



Executive Summary

Context

Rapid global population growth and the ever-increasing demand for more energy, food, and clean water are rapidly depleting our limited natural resources. This unsustainable use of the earth's resources is degrading regional ecosystems, and contributing to pollution and climate change. More than ever there is a "call to action" to remediate and conserve; and increasing market focus on "green" and recycling technologies has created an opportunity for an innovative project developer that can provide solutions while protecting the environment. **Remediation Earth Inc.** is aggressively positioning itself to be at the forefront of the waste remediation and energy/fuels markets, while remaining committed to adhere to our corporate philosophy, which assures our projects are designed, built, and operated in harmony with the environment.

The Company

Remediation Earth ("**REI**" or "Company") was incorporated in Nevada, in July 2007. As a project developer, REI specializes in developing turnkey projects that produce alternative fuels for energy and transportation from targeted wastes, using exclusively licensed, commercially proven, pyrolytic and anaerobic gasification technologies. The Company's efforts are primarily focused on the pyrolysis (thermo-chemical conversion) of medical waste and sorted non-recyclable plastics waste, into valuable energy products. These priority waste products:

- Reflect serious remediation problems
- Have large, well-defined markets with strong "barriers-to-entry"
- Are the focus of key government policies and incentives
- Represent waste streams for which the Company has operational experience

REI has begun to integrate its proven, non-chemical water purification technologies with its pyrolysis systems to expand its remediation efforts in niche markets, for potable water and industrial water re-use. As an example, some of the inexpensive surplus electrical power generated by REI's pyrolysis system can be shared with one of its ultra-filtration or reverse osmosis ("RO") modules, thus greatly reducing the overall operational costs of making drinking water where power is either expensive, not available, or frequently interruptible. By combining these complementary technologies, the Company is providing an integrated solution for the production of clean water, high-grade transportation fuels, steam, heat, and electrical power.

The Technology

REI has secured an exclusive North American technology license to engineer, fabricate, market, sell, operate, and sub-license patented commercially proven pyrolytic and anaerobic gasification technologies. These technologies are producing heating fuels, synthetic diesel, transportation grade biofuels, biochar, carbon black, and surplus electric power, from a wide assortment of materials typically found in medical waste, non-recyclable pre-sorted mixed plastics waste (PVC excluded), used tires,

biomass, woodchips, microalgae, and agricultural wastes. Figure 1 is a very simplified representation of REI's direct slow pyrolysis process (“Pyrolysis I”).

DIRECT SLOW PYROLYSIS SYSTEM (SIMPLIFIED PROCESS FLOW)

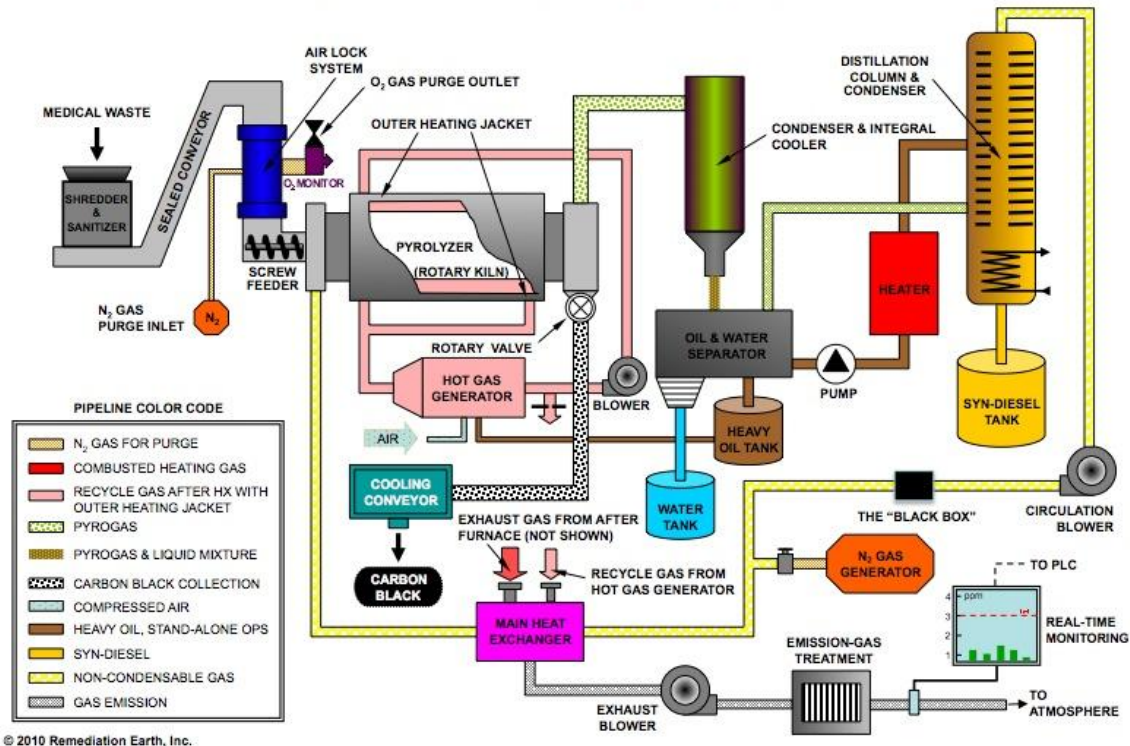


Figure 1: Simplified Version of REI's Pyrolysis I Process

Abbreviated Description of the Pyrolysis I Process

Using mixed plastics waste (PVC excluded) as an example, the feedstock drops through the shredder, proceeds up through the *feeding conveyor*, down through the *Air Lock System* (preventing oxygen ingress), through the *screw feeder*, and into the *rotating kiln* or *pyrolyzer* vessel, reaching an internal temperature of approximately 1,000 °F. It takes about 30 minutes for the plastic waste to move internally from the inlet to the outlet side of the rotating kiln (from left to right in Fig.1), resulting in all volatile material in the plastic becoming a hydrocarbon-rich gas. The remaining solid fraction is reduced to a char or carbon black—which is discharged through the outlet side of the rotating kiln, via a special high temperature *rotary valve*, into the *cooling conveyor*. The hydrocarbon-rich gas subsequently flows into the *condenser & integral cooler*, where the heavier vapors are preferentially liquefied to form a heavy oil that is used to heat the system's *hot gas generator* (main burner). The hot gas generator re-heats the combustion gas as it re-circulates through the fixed outside jacket of the *rotating kiln*, thus providing the entire indirect heating source for the pyrolyzer vessel. Those lighter hydrocarbon gasses which do not condense out in the *oil & water separator*, proceed into the *distillation column and condenser*, where they are liquefied into Syndiesel. Any



remaining light gas fraction (similar to synthetic natural gas) that does not liquefy at this point (also called non-condensable gas), leaves the top of the distillation column & condenser, and is subsequently forced (via the *circulation blower*) through the main heat exchanger (to pick up heat), and then into the pyrolyzer, providing a direct heating source inside the vessel. All emission gases are continuously monitored as they are processed through a proprietary rotary wet scrubber and integral back-pulse filtration system.

REI's commercially proven **Pyrolysis I** technology produces a high quality #2 fuel oil or synthetic diesel. For example, when processing non-recyclable mixed plastics waste comprised mainly of polypropylene and polyethylene, the pyrolytic fuel produced is almost colorless, has only "parts-per-million" of water, is low in sulfur, non-acidic, and has a cetane number similar to petroleum-based diesel (See Figure 2, below). These pyrolytic liquids can be used directly in stand-by diesel generators, farm, construction, and off-road vehicles, and as a mid-distillate feedstock for refineries. When converting medical waste, non-recyclable mixed plastics waste, and used tires, using the **Pyrolysis I** process, the leftover by-product is a high-value carbon black for use in pigmentation for paints, coloring of rubber, and for improving the next generation of fuel cells and lithium batteries.

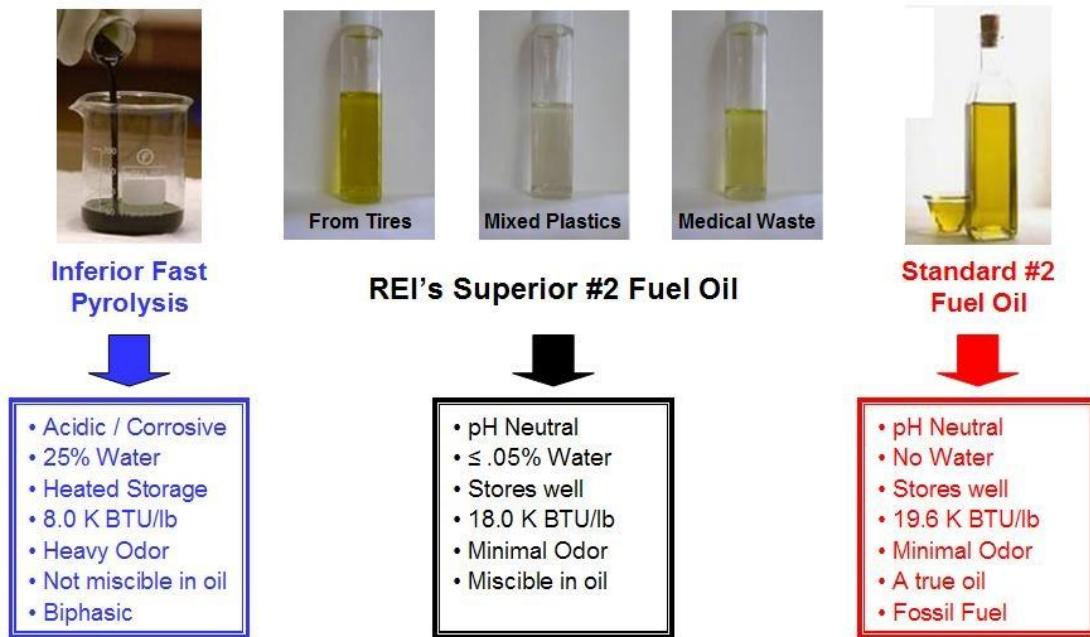


Figure 2: REI's Direct Slow Pyrolysis ("Pyrolysis I") vs. Inferior Fast Pyrolysis

REI's newest "green" technology ("**Pyrolysis II**") combines a proprietary type of hybrid pyrolysis and anaerobic gasification, with an integral low pressure Fischer Tropsch module, to process wood chips, agricultural waste, and microalgae, into transportation grade "green" diesel. This green diesel by-product has greatly reduced exhaust emissions when compared to standard diesel.



The solid carbon by-product from **Pyrolysis II** is called **char**, and is an additional source of revenue, depending on the feedstock. Wood waste, biomass, and agricultural waste will produce a high-grade **biochar**, which can be used as a soil amendment and for CO₂ sequestration. The biochar can be further processed into a high-grade, activated carbon for water treatment applications.

The Manufacturing Process

REI has overall responsibility for the engineering, fabrication, assembly, commissioning, and start-up of its systems. We have established long-term relationships with several large fabricators throughout the U.S. who will manufacture, assemble, and test the systems at facilities closest to the Customer's location, reducing shipping costs, warranty, response, and deliver time.

All sub-assemblies will be built by ISO certified fabricators according to ASME, ANSI and TEMA standards. These sub-assemblies will be pre-tested before they are assembled into the final system configuration, prior to shipping to the customer's site.

The US Market

Medical Waste

10% of medical waste is Pathological and Chemotherapeutic waste, including tissue samples and cultures, whole blood, serums, expired drugs, and drug paraphernalia. 90% of all medical and hospital waste is comprised of "red-bag" waste and Sharps, including bandages, dressing gowns, latex gloves, syringes, scalpels, and glass test tubes.

Until recently, hospitals and other generators of infectious waste incinerated medical waste or deposited it in landfills. This practice caused several environmental, health, and safety problems, evoking public outcry and opposition. One of the major negative consequences of incineration is the chemical emissions and particulate matter generated and released into the atmosphere. PVC plastic in the medical waste stream has proven to be non-recyclable; and when incinerated, it is a major source of dioxin, nitrous oxides, carbon monoxide, carbon dioxide, and heavy metals.

As air quality standards become more stringent, previously unregulated medical waste incinerators are being shut down; not only due to the noxious emissions, but also the high cost of maintenance, and the prohibitive cost of retrofitting incinerators to meet ever-changing pollution standards. Presently the preferred method of sanitizing red-bag medical waste is autoclaving, which generates large amounts of sanitized waste material that must be taken to specially designated landfills, or incinerated. Instead, these "as-sanitized" medical wastes can be fed directly into REI's pyrolysis system, producing #2 fuel oil/synthetic diesel, and carbon black. This allows over 90% of the sanitized medical waste that would normally be landfilled, to be turned into valuable energy products. Figure 3 shows how REI's medical waste pyrolysis system will operate.

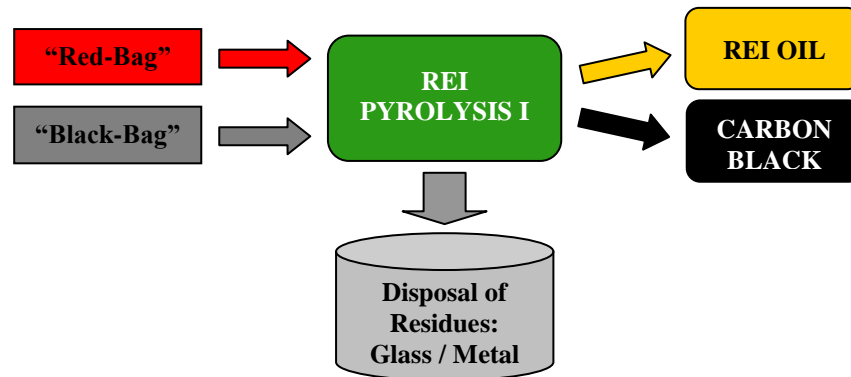


Figure 3: Medical Waste Remediation

It is important to note that the U.S. Environmental Protection Agency (U.S. EPA) has recognized that “true” pyrolysis technologies like REI’s, with no visible flame within the pyrolysis chamber, are so environmentally safe that they are the first and only technologies of their type to be exempted completely from regulation by the U.S. EPA in the remediation of medical waste. It has even provided a specific exemption for “true” pyrolysis in its most current air pollution regulations (40 CFR 6050.c(f)). The establishment of very rigid standards on emissions by the U.S. EPA has inadvertently created a barrier-of-entry for some of our potential competitors. This provides a strong competitive advantage for REI’s technologies because emissions data from our commercially available pyrolytic units in Japan are better than the emission standards set by California, all other states in the U.S., Japan, and the EU. Consequently, REI’s systems can be placed at facilities located in urban and suburban neighborhoods, where incineration can’t operate. This would enable customers to locate small pyrolytic treatment facilities in a more distributed, non-centralized pattern, helping to reduce handling and transportation costs.

The Used Tire Remediation Market

Waste tires present a major environmental problem across the globe today. It is estimated that 2 to 3 billion scrap tires have been stockpiled or dumped throughout the country, while more than 270 million additional used tires are generated each year. Eliminating these piles is essential to prevent health risks and degradation of the environment. Waste tires, particularly in piles, pose serious health risks to humans and the environment from insect and disease repositories in pooled water, and from fires.

On the average, it takes 22 gallons of crude oil, steel, natural rubber, a large amount of energy, and other resources, to produce a single tire; however, that same tire when put through REI’s pyrolytic technology, produces more than 1 gallon of high grade #2 fuel oil, approximately 6 lbs of carbon black, and 3 pounds of steel. These valuable resources will then be recaptured and reused in products and processes, rather than left in wasteful and dangerous stockpiles.

There are legislated tipping fees of \$1.00 associated with the disposal of each passenger car tire. This tipping fee will generate approximately \$100 to \$120 per ton, since there are approximately 100 used passenger tires per ton. One of REI’s 50-ton/day



pyrolytic units can process approximately 5,000 tires/day, or 1.75 million tires per year (350 days), generating almost \$2,000,000 in additional revenue simply from tipping fees.

Immediate and Medium Term Business Objectives

Immediate

REI is in the design phase of building a 28-ton/day commercial pyrolytic system in San Bernardino, California. This commercial system is scheduled to be completed in November, 2011. Immediately upon completion, the system is anticipated to produce approximately 1.7 tons of commercial grade carbon black and three thousand gallons of commercial grade #2 synthetic diesel fuel per day, generating annual revenues of approximately \$3.5 million. Within 90 days of completion of the system, the facility will begin accepting red-bag medical waste, providing an additional \$4.4 million in annual revenue potential in tipping fees. Construction of the system is budgeted to cost approximately \$13 million. With operating costs at approximately 1/3 of net revenue, the project has a projected two-year payback period and a 20 year, 10% NPV of between \$25 to \$30 million, depending on debt service assumptions.

Medium Term

Subsequent to completion of the commercial 28-ton/day system, REI intends to construct four 50-ton/day pyrolysis systems in an adjoining facility in San Bernardino, CA. In total, these systems will generate approximately \$60 million in net revenue annually. Financing of the systems is intended to be completed at the project level, utilizing a combination of project equity and non-recourse debt financing, as is standard in the industry.

On Going

REI will design, develop, deploy, operate, and expand the use of its pyrolytic systems on its own behalf and on behalf of private industry, municipalities, and local governments, utilizing standard project finance and ownership mechanisms generally accepted in the industry.

Competitive Position

Although Canada has been at the forefront in developing and demonstrating pyrolytic technologies, its use is presently small, representing less than 5% of the total thermo-conversion market. Where pyrolysis has been successful, it is only in small niche markets, particularly those focusing on specialty chemicals for food flavoring and wood composite adhesives.

Business Opportunities Now and into the Future

- Remediation of benign and hazardous waste in North America is becoming increasingly legislated, with financial subsidies offered to expedite clean up.
- There is a proven market in North America for remediation of medical waste, non-recyclable mixed plastics waste sorted from MSW, and used tires.
- There is an immediate need for our Pyrolysis II technology that thermo-chemically converts biomass, wood waste, agricultural waste, and microalgae into transportation grade “green” diesel, biochar, and bio-derived electrical power.



North American Competitors

- There are presently no commercially operating pyrolytic systems in North America competing in our market space that can match the quality and quantity (fuel generated per ton of mixed plastics waste) of synthetic diesel produced by our exclusively licensed technology, while simultaneously producing a dependable supply of electricity.
- Most competitors are selling pilot scale and pre-commercial systems that are energy intensive and produce a much lower grade of product, i.e. #6 fuel oil versus REI's #2 fuel oil, thus greatly reducing profitability. *In general, these inferior fast pyrolysis systems cannot run profitably in a commercial setting unless they receive additional long-term financial assistance.*

The Future

Remediation Earth Inc. is positioning itself at the forefront of waste remediation and energy/fuels markets. The Company's **Pyrolysis I** and **Pyrolysis II** technologies are capable of converting a wide array of benign and hazardous waste materials into valuable energy products: (1) #2 fuel oil, (2) synthetic diesel, (3) transportation grade biofuels, (4) electricity, (5) carbon black and biochar, and (6) H₂ gas generated from pyro-liquids or syngas.

With over twenty years of filtration experience, REI will integrate its proven **Advanced Oxidation Process (AOP)** water purification technologies and water separation technologies (R.O. and ultra filtration), with its pyrolysis systems, to expand its remediation efforts in potable water and industrial water re-use; particularly where the combination of complementary technologies enable the Company to provide an integrated solution for the production of clean water, high grade transportation fuels, steam, waste heat, and electrical power. As the Company's production capacity increases over the next year, it will seek to invest in market opportunities that are true to its corporate philosophy and consistent with its business priorities and objectives.

Executive Team Biographies

Our executive team possesses: a strong belief in and commitment to improving the environment, a management style built on leadership principles, and the expertise and experience relevant to our corporate priorities and business objectives. While each team member has a broad array of experience in their respective positions, collectively they function as a cohesive group to guide the Company to near term and future successes.

President, CEO, and Chairman - Daniel Moscaritolo brings 23 years of senior level experience in technology and business management, engineering, operations and marketing/sales, from his 14 years at PTI Technologies Inc. (div. of ESCO Technologies), and 9 years of process operations experience with Praxair's (formerly Linde) large cryogenic air separation plants. As an entrepreneur, he co-founded a private company that went public in 2004. Over the last 17 years, Mr. Moscaritolo had overall



responsibility for the design, fabrication, sale, installation, and commissioning of projects worldwide that integrated custom engineered, “intelligent” filtration technologies with advanced oxidation process (“AOP”) water treatment, and ion exchange & adsorption technologies for the oil, gas, and refinery marketplace. He has a Master’s degree in mechanical engineering from State University of New York, Buffalo.

Chief Operating Officer – Peter Kokiousis is an electrical engineer and entrepreneur who owned and developed a successful mid-sized commercial electrical contracting business for over 25 years. Driving operational excellence, he seized control of critical problem areas and delivered on customer commitments. He brings strong technical qualifications, hands-on experience in strategic planning, project and product management, and system engineering strategies. As a co-founder of a venture capital firm, he successfully analyzed organizations’ critical business requirements, and identified deficiencies and potential opportunities. A performance-driven executive, Mr. Kokiousis’ strong presentation and communication skills, along with a unique ability to develop intimate business relationships, allow him to better understand what the customer is buying and why, thus consistently strategizing the winning approach to a technical sale.

VP Engineering and Technology - Wim Lam is a seasoned Systems Engineering manager and expert who has held various executive managerial positions with escalating levels of responsibility for over 30 years. He has had complete responsibility for development, integration, and delivery of advanced intelligent systems using state-of-the-art software to electronically control hydraulic, pneumatic, and mechanical sub-systems. Mr. Lam has managed over 200 technical people at a single company, consisting of mechanical, electrical, software, test engineers, and design/drafting personnel. He has a proven track record of reducing the time-to-market for highly integrated and intelligent systems, while reducing cost.

Chief Medical Officer - Franz Michel, M.D., is a licensed physician and former faculty member at the University of Pennsylvania and UCLA. Dr. Michel brings a unique perspective of an entrepreneurial physician with an extensive medical and business background. Dr. Michel adds complementary knowledge and understanding from a medical and regulatory standpoint, providing key insights in addressing the medical waste component of the Company’s business model.

Board of Directors

Daniel K. Moscaritolo, Chairman

Peter Kokiousis

Charles L. Christensen

Wim Lam

Dr. Franz Michel