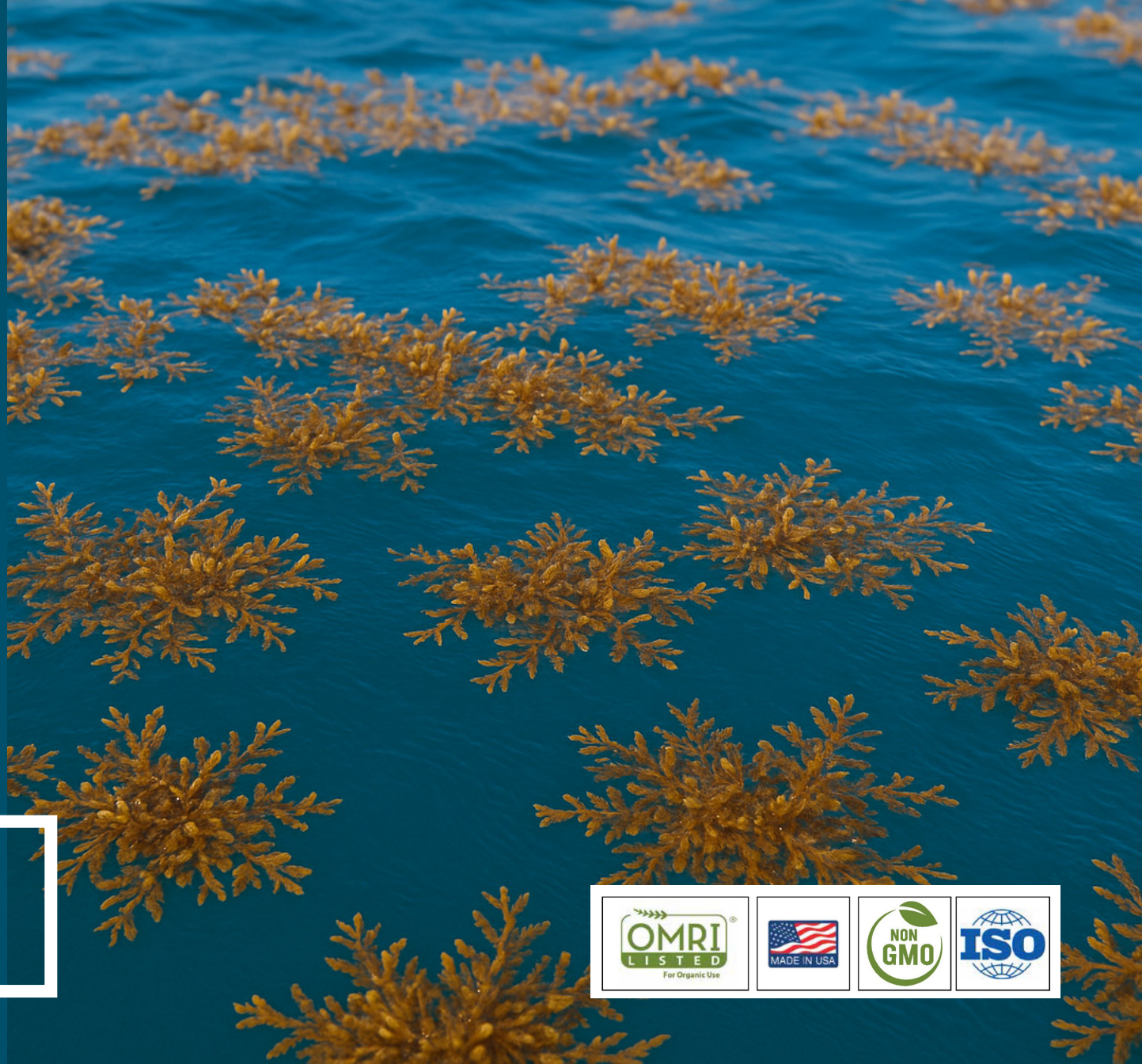
MicrobeBio®

# OPTIMIZED $25M SARGASSUM BIOECONOMY HUB



OMRI LISTED For Organic Use

MADE IN USA

NON GMO

ISO

## LOCATION

COASTAL FREE TRADE ZONE,
DOMINICAN REPUBLIC

# PROJECT OVERVIEW

Build and operate a high-efficiency industrial hub to harvest, store, and convert sargassum into four profitable bio-based products—organic fertilizer, biogas, biochar, and eco-construction materials—while restoring ecosystems, creating jobs, and maximizing financial return.

# LAND & GOVERNMENT PARTNERSHIP REQUEST

- **Land Area:** 15 hectares coastal site
- **Land Terms:** 50-year free lease from the Dominican Government
- **Free Trade Zone (FTZ):** Full income tax, import duty, and VAT exemptions
- **Government Processing Fee:** $45/ton of collected and processed sargassum
- **Grant Facilitation:** Support for World Bank/CDB “Blue Economy” climate and resilience funding

# FOCUS PRODUCT PORTFOLIO

| PRODUCT | APPLICATIONS | AVG. SALE PRICE (USD/TON) | MARKET DEMAND | EXPORTABILITY | ROI POTENTIAL |
|---|---|---|---|---|---|
| Organic Fertilizer | Crops, sugarcane, fruits, vegetables | $300 | Very High | Medium | High |
| Biogas ($CH_4$) | Electricity, thermal energy, internal use | $600 | Medium | Low | Medium |
| Biochar | Soil health, carbon credits | $800 | Medium | High | High |
| Eco-Bricks | Green housing, disaster-resilient structures | $200 | High | Medium | Medium |

# TECHNOLOGIES & EQUIPMENT
(ROI-FOCUSED)

### A. SARGASSUM COLLECTION
• Booms, skimmers, conveyor loaders, washing units, and transport trucks

### B. DRYING & STORAGE
• Solar tunnel dryers, covered bunkers, shredders (20,000 MT capacity)

### C. PRODUCT PROCESSING UNITS
• Composting turners, microbial inoculant sprayers, and bagging machines
• High-solids anaerobic digesters + scrubbers + methane flare
• Pyrolysis kilns + biochar bagging and monitoring tools
• Eco-brick mixers, hydraulic presses, and solar curing racks

### D. SUPPORT FACILITIES
• Microbial & chemical lab, utility control, spare parts, and R&D space

# CAPITAL BUDGET BREAKDOWN

(INCLUDES 20% CONTINGENCY)

| CATEGORY | ALLOCATION (USD) |
|---|---|
| Harvesting, transport, washing | $3,000,000 |
| Drying and biomass storage | $2,500,000 |
| Compost/fertilizer line | $3,500,000 |
| Anaerobic digestion + gas handling | $4,000,000 |
| Pyrolysis biochar system | $3,500,000 |
| Eco-brick production system | $2,000,000 |
| Trucks and site logistics equipment | $1,500,000 |
| Lab, QA/QC, utilities | $750,000 |
| Site infrastructure and admin setup | $2,250,000 |
| Training, R&D, permitting buffer | $2,000,000 |
| Total (with 20% Contingency) | $25,000,000 |

Organic Fertilizer

Biochar

Eco brick

Biogas

## DETAILED ANNUAL REVENUE BREAKDOWN

(YEAR 5 PROJECTIONS)

**ASSUMPTION:**
150,000 METRIC TONS OF SARGASSUM PROCESSED ANNUALLY

| PRODUCT LINE | ANNUAL OUTPUT (TONS) | SALE PRICE (USD/TON) | ANNUAL REVENUE (USD) |
|---|---|---|---|
| Organic Fertilizer | 60,000 | $300 | $18,000,000 |
| Biogas ($CH_4$) | 5,000 (ton eq.) | $600 | $3,000,000 |
| Biochar | 10,000 | $800 | $8,000,000 |
| Eco-Bricks | 12,500 | $200 | $2,500,000 |
| Total Product Revenue | - | - | $31,500,000 |
| Government Fee (150,000 tons @ $45) | - | - | $6,750,000 |
| Total Annual Revenue | - | - | $38,250,000 |

# ANNUAL OPERATING EXPENSES (OPEX)

| CATEGORY | ESTIMATED ANNUAL COST (USD) |
|---|---|
| Labor & Administration | $1,500,000 |
| Equipment Operation & Fuel | $1,000,000 |
| Microbial Inputs & Additives | $500,000 |
| Utilities (electricity, water) | $700,000 |
| Maintenance & Parts | $400,000 |
| Insurance, Compliance, R&D | $400,000 |
| Marketing, Distribution | $500,000 |
| Total Annual OPEX | $5,000,000 |

# 10-YEAR FINANCIAL SUMMARY

| YEAR | REVENUE | OPEX | NET CASH FLOW | CUMULATIVE ROI |
|---|---|---|---|---|
| 1 | $15.0M (ramp-up) | $5.0M | $10.0M | $10.0M |
| 2 | $25.0M | $5.0M | $20.0M | $30.0M |
| 3 | $30.0M | $5.0M | $25.0M | $55.0M |
| 4 | $35.0M | $5.0M | $30.0M | $85.0M |
| 5 | $38.25M | $5.0M | $33.25M | $118.25M |
| 6–10 Avg. | $38M/YEAR | $5.5M | ~$32M/year | $280M+ |

Payback Period: ~1.5–2 years
10-Year Net Profit: $280 million+
IRR: 35–38%
NPV (8% discount): ~$70M

# ENVIRONMENTAL & ECONOMIC IMPACT

- Removes 450,000+ tons/year of harmful sargassum
- Prevents coastal hypoxia, reef death, and tourism losses
- Sequesters 10,000+ tons of $CO_2$ annually through biochar
- Replaces chemical fertilizers with natural, microbial solutions
- Creates 150 direct jobs, 400+ indirect jobs


## SUMMARY:
## GOVERNMENT & INVESTOR BENEFITS

| BENEFIT AREA | IMPACT |
|---|---|
| Financial | Rapid ROI, multi-product revenue, and service fees from the government |
| Environmental | Clean Coasts, lower ocean acidity, carbon capture, healthy soils |
| Social | Green jobs, agri-training, rural inclusion |
| Strategic | Positions Dominican Republic as a global leader in the blue/green economy |

# FINAL REQUEST

*MicrobeBio respectfully seeks:*

1. 50-year free land lease (15 hectares)
2. Free Trade Zone inclusion
3. Government subsidy of $45/ton collected
4. Support for World Bank/CDB climate grants
5. Fast-track permitting and operating support

With government partnership, this project will transform the Dominican Republic's sargassum crisis into one of the Caribbean's most successful bioeconomy exports.

MicrobeBio®

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