



CUTTING-EDGE PLASMA-IONIZING TECHNOLOGY

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GLENCAL TECHNOLOGY .Co., LTD.
Masahito NAKAISHI



GLENCAL TECHNOLOGY



1. Glencal Technology. Co., Ltd.

JAPANESE TECHNOLOGY COMPANY –

Founded by Masahito Nakaishi in 2013, with a rich history dating back to 2002 (Glencal Co., Ltd.), at the forefront of Investments and M&A in the medical and environmental sectors.

SPECIALISED IN DESIGNING AND MANUFACTURING ION-BASED SOLUTIONS:

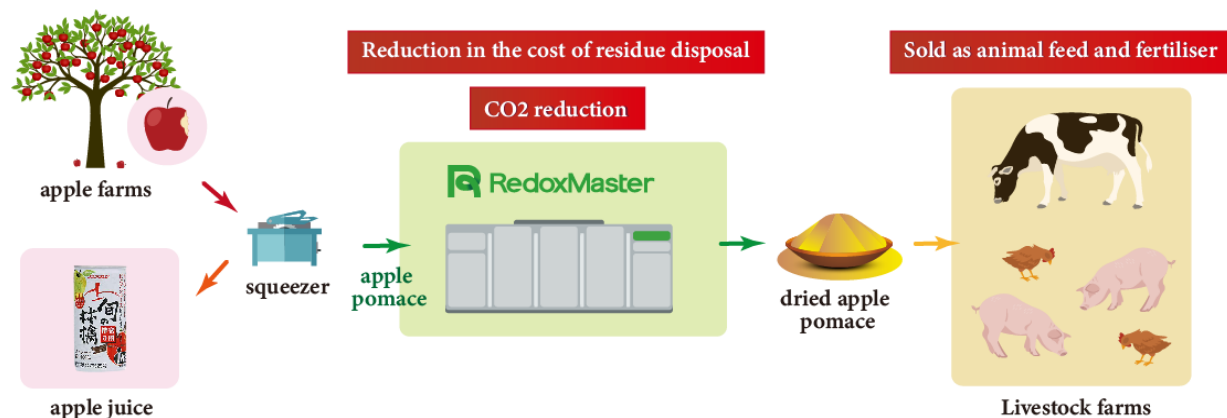
- **M.I.R.A** (Mixed Ion Reactive Approach), a highly advanced Plasma Ion Engine.
- **RedoxMaster®**, a revolutionary drying industrial technology, incorporating M.I.R.A
- **i-EVA** (Ionized Evaporation System) Cutting-edge water desalination.

STRONG BACKING AND CORPORATE PARTNERS:

- **JR EAST GROUP** (Japan Railway Company)
- **JA GROUP** (Japan Agricultural Cooperative)
- **NORINCHUKIN BANK** (Japanese cooperative bank)
- **NIHON CANPACK** (Japan's largest contract packer)

2. Glencal Technology's Flagship product - RedoxMaster®

- **RedoxMaster®** is a proven, patented, and highly efficient industrial drying technology. **RedoxMaster®** scientific approach enables unprecedented **low-heat and low-cost** drying of organic waste materials without carbonisation or oxidation, diverting from landfill and facilitating positive reuse and commercialization as animal feed supplements, forming the circular economy, improving feed efficiency and national food security.



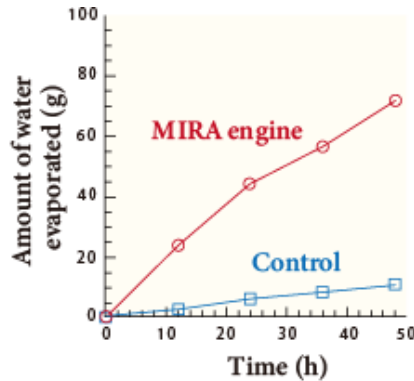
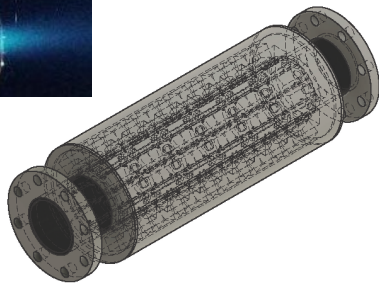
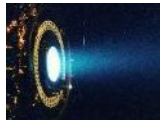
- Technology Readiness - **RedoxMaster®** installed in many of Japan's leading food & beverage processing factories, steel manufacturing facilities, and dairy farms, achieving remarkable results and **outstanding financial returns** for our stakeholders and partnering animal feed companies.



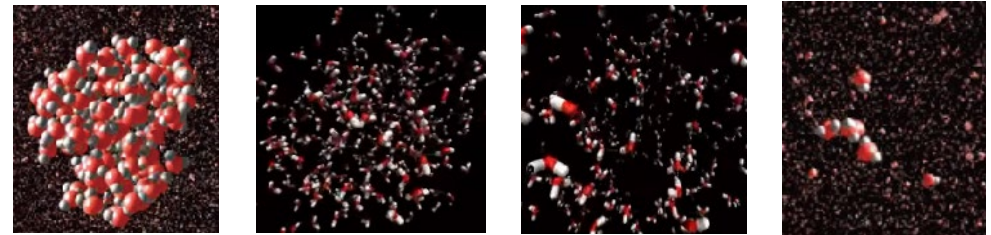
3. i-EVA(ionized-Evaporation) System / Technology

Breaking down water droplets (large clusters) to the mist (Small clusters) size by ionized air produced by MIRA plasma-ion engine

【MIRA(Mixed Ion Reactive Approach) Plasma Ion Engine】



① Water droplets (clusters of tens to hundreds of millions of water molecules aggregated (liquid) by hydrogen bonding)



② Small sized clusters with hydrogen bonds broken electromagnetically by the MIRA plasma engine.

【Molecular Data Table】

Type	Compound	Molecular Weight	Boiling Point °C	Hydrogen Bonding
Multi Cluster	H2O	↓ ↓ ↓ 18.02	↑ ↑ ↑ 100	Yes (Strong, Multi-cluster)
Single	Ne (Neon)	20.18	-246	No
Single	CH4 (Methane)	16	-162	No
Single	NH3 (Ammonia)	↓ 17.03	↑ -33	Yes (Moderate)
Single	C6H6 (Benzene)	78.11	80	No
Single	C6H5-CH3 (Toluene)	92.14	111	No
Single	C4H9OH (Butanol)	↓ 74.12	↑ 117	Yes (Moderate)
Dimer	HCOOH (Formic Acid)	↓ ↓ 46.03	↑ ↑ 100.8	Yes (Strong, Dimer)
Dimer	C2H4O2 (Acetic Acid)	↓ ↓ 60.05	↑ ↑ 118	Yes (Strong, Dimer)

③ Our Assumption of H2O behavior

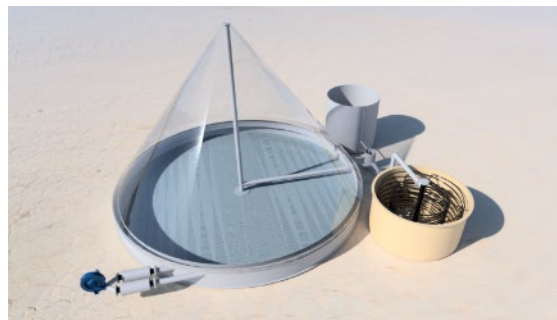
• 2250kj/kg \div 5-6 \cong cluster
(Above 6, because of shape of 3D-Cluster, boiling point wouldn't change)

• 1200kj/kg \div 1-3 cluster

4. i-EVA(ionized-Evaporation) System / Feature

Water Desalination Unit

1. **Significantly reduced CAPEX:** based on m³ /per day production, \$300-\$900* compared to conventional RO/MSF/MED plants at \$1,000 - \$3,000
2. **Significantly reduced OPEX:** based on m³ per day production, \$0.1 - \$0.5 compared to conventional RO/MSF/MED plants at \$0.5 - \$2.5
3. **Unmatched efficiency:**
4. **Unprecedented low emissions and energy consumption:** (i-EVA total energy consumption per m³ is only XXX kWh).
5. **Off the Grid:** i-EVA can operate fully on renewable energy due to its extremely low energy requirements.
6. **Unprecedented circular economy:** The brine discharge can be dried using Glencal Technology's RedoxMaster and utilised in industries such as construction and agriculture. Unlike conventional methods, i-EVA can be operated with ZERO discharge of salty brine into the ocean.
7. **Flexibility:** Easy to install or relocate / Modular and easy to expand.
8. **Licensed Manufacturing:** Simple Technology transfer, enabling low-cost local manufacturing
9. **Simple maintenance:** No skilled labour is required.
10. **Front-Runner:** First of its kind in the world with patented technology





5. Opportunity for business development partnership In MENA and Global markets

JV company established in the MENA region

Develop the market together.

Manage and operate locally.

Develop and manufacture the technology collaboratively.

*Aiming at establishing local manufacturing facilities for
ALL Glencal technology products to serve overseas markets. (excluding MIRA engine)

Outline of JV company

JV holds exclusivity of all GLT products in the MENA / Europe regions.

The MENA / European partner owns 20% - 51% of the JV company.

Opportunity to expand the business globally.

Thank you so much for your time and interest.