

CIRCULAR ECONOMY

- URBAN MINING UNION -





TAIWAN HSINCHU GREEN INDUSTRY ASSOCIATION

In order to cope with the effects of global warming, climate change and other major environmental issues; as well as actively cooperating with the central energy-saving carbon reduction policies, we promote green low-carbon economy, while at the same time practice the concept of low-carbon and sustainable homeland. In view of this, the Hsinchu County Government (the Environmental Protection Bureau) has called on the national green industry to establish "Taiwan Hsinchu Green Industry Association", the first national green alliance planned by the environmental protection unit in Taiwan.



THE FUTURE WE WANT

STRATEGIC GOALS OF THGIA

- RESOURCE RECYCLING

- Urban Mining
- Upgrade Application from Recycled Wastes
- Development of Cultural and Creative Products from Waste Glass

- ENVIRONMENTAL LOHAS

- Aquaponics
- Green Wall and Green Roof
- Zero Carbon Farming

- ENERGY PERFORMANCE

- Building Energy Efficiency
- Application of Renewable Energy in Other Low Carbon and Sustainable Projects
- Application of Organic Hydrogenation in Energy Storage

MEMBER SERVICE ITEMS



URBAN MINING UNION

Taiwan Hsinchu Green Industry Association has established an "Urban Mining Union" team formed by companies with excellent urban mining capacity to provide domestic and international urban mining services in a strategic alliance. The companies include DA FONG Environmental Technology Co., Ltd., which is professional in waste logistics management, and those with advanced precious metal recycling technology, such as U-WIN Nanotech Co., Ltd., HYDROIONIC Enviro-Tec Co., Ltd., NANOPLUS Tech, Ltd., and GREAT ASIA Machinery Co., Ltd. which is known for their technology in the recycle of metal-free plastics. Urban Mining Union takes the mission to protect the Earth's precious resources, starting in Taiwan, and extending out to the world.



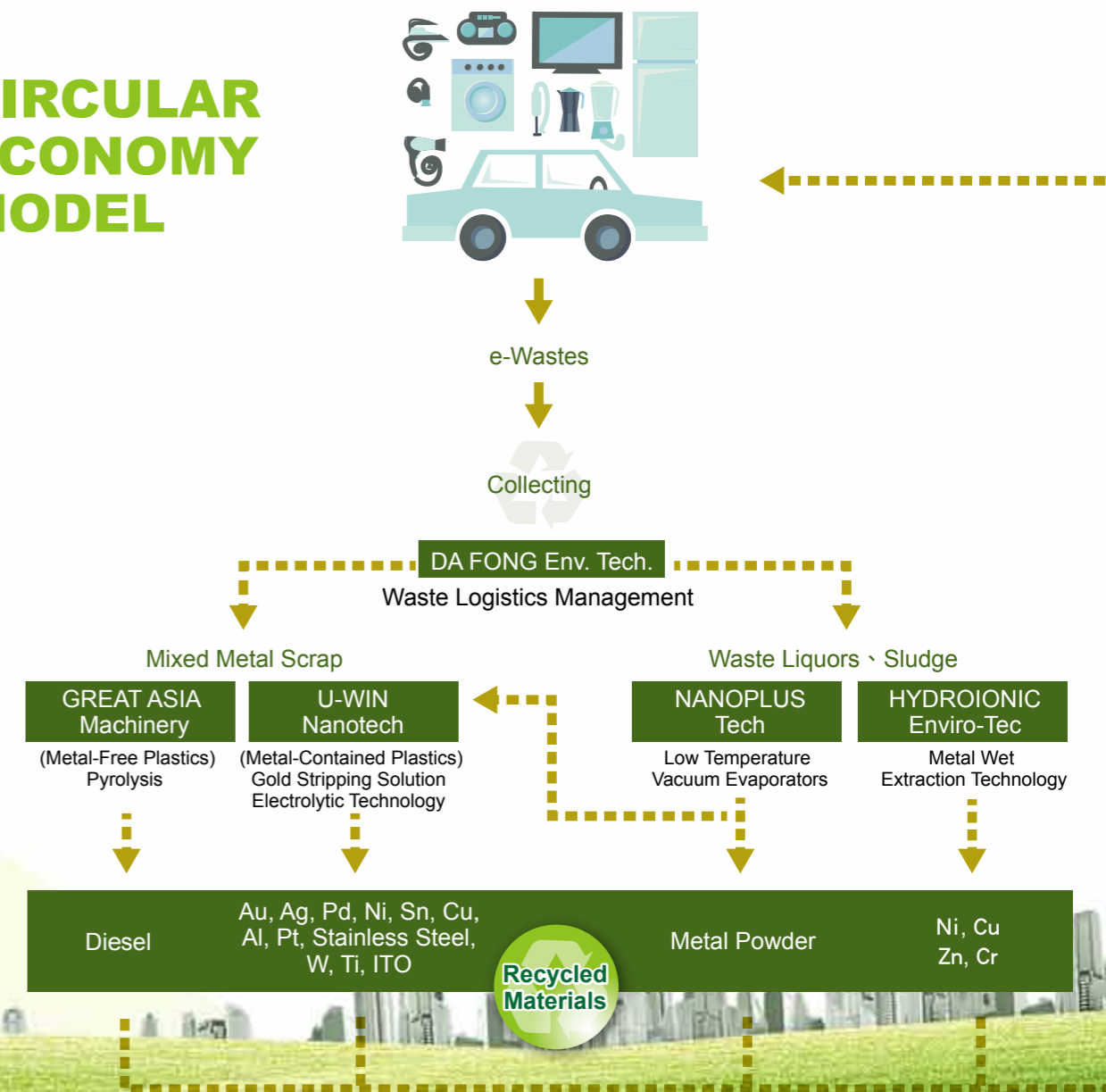
URBAN MINE

The rapid development of science and technology has resulted in the rapid depletion of Earth's resources. As a matter of fact, resource recycling have been encouraged urgently. Taking gold as an example, the world's best gold mine at the moment with the highest taste of gold can only produce a grade of 8 to 10 grams per tonne gold. However, through resource recycling, the e-waste can produce a grade of 180 to 460 grams per tonne gold. The benefits of recycled resources are much higher than those of indigenous resources, and more than 50 million metric tons of e-waste per year can be turned into valuable precious-metal-contained urban mine.

RESOURCE INTEGRATION

The effectiveness of resource recovery in our country is well known internationally, often referenced by other advanced countries. Domestic manufacturers have strong capabilities in resource management and treatment technology. In addition to dealing with domestic environmental issues, they also have the strength to open up overseas markets.

CIRCULAR ECONOMY MODEL





DA FON ENVIRONMENTAL

Da Fon was established in the year of 2001 by Mr. Lin Meng Zhou and founded in Changhua. By introducing the concept of enterprise management, brand image promoting, enlarge the marketing scope limitation, step into international business, we have now set up 35 service bases in Taiwan, a manufacturing factory of reprocess granules, a research developing department and a resource recycling center.



Diligence Innovation

- Storage-type Recycling Station City Circle Vehicle Recycling Enterprise Service
- Green Product Recycling Material Higher-value Application
- International Business
- Reprocessing Material



Upcycling

- ✔ Top One Recycling Company in Taiwan
- ✔ Dedicated ourselves into reaching Zero Waste & 100% Cycling
- ✔ Eco-Resource Recycling Service Platform
- ✔ Blue-Angel certified material supplier



Da Fon Environmental Technology Co., Ltd.

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HYDROIONIC EnviroTec

Company Introduction

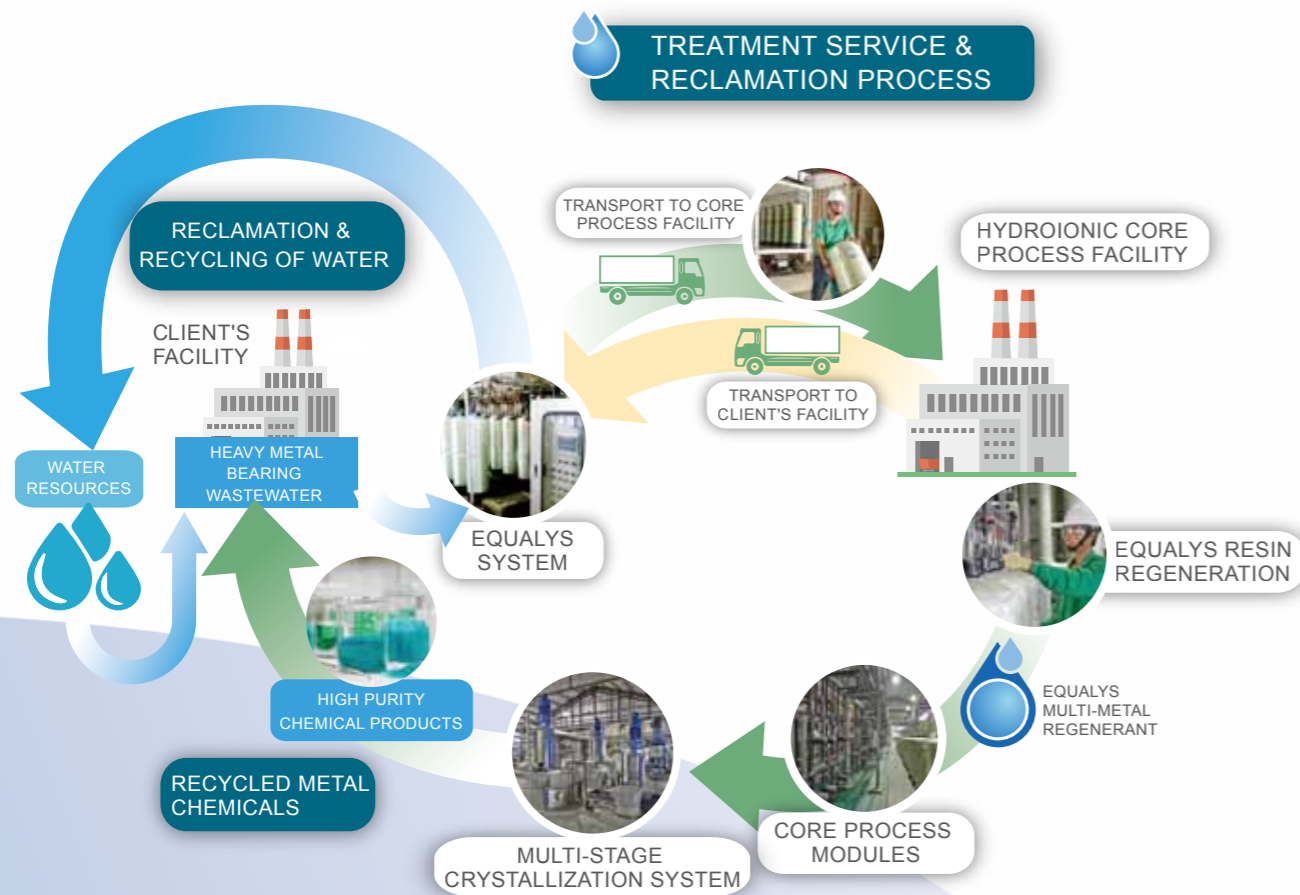
Hydroionic Envirotec has developed, engineered and commercialized a proprietary technology, process, and business model to provide industries worldwide with a cost effective, definitive solution for the treatment and recycling of metal bearing hazardous wastes. The Hydroionic process integrates specialized ion exchange media of specific affinity, selectivity and density with a family of proprietary hydrometallurgical chemical processes to provide a turnkey, automated, scalable, modular waste treatment and water recycling system at a capital/operating cost basis up to 70% less than current alternatives



Reclaiming The Future

By recovering the valuable metals while simultaneously purifying and recycling industrial wastewaters, Hydroionic provides the capability for industries to drastically reduce environmental compliance and disposal costs while virtually eliminating their long term liability. The reclamation of toxic heavy metals removes the threat to the ecosystem while the recycling of wastewater conserves increasingly expensive water resources.

Hydroionic's technology and service offerings represent a paradigm shift for the global wastewater treatment market. When compared to the competition, Hydroionic is the definitive leader in critical aspects including effectiveness, reliability, efficiency, capital and operational costs, regulatory compliance, and resource reclamation/conservation.



Product/Service Introduction

Wastewater treatment and reclamation services

Hydroionic Envirotec provides turnkey, all inclusive wastewater treatment and reclamation services to a wide variety of industries such as electroplating, semiconductor, chip packaging, and printed circuit board fabrication. Clients pay a single comprehensive service fee for each cubic meter of water treated, while Hydroionic Envirotec provides the required Equalys hardware, design, engineering, installation, operation and maintenance. As a straightforward, no hassle, one stop arrangement, this provides the customer with a simple option to dramatically lower their environmental compliance costs without the need for a capital intensive investment, while minimizing any potential disruption to ongoing operations.



HYDROIONIC ENVIROTEC CO., LTD.

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NANOPLUS

As an eco-friendly and green company, Nanoplus is the solution for clients in treating waste water, gas, and sludge. Nanoplus excels in treating these wastes without damaging the environment yet also increasing production capacity and efficiency.

NRS

Waste Water Vacuum Distillation System

NRS- Waste Water Vacuum Distillation System Utilizing patented vacuum technology and wasted heat source throughout factories, Nanoplus is able to separate waste sludge and recyclable water at temperature as low as 40 degrees Celsius. Specifically treating high-concentration waste liquid, NRS is able to recycle up to 90% usable water thereby achieving cost-reduction and emission/energy reduction.

CASE APPLICATION : CUTTING OIL WASTE



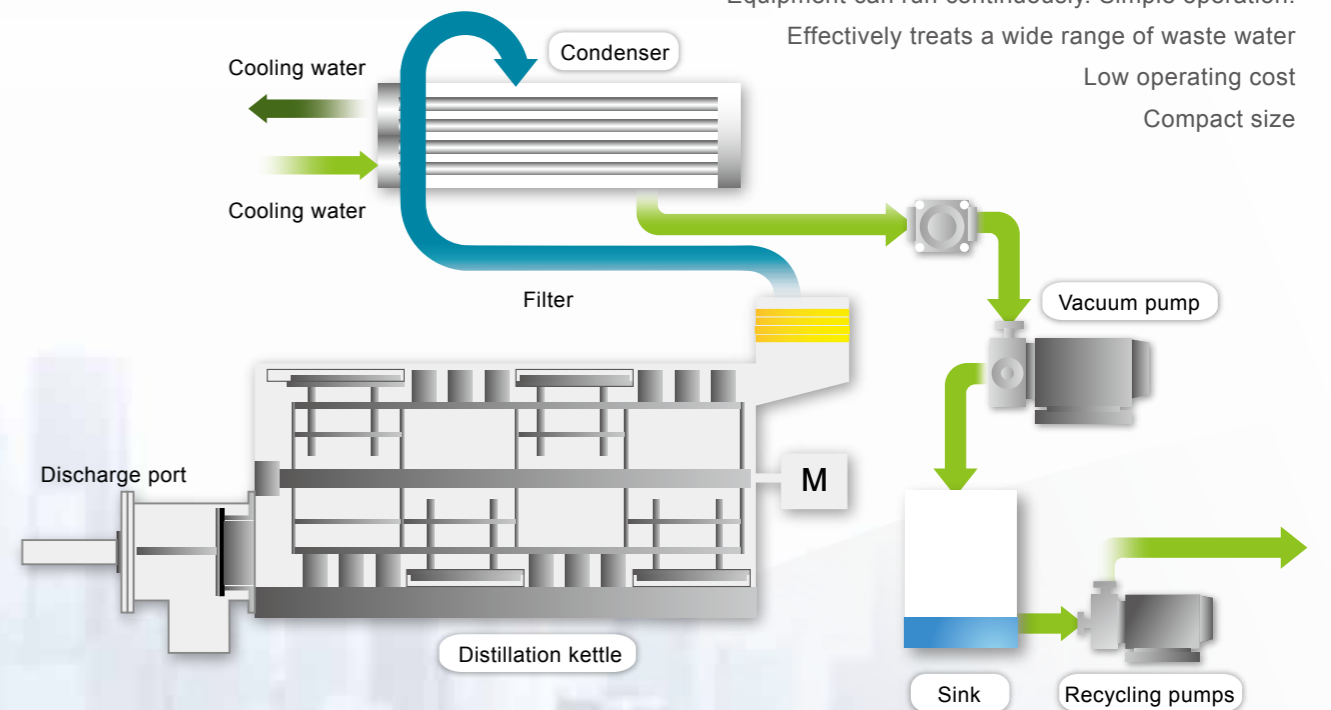
Items	Waste Water	Recycled Water
pH	6.6/(23°C)	8.4/(23°C)
COD(mg/L)	66200	50
BOD5(mg/L)	26100	27
SS(mg/L)	730	<2.0
Electric Conductivity (μ s/cm)	2230	230



Equipment Structure

Patented Vacuum Technology

Able to evaporate high concentration waste water into sludge with only 5% moisture content
 Equipment can run continuously. Simple operation.
 Effectively treats a wide range of waste water
 Low operating cost
 Compact size



NANOPLUS

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Factory :
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 TEL : +86-512-5519-9601
 FAX : +86-512-5519-9602
 E-MAIL : sales@nanoplustech.com





UWIN NANOTECH.

UWin Nanotech's metal strippers can be applied in five major industries, including semiconductor, printed circuit board, mining, electronic waste, and catalyst recycling. Our technology can recover precious metals, such as Au, Ag, Pd, Pt, plus more- fast and easy! UWin's metal strippers are not only Eco-friendly, they also do not damage the substrate.



ECO-Friendly Metal Stripper

- UW-700 Electrolyte Gold Stripper
- SnST-550 Tin Stripper
- UW-860 Chemical Gold Stripper
- UW-480 Copper Stripper
- UW-602 Electrolyte Silver Stripper
- UW-AL100 Aluminum Stripper
- AgST-350 Chemical Silver Stripper
- TiST-800 Titanium Stripper
- UW-195 Platinum Stripper
- UW-330 Stainless steel Stripper
- UW-400 Electrolyte Palladium Stripper
- UW-910 Tungsten-Titanium alloy stripper
- NST-350 Nickel Stripper
- ITO-900 Indium Tin Oxide Stripper

Effective Application Optimize Benefits

	Item	Saturation g/L	Stripping Time	Chemical Cost USD/L	Waste Water Treatment Cost USD/L	Total Cost (1000 grams of Gold) USD
UWin Nanotech	UW-700 Electrolyte Gold Stripper	7	sec-min	12	0	1,714
	UW-860 Chemical Gold Stripper	2	min	5.5	1.7	3,583
Other	Aqua regia	0.5	hr-day	1	3.3	8,200
	Cyanide	0.8	min-hr	6	7	15,833
	KI	0.5	day	20	7	53,333

Safe ECO-Friendly Non-Toxic

The traditional method of gold stripping uses Aqua Regia or Cyanide. These two agents are highly corrosive and toxic; they damage the substrate thus lower the purity of the gold recovered.

UW-700 Electrolyte Gold Stripper is the new generation of gold recycling technology. It is neutral and Cyanide free. This new technology not only increases the gold yield, but also improves the gold purity as well.



UWin Nanotech. Co., Ltd

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GREAT ASIA MACHINERY

Professional vacuum chamber manufacturers. Currently has entered the high-tech optical and mechanical equipment design and contract manufacturing semiconductors, the next goal is focused on energy and related industries, vacuum heat treatment system professional design and manufacturing.



Professional Planning

- Pyrolysis method renewable energy equipment:
- Waste oil regeneration diesel system
- Waste plastics renewable diesel equipment



Stable Quality

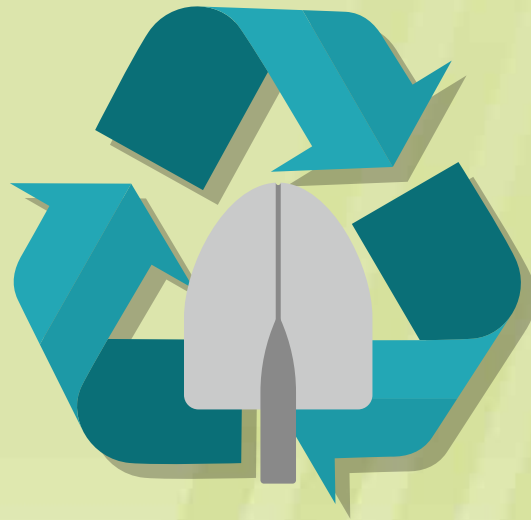
Vacuum chamber and equipment design, equipment system development(Vacuum coating system, High-power electron beam melting equipment, Vacuum brazing furnace, High-temperature graphite vacuum furnace, Vacuum forming hot stove), Aerospace parts and semiconductor equipment supplies processing, customized design.



Great Asia Machinery Co., Ltd

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CIRCULAR ECONOMY



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