make diesel fuel. The process was advanced again by Sasol in South Africa to produce petroleum and has also been used for the past 50 years to convert coal to synthesis gas for use in the chemicals industry. The first integrated gasification power plant was built in California in 1984, the first of over 100 gasifiers in the U.S. and almost 400 in operation worldwide today.

Gasification technology was first used in the 19th century to convert coal into 'Town Gas' (coal gas used for residential or industrial consumption) and was further developed by Germany during World War II to make diesel fuel. The process was advanced again by Sasol in South Africa to produce petroleum and has also been used for the past 50 years to convert coal to synthesis gas for use in the chemicals industry. The first integrated gasification power plant was built in California in 1984, the first of over 100 gasifiers in the U.S. and almost 400 in operation worldwide today.

Over the past decade, natural gas has become the fuel of choice due to its price, clean environmental profile and ease of transportation. However, high demand has caused prices to rise rapidly over the past five years to \$6-8/MMBtu from less than \$3/MMBtu just a decade ago – and forecasts predict that prices will continue to increase. Given that the U.S. is the world's largest consumer of natural gas, yet holds only three percent of global natural gas reserves, current consumption rates present serious problems for the U.S., both in terms of security (foreign dependence) and cost of supply.

In contrast, the U.S. currently maintains the largest coal supplies in the world, accounting for 25 percent of the world reserves. Coal is low cost (80-95 percent of the cost of natural gas) and widely available, but transporting coal is increasingly difficult due to infrastructure constraints. Moreover, burning it in coal-fired power generation plants is increasingly challenging. Once considered to be an environmentally unfavorable fuel, GreatPoint Energy is changing the way we see, and utilize, coal.

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:48 AM

To:

McGinty, Kathleen

Subject: GPE Technology Overview

Tracking: Recipient

Delivery

Read

McGinty, Kathleen Delivered: 6/25/2008 10:48 AM Read: 6/25/2008 11:38 AM

GreatPoint Energy is following in the footsteps of the petroleum refining industry by implementing a more advanced and lower cost process for refining carbon-based feedstocks. In the early days of petroleum production, oil refineries - like today's coal gasifiers - relied on intense heat (called thermal cracking) to break down heavy crude oil into light useable petroleum products. In the 1940's however, scientists discovered that a catalyst could be used to minimize the amount of heat required. This lower cost and higher efficiency approach quickly replaced thermal cracking in oil refineries around the world.

GreatPoint Energy's technology uses the same basic technique to "refine" coal by employing a novel catalyst to "crack" the carbon bonds and transform the coal into clean burning methane (natural gas). This single stage process is called catalytic coal methanation and forms the basis of the GreatPoint Energy bluegasTM process.

By adding a catalyst to the coal gasification system, GreatPoint Energy is able to reduce the operating temperature in the gasifier, while directly promoting the reactions that yield methane, CH₄. Under these mild "catalytic" conditions, less expensive reactor components are required, pipeline grade methane is produced, and very low cost carbon sources (such as lignites, sub-bituminous coals, tar sands, petroleum coke and petroleum resid) can be used as feedstocks.

In addition, GreatPoint Energy's catalytic coal methanation process eliminates troublesome ash removal and slagging problems; reduces maintenance requirements; increases thermal efficiency; and eliminates the air separation plant (a system which alone accounts for 20 percent of the capital cost of most gasification systems).

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:49 AM

To:

McGinty, Kathleen

10:

Subject: GPE Technology Process

Tracking: Recipient

Delivery

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McGinty, Kathleen Delivered: 6/25/2008 10:49 AM Read: 6/25/2008 11:34 AM

The bluegas[™] gasification system is an optimized catalytic process for combining coal, steam and a catalyst in a pressurized reactor vessel to produce pipeline-grade methane (99 percent+ CH₄) instead of the low quality syngas produced by conventional gasification shown below.

The first step in the bluegasTM process is to feed the coal or biomass and the catalyst into the methanation reactor. Inside the reactor, pressurized steam is injected to "fluidize" the mixture and ensure constant contact between the catalyst and the carbon particles. In this environment, unlike the conventional gasification shown above, the catalyst facilitates multiple chemical reactions between the carbon and the steam on the surface of the coal or biomass. These reactions (shown below) catalyzed in a single reactor generate a mixture predominately composed of methane and CO₂.

Catalytic Gasification Reactions

Steam carbon:

$$C + H_2O \square CO + H_2$$

Water-gas shift:

$$CO + H_2O - H_2 + CO_2$$

Hydro-gasification

Overall Reaction

*coal or biomass

The proprietary catalyst formulation is made up of abundant, low cost metal materials specifically designed to promote gasification at the low temperatures where water gas shift and methanation take place. The catalyst is continuously recycled and reused within the process shown below.

As part of the overall process the bluegasTM production facility recovers most of the contaminants in coal as useful by-products and, in addition, roughly half the carbon in the coal is captured as a pure CO₂ stream suitable for sequestration.

In addition, unlike many conventional gasifiers, the bluegasTM process is ideally suited for lowest cost feedstocks such as Powder River Basin ("PRB") coal and petroleum coke from the Canadian oil sands (a waste-product produced in the upgrading process) as well as a number of biomass feedstocks. The result is a disruptive technology with dramatically improved economics and an environmental footprint equivalent to that of natural gas, the most environmentally-friendly fossil fuel.

From:

Failor, Debra L

Sent:

Wednesday, June 25, 2008 10:51 AM

To:

McGinty, Kathleen

Subject: GPE Technology Advantages

Read

Tracking: Recipient Delivery

McGinty, Kathleen Delivered: 6/25/2008 10:51 AM Read: 6/25/2008 11:34 AM

Produces methane in a single step and in a single reactor

• Pipeline grade product

- No need for external water gas shift reactor
- No need for external methanation reactor
- Produces CO₂ as a valuable sequestration-ready byproduct

Significantly reduces operating temperature

- Lower cost reactor components
- Lower maintenance costs and higher reliability
- Eliminates costly high temperature cooling

Utilizes steam methanation

· Eliminates costly air separation plant

High efficiency

- 65 percent overall efficiency
- Thermally neutral reaction process
- No need for integrated power plant