

NOVEMBER 2022

FINANCING MEMORANDUM



Green Leaf
CARBON TECHNOLOGIES
A Division Of Red Leaf Resources

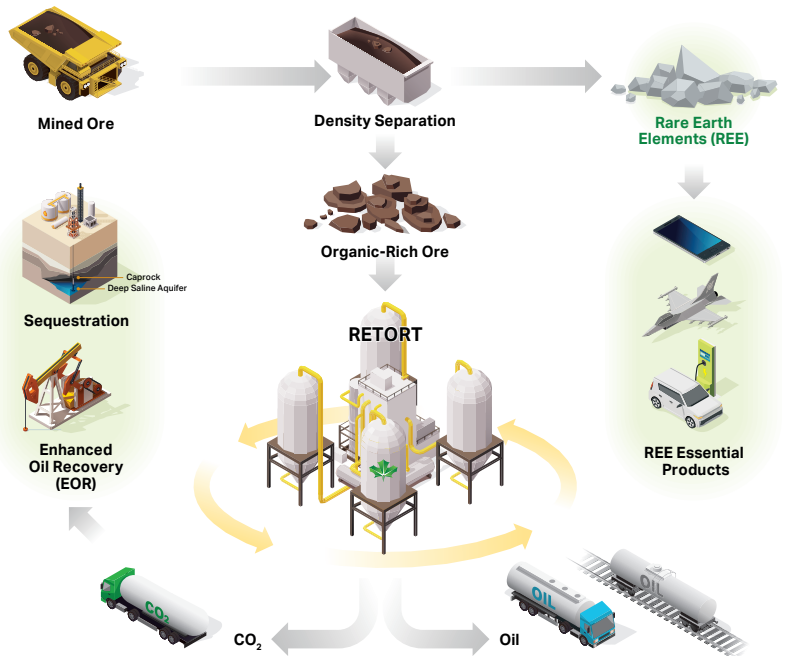
OVERVIEW

Green Leaf Carbon Technologies ("GLCT") is a clean-tech company enabling the transition to low carbon energy. With its proprietary technology and existing resources, it plans to produce up to 75,000 bbl/d of blue or net-zero emissions oil and rare earth elements. GLCT is seeking an investment of \$1.2 billion to finance the first phase with subsequent phases fully funded by cash flow. As part of the first phase, an investment of \$65 million will optimize the design parameters through a small scale plant. This is a unique opportunity that combines the robust economics of conventional energy development with the environmental benefits of renewable energy.

KEY ATTRIBUTES

- A patented process to convert organic-rich feedstock to high value net-zero emission oil and high purity CO₂ for storage or utilization
- Established resource of 700+ million barrels with forecast production scalable up to 75,000 bbl/d
- Compelling economics leveraging a net-zero emissions footprint
 - Over 40% IRR based on flat pricing of US \$80/bbl
 - Less than \$20/bbl cash operating costs supports continued development even at low commodity prices
 - \$80,000 per flowing barrel capital investment competitive with similar large-scale projects
- Leading environmental, social and governance best practices
 - Net-zero CO₂ emissions, concurrent reclamation, energy and water self-sufficient process
 - Royalties contribute to State of Utah endowment benefiting public education and long-term economic development
 - Compliance with all permitting criteria, contributing to U.S. energy independence and domestic rare earth elements supply
- Co-production of rare earth elements essential for rapidly growing renewable energy industries and military applications
- World-class technical expertise on oil shale development

BREAKTHROUGH TECHNOLOGY



ESG LEADER



**Net-zero CO₂,
concurrent
reclamation,
energy and water
self-sufficient
process**



**Funding public
education,
long-term
economic
development**



**Meets all
permitting,
provides critical
resources**

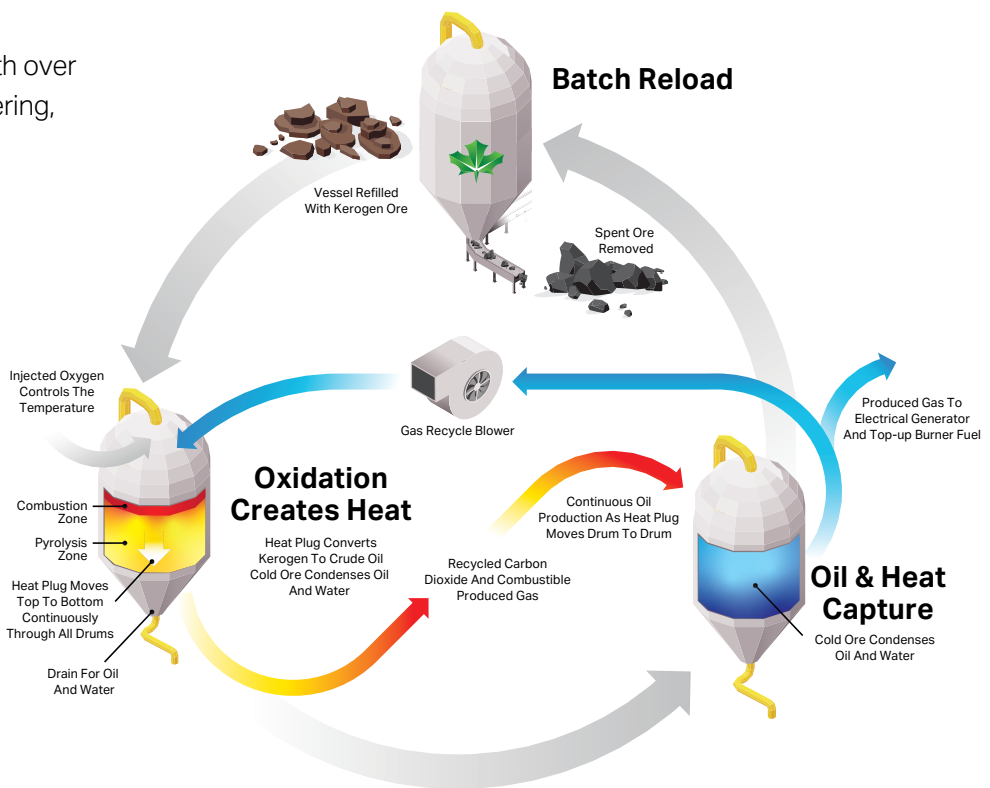
TECHNOLOGY OVERVIEW

REVOLUTIONARY TECHNOLOGY

- Patented oxy-combustion process, Homogeneous Charged Continuous Oxidation (HCCO®) produces the following high value products from organic-rich substrate with net-zero carbon emissions
 - Low-sulfur oil with high middle distillate is an ideal feedstock for refineries to produce motor fuels
 - Concentrated CO₂ stream for carbon capture and storage in adjacent depleted reservoirs or use for enhanced oil recovery
- Overcoming the challenges of competing technology:
 - Higher heat recovery through continuous movement of the thermal front between drums
 - Minimizing the fines and aerosol problems by using static beds
 - Preventing deleterious oxygen from contacting the produced oil and gas
- 30+ U.S. and international patents issued with over \$200 million invested in technology, engineering, and resource development
- Validated by Hatch, a world class engineering firm, who has identified a clear path to commercialization for the HCCO process

DESIGN BENEFITS

- A highly efficient and energy and water self-sufficient process
 - No requirements for external fuel or power as the process generates its own hydrogen-rich gaseous fuel
 - Retorting process net producer of water; minimal overall water use for dust control
 - Very low heat/energy losses (>90% overall first-law efficiency); EROI (energy return on investment) = 9:1
- No tailings or tailings ponds required as processed spent shale is inert and can be concurrently reclaimed
- Maximizes oil production and quality by optimizing operating conditions
 - Milder retort temperature and longer retort times than other processes
 - Elimination of air results in no NO_x emissions as nitrogen is not introduced into the process
 - Batch process for ore handling but continuous for oil and gas production, heat movement and energy balance



ASSET OVERVIEW

EXISTING RESOURCES

Favorable Jurisdiction

- State of Utah is committed to developing natural resources
 - Well-established community and government support to promote long-term employment and economic development
- Royalties finance public education in Utah
- Permitting and environmental agencies seek win-win solutions
 - Reclamation protocol developed with State engineers enhances wild game habitat
- Year-round access, located in an oil and gas basin with infrastructure, strong services, and skilled workers

Rich Deposit Close To Surface

- Red Leaf holds a 100% working interest in over 10,000 acres of State held leases with an option for an additional 6,100 acres
- Established 700+ million barrel resource
 - Single permit application for production over decades
 - Early mining operations start at the outcrop and have low overburden
- Average processed rich ore grade of 32 gallons per ton achieved by selective mining and dry density-based beneficiation
 - Adapted from established coal mining methods

Phased Development Approach

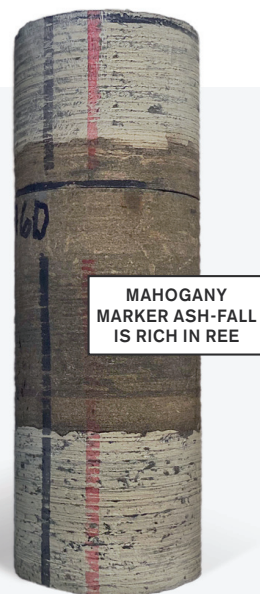
- Modular approach to design with each phase producing 12,500 bbl/d over 20+ years in discreet phases
- First phase investment is \$1.2 billion with successive phases funded by incremental cash flow
- Five subsequent phases of 12,500 bb/d for production of up to 75,000 bbl/d



The Green River Formation – an assemblage of over 1,000 feet of sedimentary rocks that lie beneath parts of Colorado, Utah, and Wyoming – contains up to 4 trillion barrels of oil and is widely considered to be the largest, most accessible, and richest hydrocarbon resource in the world.

RARE EARTH ELEMENTS RESOURCES

- Recent discovery of rare earth elements ("REE") co-deposited with oil shale
 - Estimated 3,500 tons of REE including 2,000 tons of heavy REE in-place in a single mining interval with others intervals not yet characterized
- Favorable mining and extraction conditions
 - Over 60 square miles is immediately available for mining at outcrop
 - Concurrent mining and high-grading using same techniques as oil shale
 - Assessing new technology for low cost extraction and separation
- Inflation Reduction Act introduced by U.S. Federal Government includes financing for REE supply chains as a strategic priority



Core section through the center of the oil shale deposit

ECONOMIC OVERVIEW

PROJECT ECONOMICS

First Phase

- \$1.2 billion capital investment yields 25% IRR assuming 65/35 debt/equity capital structure (8% interest)
- Flat production profile of 12,500 bbl/d, on-stream two years from final investment decision ("FID")
- 105 million barrels recovered over 24 years
- Based on flat \$80/bbl realized prices

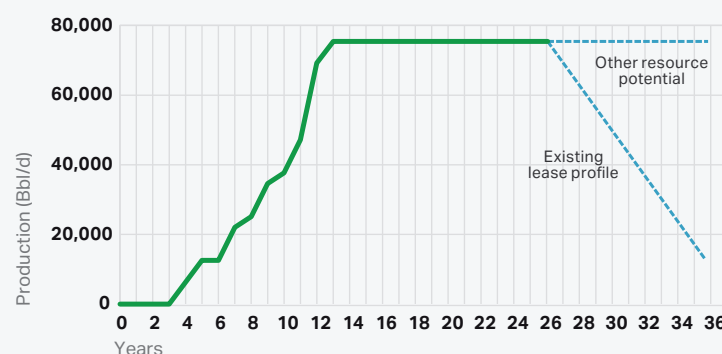
Total Project

- \$0.96 billion capital investment per subsequent phase, fully financed from cash flow from previous phases yields over 40% internal rate of return
- Five more 12,500 bbl/d phases for 75,000 bbl/d total
- Final phase on-stream 11 years from original FID
- 640 million barrels recovered over remainder of project

No value attributed to REEs or CO₂ sequestration credits

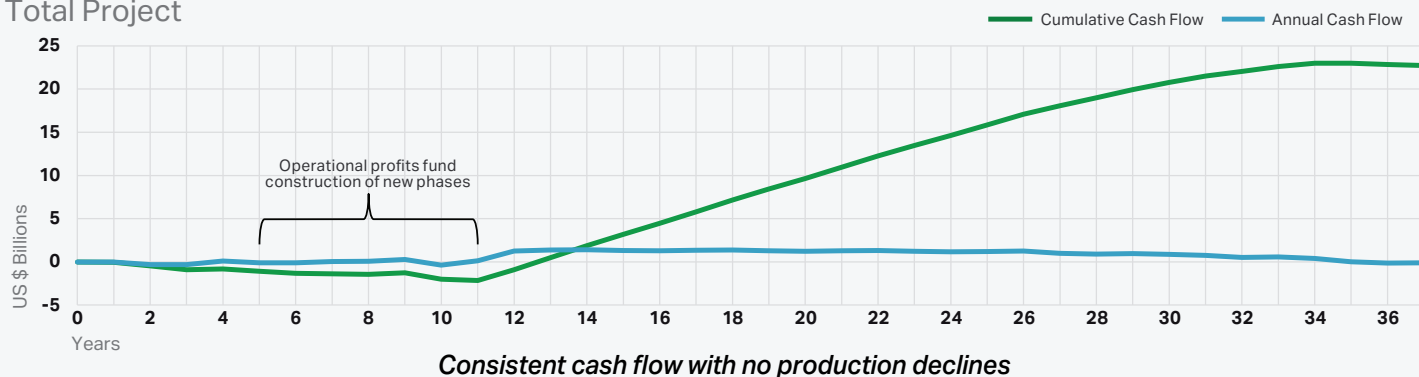
	Phase 1	Total Project
Production	12,500 bbl/d	75,000 bbl/d
IRR	24.5%	43.8%
NPV(10)	\$677MM	\$3.5B
Payout (From first FID)	8 years	14 years

Illustrative Production Profile



CASH FLOW PROFILE

Total Project



SENSITIVITIES

Total Project

Metric - Realized Price (\$/bbl)	\$40	\$50	\$60	\$70	\$80	\$90	\$100
IRR	16.4%	24.6%	31.7%	38.0%	43.8%	48.9%	53.7%
NPV10 (\$MM)	\$513.9	\$1,286.5	\$2,038.9	\$2,781.1	\$3,523.4	\$4,265.6	\$5,007.8

Low-cost operations able to withstand significant price & cost volatility (NPV10 breakeven oil price = \$33.36/bbl)

USE OF PROCEEDS

- \$65 million to finance engineering, construction, and operation of small scale plant (200 bbl/d) to optimize the commercial plant
- \$1.2 billion to finance engineering, construction and operation of Phase I for 12,500 bbl/d (Class 5 estimate)
- Finalize design and execution with global service providers
 - Hatch – engineering, procurement and construction management
 - NACCO – mining, beneficiation and bulk material handling

Use of Proceeds	
SCDP Eng./Construct/Ops.	\$35 million
Commercial Engineering	\$25 million
Corporate Operations	\$5 million
TOTAL	\$65 million

HATCH

NACCO
NATURAL RESOURCES

KEY PERSONNEL

■ BOARD OF DIRECTORS & EXECUTIVE ADVISORY COMMITTEE

Michael Binnion, President & Chief Executive Officer, Questerre Energy Corporation

Seasoned entrepreneur with an established track record founding, financing and managing companies and not-for-profit organizations. Chairman of High Arctic Energy Services, an international oilfield services company and Canada Strong and Free Network

Jason D'Silva, Chief Financial Officer, Questerre Energy Corporation

Over 20 years' experience in corporate finance and management of primarily junior public companies including Terrenex Acquisition Corporation, Flowing Energy Corporation, and CanArgo Energy Corporation

Patrick Quinlan, Global Energy Advisor

Recognized global energy expert in over 40 countries with clients including integrated oil majors, national oil companies and oilfield service companies at an executive and operational level. Most recently Partner, Ernst & Young and VP & Global Leader, Oil & Gas Services, Capgemini Consulting.

■ TECHNICAL TEAM

Dr. James Patten, SVP of Technology, Director of Business Development

Co-founder of Red Leaf and co-author or author of Red Leaf's patents. Previously, VP Non-conventional Petroleum Resources at Battelle and Executive Director at Cummins Engine Co. Held long-standing technology and strategy consulting relationships with the Department of Energy (DOE) (Transportation Technology), Defence Advanced Research Projects Agency (Battlefield Energy), National Science Foundation (Engineering Research Centers), and was a long-term registered lobbyist for Cummins Engine Co.

Dr. James Bunger, VP of Engineering

Co-founder of Red Leaf. Widely published author and one of the foremost experts on oil shale in the U.S.; consulted to the DOE on oil shale economics, policy, and development, previously, Utah State Science Advisor and Research Associate Professor, Chemical & Fuels Engineering, University of Utah

Dr. John Faull, Lead Technology Engineer

Focused on process development and scale-up of chemical and energy related technology including projects in oil shale, hydrogen production from gasified coal, and chemical sensing platforms. Prior to joining Red Leaf in 2016, served as a Senior Research & Development Engineer for American Shale Oil and Senior Process Engineer for Eltron R&D

SUMMARY

GLCT is a Clean-tech Company Enabling the Energy Transition

GLCT'S ADVANTAGES



Revolutionary Technology

- Patented process for zero emissions conversion of organic-rich feedstock to high value oil and high purity CO₂ for storage or usage



Significant Resource

- Established resource of 700+ million barrels with long-term production scalable up to 75,000 bbl/d
- Permit once to produce for 24 years



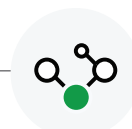
Compelling Economics

- Leverage benefits of conventional energy with net-zero emissions
- 40%+ IRR
- >\$20/bbl opex
- \$80k bpd capex



ESG Leader

- Net-zero CO₂, concurrent reclamation, energy and water self-sufficient process
- Funding public education and local economic development
- Meets all permitting criteria



Rare Earth Elements

- Co-production of REEs vital for rapidly growing clean-tech industries
- Domestic production important to economic security

CONTACT INFORMATION



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