Fortrix Energy

Business Partner Presentation

Fuel Enhancement Technology

About Fortrix Energy

Fortrix Energy LLC is a Wyoming-based energy technology company with exclusive U.S. and international licensing rights to Advanced Molecular Processing Technology. The technology was developed in Japan by a group of inventors and companies.

The technology has been validated by Japan's Leading Environmental Technology Social Implementation Support Project, a government-backed program that evaluates and supports commercialization of proven environmental technologies.

Leadership

Marc Bookman	**Chairman & Managing Director**	MBA University of Chicago, 30+ years industry experience
Tom Ingram	**Business Development**	Founder of Kingdom Enterprises, extensive U.S. fuel industry network
Takeya Takafuji	**CEO, UniqueLab Inc.**	Long-time Japan business partner, cross-border operations since 2008

Fortrix Ultra Eco²Max Diesel

Fortrix Energy is introducing a revolutionary breakthrough in diesel fuel technology. Our molecular-level process integrates purified water with base diesel oil at the atomic level, creating a premium fuel with these verified specifications:

Parameter	Input Fuel – JIS K2204-2 (Estimated)	Eco²Max	ASTM D975	Advantage over ASTM D975	Benefit
Cetane Index	50-53	**54.5**	40 minimum	36% superior	Premium Performance
Sulfur Content	10 ppm	**10 ppm**	15 ppm max	Up to 33% cleaner	Ultra-Clean Burning
Flash Point	55-58°C	**60.5°C**	52°C min	Enhanced	Safer handling
Pour Point	-7 to -12°C	**-24°C (-11°F)**	Varies	Cold weather	All-season operation
Water Content	Trace	**0 vol%**	-	No contamination	Engine protection
Heat Value	~19,600 BTU/lb	**19,600 BTU/lb**	~19,600 BTU/lb	Maintained	Full power output
API Gravity	35-38	**41.1**	30-42 typical	Premium	Optimal density
Viscosity	2.8-3.2 cSt	**2.52 cSt**	1.9-4.1 cSt	Optimal flow	Efficient injection
Shelf Life	6-9 months	**12+ months**	6-12 months	Extended	Long-term storage

Drop-In Replacement: No engine modifications required | Up to 47% cost savings vs. conventional diesel

The Technology

Advanced Molecular Processing

Not an Emulsion — Permanent Molecular Bonds

- Water integrates at molecular level — not a mixture
- 24-hour settling creates permanent bonds
- Proprietary additives from Japan ensure stability
- 43% volume expansion from base diesel (repeatable N times)
- Result: Premium diesel exceeding ASTM D975

Production Process

1. Water purified through RO filtration
2. Combined with base diesel + additives
3. Activated carbon catalytic processing
4. 24-hour settling for complete reaction
5. Filtration + ASTM D975 quality testing

Government-Validated Technology | 30% CO_2 Reduction | 1+ Year Stability

Validated by Japan's Leading Environmental Technology Social Implementation Support Project. Output verified by independent laboratories.

Production Facility in Okayama, Japan

Prototype Site — 2000L/Hour Capacity

Overall view of the factory

Inside the factory grounds

Product storage tanks

Factory exterior

Product shipping area

Demo plant equipment

Addressing the Diesel Emissions Crisis

Government, military, and industry face mounting pressure to cut diesel emissions

The Industry Challenge

* **Diesel engines are the #1 source of NOx, SOx, and PM emissions** — tightening EPA and state regulations demand cleaner solutions now
* **Fleet replacement is not viable** — equipment has 20-40 year service life and electrification costs are in the billions
* **$100B+ annual U.S. healthcare costs** attributed to diesel emissions, with growing public and investor pressure for action
* **No near-term alternatives exist** for heavy-duty, long-haul, and off-grid diesel applications

The Fortrix Eco²Max Solution

* **30% CO2 reduction** - government verified
* **NOx reduction** - higher cetane enables complete combustion
* **SOx reduction** - 33% lower sulfur content
* **PM reduction** - enhanced combustion efficiency

Regulatory Pressure Accelerating

EPA rule tightening, state mandates, DOD sustainability goals, and IMO shipping rules all demand cleaner fuel now.

Strategic Value of "Eco²Maxed" Diesel

- Works with existing fleet - no capital program
- Credible environmental story for regulators
- Cost savings + emission reduction = dual value

Fortrix delivers immediate emission reductions without fleet replacement or infrastructure investment

Four-Part Value Proposition

Cost Savings

Significant cost reduction versus conventional diesel. Two-turn process reduces input fuel requirements by ~50%.

Supply Reduction

Procure 50% less base fuel to produce the same output volume. Simplifies logistics and reduces supply chain risk.

Premium Fuel Upgrade

Output achieves Cetane 54.5 from standard EN590 input. Better combustion = 5% fuel economy + reduced maintenance.

Value Summary

- ✓ Cost Savings: Significant reduction versus conventional diesel procurement
- ✓ Supply Reduction: ~50% less base fuel required through two-turn expansion process
- ✓ Premium Upgrade: Cetane 54.5 output delivers 5% fuel economy + reduced equipment maintenance
- ✓ Environmental: 30% CO_2 and SOx/NOx reduction verified — supports sustainability goals and regulatory compliance

Complementing Existing and Future Technologies

Fortrix Is a Bridge Technology, Not a Replacement

Hydrogen Propulsion

2030s Deployment

Development Phase

Fortrix provides immediate cost savings while hydrogen infrastructure is developed for heavy-duty applications.

Battery-Electric

2030s Deployment

Testing Phase

Battery systems work best on shorter routes. Fortrix optimizes economics for long-haul diesel operations.

Fortrix Diesel

Immediate

Lab-Validated

Delivers significant cost savings NOW on existing fleet. Generates savings that can fund future tech investments.

The U.S. Diesel Market Opportunity

37B

gallons/year

Annual U.S. Diesel Consumption

$150B

per year

Annual Market Value

3.4B

gallons/year

Class I Railroad Consumption

600M+

gallons/year

DoD Ground Vehicle Fuel

Target Customer Segments

Class I Railroads

All major U.S. railroads

U.S. Dept of Defense

600M-1.4B gal ground vehicles

Trucking & Logistics

Fleet operators, truck stops

Industrial & Mining

Construction, agriculture, marine

Off-Grid Energy

Remote sites, backup power

Prototype Facility (2000L/hour) Cost Analysis

Component	$/Gallon	Details
Materials	**$1.75**	EN590 base oil (two turns), water, additives at ¥15/L per iteration (2)
Infrastructure	**$0.40**	Labor (2 staff), equipment amortization, QC, maintenance
Royalty	**$0.20**	Technology licensing (includes

Total Production Cost: $2.35/gallon

Cost Comparison

Current Diesel (est.)	**$3.20/gal**
Fortrix Production	**$2.35/gal**
Savings Per Gallon	**$0.85 (27%)**

Note: At volume (10,000+ L/hr with additive discounts), production cost drops to $1.79/gallon — a 44% savings vs. market diesel. See next slide for scale economics.

Per Facility Annual Impact (2,000 L/hr — 4.1M gallons)

Current Spend	With Fortrix	Annual Savings
$13.1M/yr	**$9.6M/yr**	**$3.5M**

Based on EN590 at $600/MT. Additive cost: ¥15/L per iteration (current quote). Two-turn expansion process.

Facility Scale Economics

Production cost drops significantly with facility size — most savings captured at 10,000 L/hr

	Proof of Concept 2,000 L/hr	Commercial Scale 10,000 L/hr (estimated)	Anchor Customer 60,000 L/hr (estimated)
Annual Output	4.1M gallons	**18.3M gallons**	109.6M gallons
Investment	$6.0M	**$17.4M**	$54.5M
Additive Pricing	$0.36/gal	**Volume discount**	Volume discount
Production Cost	**$2.35/gal**	**$1.79/gal**	**$1.71/gal**
Savings vs $3.20	$0.85 (27%)	**$1.41 (44%)**	$1.49 (47%)
Annual Savings	$3.5M	**$25.7M**	$163M
ROI	49%	**142%**	288%
Payback	~25 months	**~8 months**	~4 months

KEY: Additive volume discounts unlock at commercial scale, reducing per-gallon cost by $0.56.
The 10,000 L/hr facility captures most of the scaling benefit.

Based on EN590 at $600/MT. Additive base: ¥15/L per iteration (current quote). Volume discount assumed 50% at commercial scale.

Deployment Strategy

PHASE 1: PROVE

2,000 L/hr Trial Unit

Initial validation
Investment: $6.0M
Output: 4.1M gal/year
Cost: $2.35/gal
Payback: ~25 months

Proves technology, ASTM D975 compliance on customer equipment, and economics

Verification

PHASE 2: EXPAND

10,000 L/hr Facilities

Volume additive discounts
Investment: $17.4M
Output: 18.3M gal/year
Cost: $1.79/gal (44% savings)
Payback: ~8 months

Partners, mid-size commercial customers, regional fuel supply

142% ROI

PHASE 3: SCALE

60,000 L/hr Mega Facilities

Maximum efficiency
Investment: $54.5M
Output: 109.6M gal/year
Cost: $1.71/gal (47% savings)
Payback: ~4 months

DoD, Class I railroads, major fuel consumers. Customer-funded.

288% ROI

Fortrix earns $0.20/gallon royalty at every scale • Technology transfer • Quality assurance • Guaranteed ASTM D975 specs

Current Business Development Pipeline

U.S. Defense Department	ACTIVE	High-level meetings via senior ex-DOD official. Very positive response. Moving to next-level discussions. Combination of large and medium sized facilities required (10,000 and 60,000L/hours).
Fuel Industry Investors	ENGAGED	3-4 investors indicating interest to engage. Discussing investment and partnership structures.
Energy / Military Construction Co.	IN DISCUSSION	Direct discussions with CEO and Owner. Potential dual role: investor + facility builder.
Major U.S. Rail Lines	PRELIMINARY	In contact with major Class I railroads. Early stage.
International Maritime Prospect	ACTIVE	Active discussions with international deep-sea fleet operator. 8+ million gallons annual consumption. First international deployment.

Multiple high-value opportunities progressing simultaneously across sectors

Implementation Timeline

9-Month Path to Full Operations

1 Sample Testing

2-4 Weeks

Ship fuel sample for independent lab analysis. Verify ASTM D975 compliance.

2 Field Trial

4-6 Weeks

Test batch on actual equipment. Monitor performance and emissions.

3 Planning

8-12 Weeks

Finalize facility design. Complete engineering and permitting.

4 Construction

5-6 Months

Build facility #1. Install equipment and quality systems.

5 Scale Deploy

Ongoing

Ramp to full scale. Realize annual savings.

Target: First fuel production within nine months of agreement

Thank You

Improving Energy Economics and the Environment

Fortrix Energy LLC

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