

Green Energy from Renewable and Waste Sources
at lower cost and more efficient than current alternatives



**REASONS TO
INVEST**

OVERVIEW

OPPORTUNITY

PROBLEM

SOLUTION

MANAGEMENT

REASONS TO INVEST

low-cost, clean electric power

MORE AT A LOWER COST. Iterum Energy's proprietary modular energy systems are highly competitive versus currently available renewable Waste-to-Power (WTP) systems

- approximately 40% less expensive
- about 3x more electric power produced per project
- manages all heat stream simultaneously – both heating and cooling
- fewer units required – simple project design, reduced maintenance

ENVIRONMENTALLY FRIENDLY. Converts industrial waste heat and GHG emissions into clean electric power (fuel-free)

RAPIDLY EXPANDING HUGE MARKET. Global WTP market is projected to climb to \$25.7 billion in 2026E (from \$13.4 billion in 2021)

EXPERIENCED MANAGEMENT TEAM. Successful track record of building and managing energy, industrial manufacturing, and technology companies



\$000,000

TOTAL RAISED

00

INVESTORS

**\$44.62
Million**

VALUATION

\$2.00

PRICE PER SHARE

\$250.00

MIN. INVESTMENT

**Class B
Common**

SHARES OFFERED

Equity

OFFERING TYPE

\$5 Million

OFFERING MAX

Reg CF

OFFERING

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Overview



Iterum Energy Company will manufacture and market modular power generation systems to convert waste-heat into low-cost, environmentally-friendly electric power (Waste-to-Power, or WTP).

- Converts greenhouse gas (GHG) thermal emissions and industrial waste-heat into clean electric power (fuel-free)
- Custom-designed, modular, and scalable architecture – maximizes electric power production from a wide variety of sources – lower-cost and more efficient than current alternatives
- Partners with producers of GHG emissions and waste-heat to install and manage energy solutions – customers use or sell surplus power to grid
- Rapidly expanding global market for emerging renewable technologies such as WTP
- Experienced management team – long and successful track record successfully building and managing energy, industrial manufacturing, and technology companies

Iterum Energy has identified new market opportunities within the renewable energy industry through its capability to convert a variety of energy sources to a range of useful utilities

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Problem – GHG Emissions and Waste-Heat ^{1,2,3,4}



Nearly three-quarters of all energy produced by humanity is squandered as waste heat – new technologies are now exploring ways to capture and reuse this vast renewable source

- Fossil fuels are major contributors waste heat pollution and GHG emissions – presenting serious environmental consequences
- Industries, utilities, and transportation – large sources of waste heat but great potential to be converted to renewable power (WTP)
- Landfills, waste incineration, and agricultural waste – emit methane and biogas which contribute to GHG emissions



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Opportunity ^{5,6}



To limit global warming to 1.5 degrees Celsius, over \$131 trillion (34% efficiency, 26% renewables, 22% electrification, and 18% other) of investment is estimated between 2015 and 2050E

- Renewable energy markets have been led by wind and solar – but new opportunities are emerging to increase the utilization of other renewable energy resources such as waste heat recovery, geothermal, biomass, and hydro
- Global WTP market is expected to climb to \$25.7 billion by 2026E from \$13.4 billion in 2021



Solution/Strategy



Iterum deploys innovative, engineered renewable energy solutions into key markets where we utilize our industry knowledge, experience, and contacts to create – Energy from Renewable Sources™

- Generates clean electric power (fuel-free, emissions-free) using locally sourced GHG emissions and waste heat; additional high-value utilities – heating, cooling, potable water, hydrogen, and EV charging
- Risk management – business interruption from natural disasters (off-grid power production and energy storage; off-grid EV charging stations); business liability (waste heat mitigation; water treatment)
- Proprietary engineering, software, and process design – commercially available and proven technologies (fuel-free, emissions-free) – know-how, trade secrets, trademarks



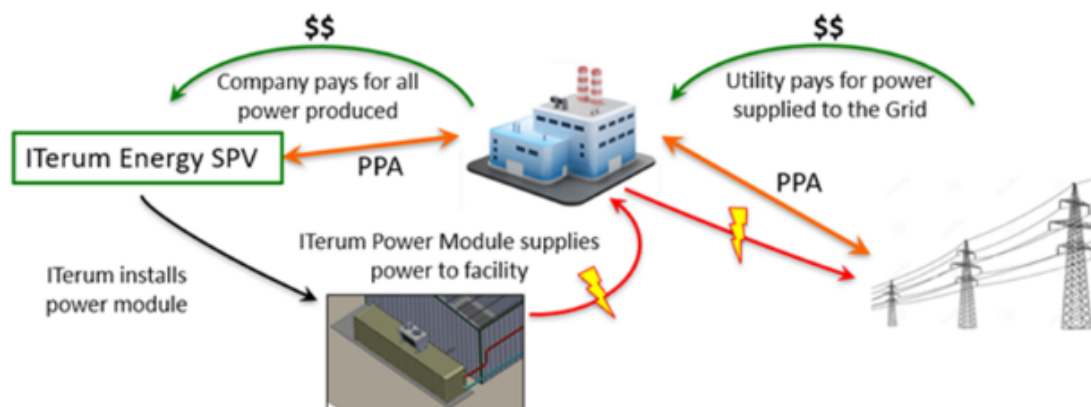
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Partnership Model

Partner with emitters of GHG and waste-heat to create...

- Heat Energy Conversion System – SPV LLCs
- New revenue streams – customers use green electric power or sell surplus green electric power to the Grid
- Mature and extensive pipeline of potential partners



ITerum Modular Energy Systems

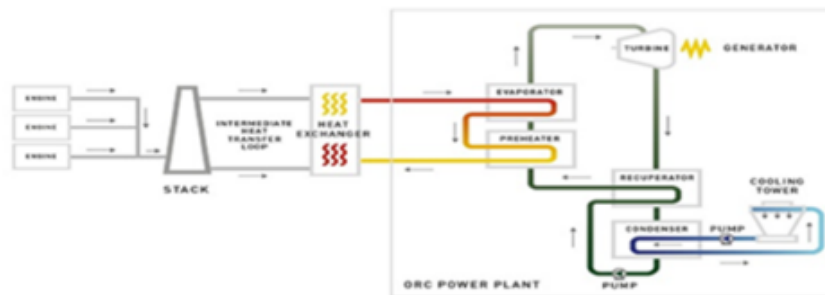


Heat collection system designed for max energy conversion

- Process Flow algorithms
- Machine Learning Feedback Loops
- Proprietary Heat Exchanger Specifications

Efficient Turbine Design

- Intelligent variable Speed controls
- Several Sizes and Configurations – Utilize all Heat



Proprietary thermal design

- Intelligent flow rate monitors
- Maximize heat to power conversion
- Higher Temp heat collection

Total solution delivery

- Complete Integrated System
- Software Backbone to Manage Efficiency

Modular system ready to scale

- Multiple ORC Modules in 1 Container
- Easily sized for each application

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Competitive Advantages



Flexible and scalable architecture

- Easy transport and installation (modular system arrives assembled); maximizes power generation (collects waste-heat from wide variety of sources)
- One comprehensive system (collection, storage, and generation of electric power)
- AI/ML software for predictive failure to reduce downtime
- Low-cost and more efficient than current alternatives

Creates end-to-end solutions

- Easily integrates with existing industrial processes and renewable power projects – no disruption to operations, maintains existing system as backup

Scalable across a wide range of industries and heat sources

- Including diesel power generation, geothermal, solar thermal, other renewables



Competitive Advantages – Case Study



- **Lower overall project cost** – over 40% less expensive
- **Greater electricity produced** – about 3x more electricity per project
- **Manage all heat streams simultaneously** – both heating and cooling

Example – Power produced from heat collected from three internal combustion engines (ICEs)

where:

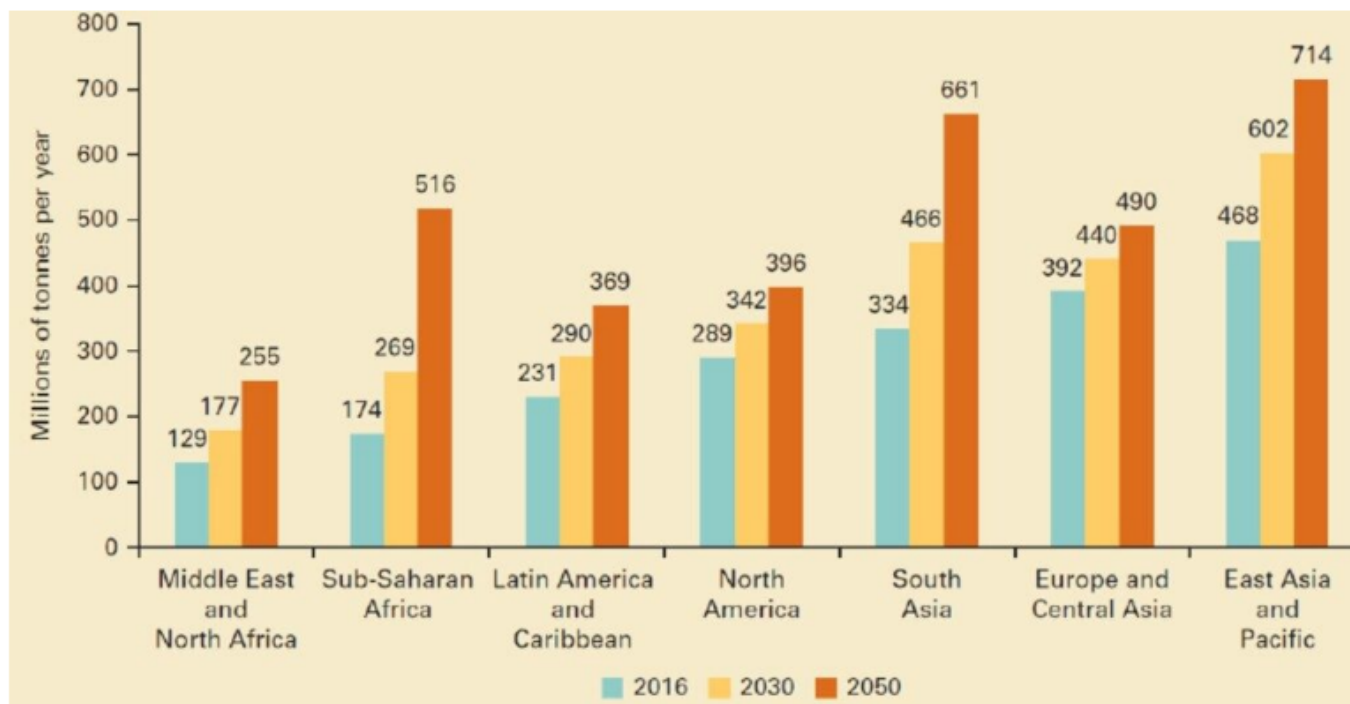
- Each ICE has two waste heat streams: (i) hot exhaust gas, and (ii) cooling jacket water
- Price of electricity is \$0.10 per kW-hour
- Project life of 20 years

Metric	ITerum Energy	Competitor	Difference
Production per unit (kWh/ICE)	575	200	375
Total production (kWh)	1,725	600	2.9x
Number of units required	1	6	1/6
Cost per system (\$)	\$3,000,000	\$300,000	
Total project cost (\$)	\$3,000,000	\$1,800,000	1.6x
Cost per kWh (\$/kWh)	\$1,739	\$3,000	58%
Annual electricity production (kWh)	14,904,000	5,184,000	2.9x
Annual electricity value (\$)	\$1,490,400	\$518,400	2.9
Payback (years)	2.0	3.5	

Target Market #1 – MSW, Agricultural, and Biomass ^{7,8,9,10}



- Globally, about 2 billion tonnes of municipal solid waste (MSW) is produced annually – with at least 33% not controlled in an environmentally safe manner; about half of the world's population does not have access to basic waste disposal systems
- Estimated target market about \$250 million annually



Target Market #2 – Conventional Combustion Engines ¹¹



- Reciprocating internal combustion engines are a well-established technology – with over 200 million units produced per year, worldwide, for industrial, commercial, and institutional facilities for power generation and combined heat and power (CHP)
- Estimated target market about \$150 million annually



Management



Mark Ryan – Founder, Executive Chairman, President, and Chief Executive Officer

Over 30 years of continued success in building and managing companies. Founded Iterum Energy / Pyramid Green Power in 2011. Held senior positions in accounting/finance, operations, marketing and sales, product development and engineering. Early career positions with major corporations including Hughes Electronics and Parker Hannifin. Co-inventor of LTFC Prime Mover. Platinum LEED certification. Graduate studies in Business Administration. M.S. Engineering from Portland State University. B.S. Finance and Accounting from Oregon State University.



Todd E. Stevens, PhD – Director of Technology

Over 20 years of technology development, technical management, and consulting experience for renewable energy, fuel cell and semiconductor companies. Since 2020, Director of Technology, Iterum Energy. Since 2010, Managing Director and Consultant, Inovus Energy. Prior Vice President of Engineering at Neah Power; Vice President of Engineering at Neah Power; Senior Project Engineer at Mesoscopic Devices; and Director of Research and Development at Synetics Solutions. Former Assistant Professor at Oregon Institute of Technology. Licensed Professional Engineer (PE). PhD and M.S. in Mechanical Engineering from Clarkson University – characterized advanced solar materials as a NASA fellow. B.S. in Mechanical Engineering from the University of Maine.



M. Oussama Laraichi, PhD – Director of Operations

Over 10 years of international experience in industrial management and technology with expertise in supply chain management. Business Analytics and Systems Transformation at Wolters Kluwer Health. Previously worked in Integrated Resource Planning at Portland General Electric, and in Business Systems Transformation at Arkadin. Prior Project Manager for cutting edge ERP solutions at Groupe PSA, a leading European automotive corporation. PhD in Technology Management from Portland State University. M.S. in Information Systems Management and B.S. in Computer Science from the University of Bordeaux (France).



Cullen P. Ryan – Secretary and Director of Field Operations

Over 10 years of engineering experience applying renewable energy technologies. Regional Field Services Manager at Powin Energy. Applications Engineer, Leviton Manufacturing Corp. Internships with Intel and Industria Construction. Absentee Shawnee Native American Tribe. Member of American Indian Science and Engineering Society (AISES), Association of Energy Engineers (AEE), and IEEE – Power and Energy. M.S. in Global Energy Management from the University of Colorado. B.S. in Renewable Energy Engineering from Oregon Institute of Technology.

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FOOTNOTES:

Problem – Waste Heat and GHG Emissions

- (1) Sustainability – Converting Municipal Waste to Energy through the Biomass Chain – 210421
- (2) University of Oxford – Quantification of Global Waste Heat and Its Environmental Effects – 2018
- (3) <https://e360.yale.edu/features/waste-heat-innovators-turn-to-an-overlooked-renewable-resource>
- (4) EPA – CHP – Waste Heat to Power Systems – April 2022

Opportunity

- (5) https://www.einnews.com/pr_news/572604374/waste-heat-to-power-global-market-to-grow-at-rate-of-13-through-2026
- (6) WSJ Video – 211029 – <https://www.wsj.com/video/series/wsj-explains/how-much-would-it-cost-to-reduce-global-warming-131-trillion-is-one-answer/7CDC8900-9FF0-4DF6-BD69-25A5FF5B02B5>

Target Market #1 – MSW, Agricultural, and Biomass

- (7) The World Bank – What A Waste 2.0 – Global Snapshot of Solid Waste Management to 2050 – website 220619
- (8) <https://www.statista.com/statistics/530481/largest-dump-sites-worldwide/>
- (9) University of Colorado Boulder – The Hidden Damage of Landfills – 210415
- (10) EBA – Statistical Report – 2018

Target Market #2 – Conventional Combustion Engines

- (11) EPA – Catalog of CHP Technologies – March 2015
ternal estimates using independent third-party research

OFFERING SUMMARY

COMPANY:	ITerum Energy Company
CORPORATE ADDRESS:	400 South 4th Street, Suite 500, Las Vegas, Nevada 89101
OFFERING MINIMUM:	\$25,000
OFFERING MAXIMUM:	\$5,000,000
MINIMUM INVESTMENT AMOUNT (PER INVESTOR):	\$250.00

TERMS

OFFERING TYPE:	Equity
SECURITY NAME:	Class B Non-Voting Common Stock
MINIMUM NUMBER OF SHARES OFFERED:	12,500
MAXIMUM NUMBER OF SHARES OFFERED:	2,500,000
PRICE PER SHARE:	\$2.00
PRE-MONEY VALUATION:	\$44,618,784

Use of Proceeds May Change Materially

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