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Financial Analysis Of GHCP

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GreenTech
Renewables, LLC

Investing in our Global Future

PRESENTATION OUTLINE

Analysis will cover two segments of energy industry:

- **Oil & Gas Valuations**

- Usage of Engineering Reserve Reports

- **GHCP Financial Analysis**(Geothermal Hydrocarbon Co-Production)

- Co-Production of Gas and Geothermal
- Build-Up Model of IRRs

ENERGY INDUSTRY STATISTICS – WORLD DAILY SUPPLY

Daily Supply - World Oil Markets

Country (Producers)	Total Oil Production	
	MMbpd	% of Total
Saudi Arabia	10.1	11.81%
Russia	9.9	11.58%
United States	8.6	10.06%
Iran	3.9	4.56%
Mexico	3.6	4.21%
China	3.7	4.33%
Canada	3.3	3.86%
Venezuela	2.8	3.27%
United Arab Emirates	2.9	3.39%
Kuwait	2.6	3.04%
Others....	34.1	39.88%
World Total	85.5	100.00%

Source: Oil 101, Morgan Downey, at p. 72 (2009)

ENERGY INDUSTRY STATISTICS – WORLD DAILY DEMAND

Daily Demand - World Oil Markets

Country (Consumers)	Total Oil Consumption	
	MMbpd	% of Total
United States	20.9	24.44%
China	7.7	9.01%
Japan	5.2	6.08%
Russia	2.9	3.39%
India	2.7	3.16%
Germany	2.6	3.04%
Canada	2.3	2.69%
Brazil	2.3	2.69%
South Korea	2.2	2.57%
Mexico	2.1	2.46%
Others....	34.6	40.47%
World Total	85.5	100.00%

Source: Oil 101, Morgan Downey, at p. 72 (2009)

DE-COUPLING OF OIL VS. NATURAL GAS MARKETS

Historical Spread – Oil-to-Gas 10X Ratio: There have been 7 instances over the past 15 years when crude oil traded at more than 12.5x the price of natural gas. Going long natural gas and short crude oil during those periods produced positive returns in every instance and returned 19.9% on average over a 3-month period and 22.5% on average over a 6-month period.

Recent Prices:

- Oil \$108/Barrel Natural Gas \$4.15/mcf
- = **26.0X spread**

INDUSTRY DEFINITION OF “RESERVES”

Since cash-flow source is subject to depletion, analysis must include review of applicable Reserves:

- **Example:** Typical Gulf Coast Gas depletion curves: 50% year 1; 30% year 2; 30% year 3. Oil depletion generally not as rapid.
- **Proven** (P1 – Is asset under GAAP if 90% certainty under present technical and economic conditions)
 - **PDPs** (Proven Developed Producing)
 - **PDNPs** (Proven Developed Non-Producing)
 - **PUDs** (Proven Undeveloped)
- **Probable** (P2 – 50%-89% probability – cannot be counted as asset under GAAP)
- **Possible** (P3 – 10%-49% probability – cannot be counted as asset under GAAP)

U.S. GAAP ACCOUNTING OF F&D COSTS

Under GAAP, oil companies can choose from two methods to account for Finding & Development Costs (F&D).

- **Successful Efforts**

- Permits write-off of F&D expenses against profits until Reserves become Proven. Dry Hole costs are expensed. Once Reserves are Proven, associated F&D Costs can be capitalized.

- **Full Cost**

- Capitalize all exploration spending, whether dry hole or successful
 - Is less conservative method (because can defer some costs)

U.S. SEC DEFINITION OF “RESERVES”

To prevent over-booking of Proven Reserves, SEC regulates disclosures. New rules effective January 1, 2010:

- **Pricing:**

- Old Rules: Year-end price
- New Rules: First day of month for each of last 12 months, simple mathematic average

- **Definition of Proved:**

- Old Rules: Direct contact with a reservoir via flowing well test
- New Rules: May use new technology if such technology has been demonstrated empirically to result in reliable conclusions

- **Full-Cost Ceiling Test:**

- Old Rules: Compare ceiling to carrying value using year-end price, or subsequent price if needed to avoid impairment
- New Rules: Compare ceiling to carrying value using 12-month historic average price. No revision for subsequent improvement in pricing (Still can use subsequently proved up reserves, however)

- **Disclosure of probable and possible reserves**

- Old Rules: Prohibited
- New Rules: Permitted, but not required

- **5-year presumption of PUDs:**

- New Rules: Must explain why material PUDs older than 5 years remain classified as proved reserves. NOTE: Plan must be to drill within 5 years unless “specific circumstances” justify a longer time.
- Erdahl Commentary: This rule may create uncertainty? What happens after 5 years? Are they converted to Probables? Will this reporting rule cause companies to change their underlying operational strategies? Accounting and SEC rules should simply report the operations, not be a driver of such operations?

PETROLEUM ENGINEERING RESERVE REPORTS

Petroleum Engineering Reserve Reports provide (often referred to as “Summary of Reserves & Revenue”):

- Production quantities and volumes from wells
 - Considers depletion curves
 - Considers technical & engineering analyses of properties
 - Considers Reserve-Production Ratios (Proved Reserve Additions ÷ BOE Produced)
- Reserves; and
- Estimates of pre-tax net cash flows, considering revenues less production taxes, OPEX and CAPEX.

Planning Note: Such Reports do not, however, typically provide a valuation analysis.

ENERGY INDUSTRY METRICS

SEC PV10 Value of Reserves:

- Present value of pre-tax estimated future revenues generated from Proved Reserves, net of estimated lease operating expenses, using prices without escalation, discounted at 10%.
- Is a non-GAAP measure.

Gross vs. Net Acres/Wells:

- Net refers to fractional working interest

Common Industry measures:

- 3-year F&D Costs (e.g., \$3.47/mcfe)
- TTM Opex & GA Costs (e.g., \$2.21/mcfe)

OIL COMPANY VALUATION MODEL

Two Main Valuation Approaches:

•Income Method

- Discounted cash flows
- Engineering Reserve Report is a form of the Income Method

•Market Method – Key Pricing Guideline Company Metrics

- Enterprise Value (market cap + debt – cash) ÷ BOE
 - Metric estimate = \$15-\$18x
 - Example: If 9M BOE Reserves – FMV of \$135M
- EV ÷ EBITDAX
 - Metric estimate = 2.5x-3.0x
 - Example: If \$90M of EBITDAX – FMV of \$225M
- EV ÷ Daily Production (Boe/d)
 - Metric estimate = \$45,000x-\$60,000x
 - Example: If 2,100 barrels of daily production – FMV of \$94.5M

•EV – Debt = FMV of Equity

Industry Rule-of-Thumb: Oil & Gas properties valued at 48 months of net cash flows (similar to FCF = CFO (N.I. + depreciation) – CAPEX)

SAMPLE INDUSTRY ESTIMATES OF GAS RESERVES

A recent industry analysis by an investment bank reported the following prices paid for Gulf Coast oil & gas properties, shown on an Mcfe basis :

- **PDPs** valued at \$1.93-\$2.20 per Mcfe;
- **PDNPs** valued at \$1.50-\$1.90 per Mcfe;
- **PUDs** valued at \$1.40-\$1.80 per Mcfe;
- **Probables** valued at \$0-\$0.30 per Mcfe; and
- No current value assigned to **Possibles**.

FINANCIAL ANALYSIS OF GHCP

- **GHCP** includes co-production of geothermal energy and natural gas in the Texas Gulf Coast region.
- Combines a relatively lower risk investment in existing natural gas assets, which may be leveraged for geothermal exploration and co-production of geothermal power and natural gas.
- Reduce traditional geothermal exploration and drilling risks and time-to-market, while increasing the productivity of natural gas exploration, generating multiple income streams from reliable, base-load, 24/7 power sources.
- Valuation different because GHCP offers Build-Up Model of cash flows

GHCP INVESTMENT THESIS

Purchase conventional gas production assets in the US Gulf Coast for co-production of geothermal energy and natural gas / condensate production.

- Reduce risk and cost by using existing wells and abundant sub-surface data
- Extend the producing life of gas wells by creating value from the inevitable water production
- Create 24/7, base load geothermal electricity from the known hot water resources in the deep sedimentary rocks of the Gulf Coast
- Extract the naturally occurring solution gas
- Capitalize on over-pressured water reservoirs to reduce pumping requirements

Create a new asset class – geothermal energy reserves

IMPLEMENTATION OF GHCP

Implement co-production of geothermal energy and natural gas:

- Purchase producing assets at the low end of the cost curve
- Create revenue and protect investment through efficient oil and gas production
- Take advantage of off-the-shelf geothermal technology
- Take full advantage of incentives and renewable energy credits
- Capture significant geothermal acreage options and be first mover to value these assets by proving the revenue generation potential

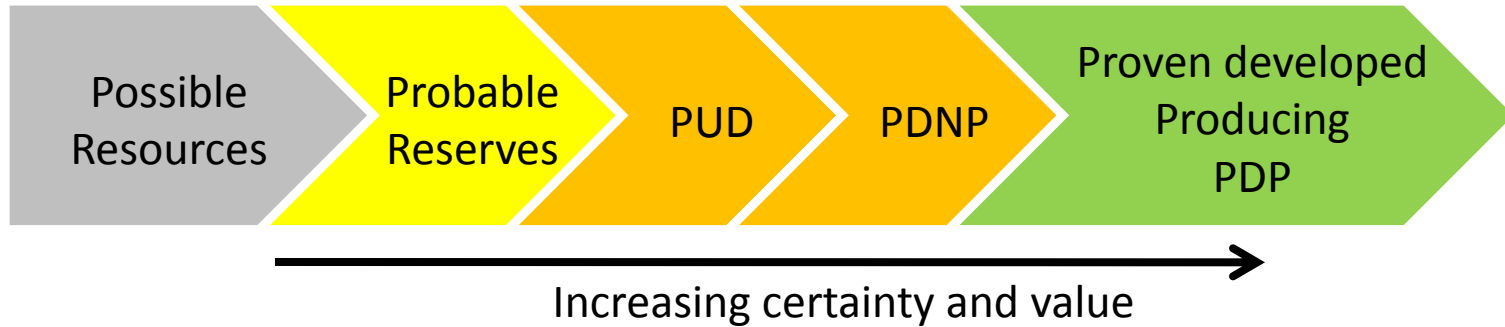
BENEFITS OF GHCP

Innovative GHCP strategy has several benefits:

- Multiple income streams & reduced costs
- Use existing Oil & Gas industry infrastructure (wells and data)
- Easily connect to dense electrical grid in Texas
- Tap into oceans of hot water in Gulf Coast region
- Create thermal assets (will increase exit value)
- Provide consistent 24/7 baseload power
- Take advantage of small environmental footprint of geothermal energy
- Exploit low risk of drilling “dry holes” for geothermal in Gulf Coast

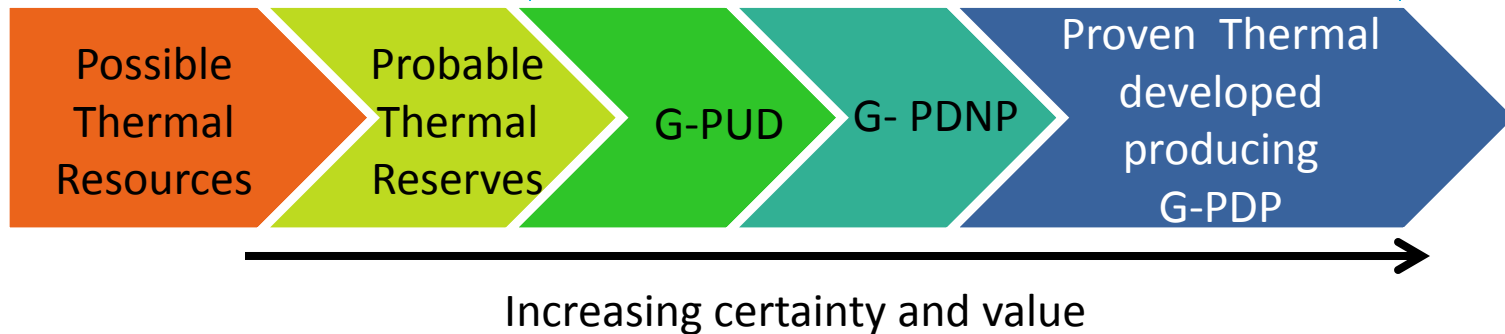
GHCP CREATES A NEW PARADIGM (A NEW ASSET CLASS)

Conventional Oil & Gas Appraisal/development program

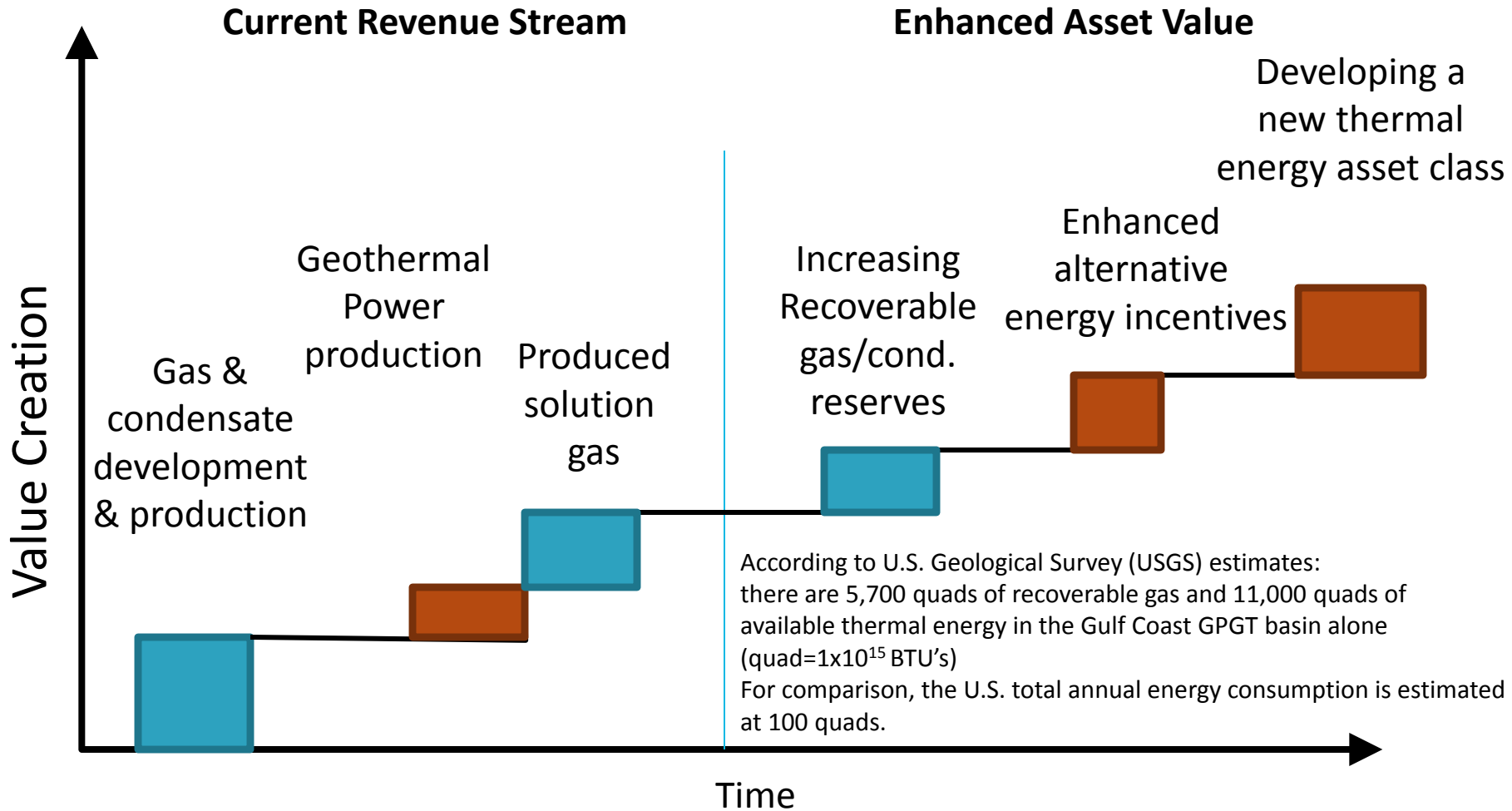


New Asset Class

Geothermal Co-producing



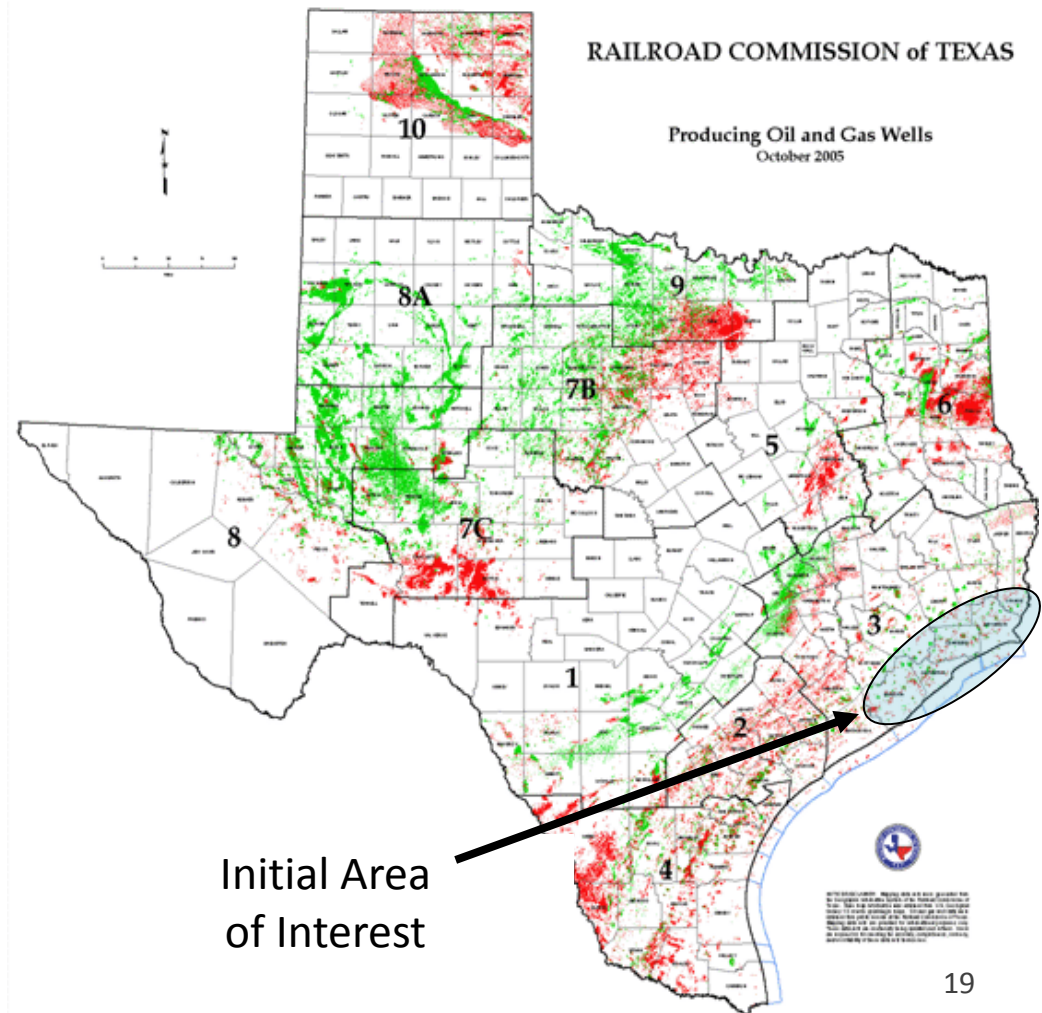
VALUE PROPOSITION OF GHCP



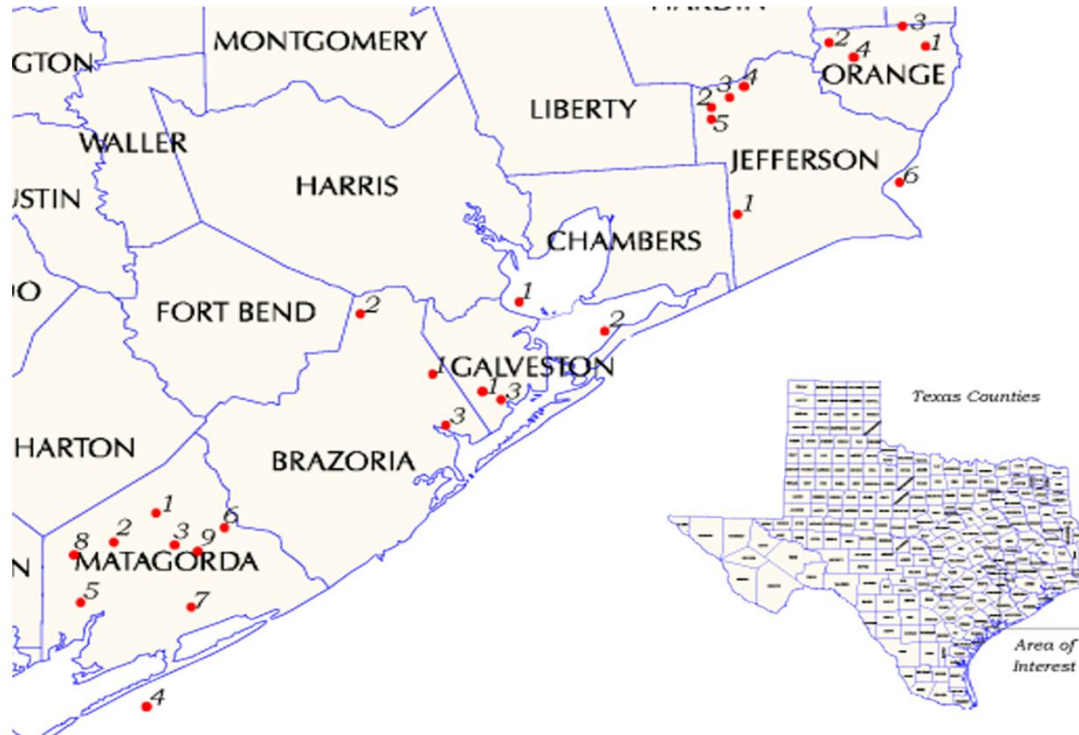
SCREENING CRITERIA FOR COGEN PROPERTIES

Producing targets screening criteria:

- Production below 11,000 feet
- Recently drilled wells
- Motivated seller
- Known hot water aquifers
- Good quality reservoirs
- Close to electricity grid
- Close to oil & gas infrastructure
- Ability to increase scale
- Land access
- High equity & operatorship



TARGET OPPORTUNITIES PETROLEUM ENGINEERING SCOPING STUDY



GHCP creates Build-Up Model of IRRs:

- Core E&P gas sales
- Geothermal energy sales
- Solution gas sales
- Texas severance tax exemption for “gas incidentally produced in association with production of geothermal energy”
- Production tax credit of \$22/MWh (IRC section 45)
- Investment tax credit of up to 10% (30% under pending legislation) of the capital cost of the geothermal plant

FIRST MOVER ADVANTAGES

- 1) Selection of additional optimum fields for GHCP while gas prices are depressed
- 2) Development of market expertise in new sector (“branding”)
- 3) Potential opportunities and benefits from State of Texas resources
 - Both Texas GLO and RRC are openly supportive of GHCP: presently untapped potential should be exploited through initial GHCP development efforts
- 4) Low barrier to entry and steep maturation curve for GHCP (geothermal coproduction)
 - No technical constraints: innovative application of technology & knowledge
- 5) Cost basis for GHCP likely to increase significantly over initial growth phase
 - Cost of land driven up by demand and new value/ utilization basis for resources
 - Early development efforts should be expected to utilize the “low fruit” locations: installation costs for GHCP implementation should level at a higher cost basis assuming logistical constraints for 2nd tier locations

SUMMARY

- Innovative GHCP strategy for developing multiple revenue streams
 - Gas/Condensate production + solution gas recovery
 - Competitively generated geothermal electricity
- High quality acquisitions currently available
- Excellent market timing and entry point
- Potential to significantly increase the scale of the business model
- Opportunity to prove and develop a new asset class of thermal reserves
- Multiple exit points

ANOTHER BENEFIT - LAND MULTIPLIER EFFECT

- Cast a wide net (land values skyrocket)
- Leverage geothermal scalability (multiple plants in series)
- Capture gas in solution (much untapped, as water traditionally a nuisance)
- Receive alt. energy tax credits, other incentives (sweet deals available)

STEVEN ERDAHL BIO

Steven D. Erdahl, Founder & CEO

Steven Erdahl is GreenTech's Founder and CEO and is responsible for implementing and giving direction and leadership toward achieving the Company's strategic goals and objectives. He is an attorney (Texas), CPA (Texas), CVA (National Association of Certified Valuation Analysts) and entrepreneur with over 25 years of experience in accounting, tax, law and finance. He is also Board Certified in Tax Law by the Texas Board of Legal Specialization. Mr. Erdahl's diverse professional experience includes public accounting and private law practice, as well as legal and corporate finance executive positions in Dallas with Oryx Energy Company (now Anadarko Petroleum) and Verizon Communications. He has a heavy international background, including mergers and acquisitions, and all types of domestic and cross-border transactions. After spending many years in the oil & gas industry, in recent years Mr. Erdahl has focused his efforts in the renewable energy sector. Further supporting his financial skill-sets, he has successfully testified as a finance expert witness in major commercial litigation (involving hundreds of millions of dollars) in venues including state courts, U.S. Federal District Court and U.S. Tax Court. Academically, Mr. Erdahl holds four degrees: M.B.A. (Finance) from the Cox Business School at Southern Methodist University (Beta Gamma Sigma); LL.M. (Taxation) from New York University School of Law; J.D. (Law) from the University of Tulsa School of Law; and B.S. (Accounting) from Montana State University. His multiple-credentialed professional and academic profile supports his executive management role.