

## Virogreen Group of Companies -VIROGREEN Virogreen (Singapore) Pte Ltd



## **Ethical E-Waste Recycling ITAD Services**

**Customer Satisfaction Guarantee - Every time** 

Your Trust is Our Success





## **CONTENTS**

- WHO ARE WE
- SOCIAL RESPONSIBILITY
- OUR QUALIFICATIONS
- OUR KEY FOCUS
- OVERVIEW OF OUR SERVICES
- REACHING OUT
- END-TERM IT LIFECYCLE (ITAD)
- SECURE DATA DESTRUCTION
- E-WASTE RECOVERY / REFINERY
- OUR ENHANCED FACILTIES
- READY TO SERVICE YOU



#### WHO ARE WE



TRUST & INTEGRITY

We started of as a company with a vision and a dream. We wanted a recycling company that focuses on our customer's requirements yet balancing *Social Responsibility* as our **No.1 priority.** 

Then we found two words that we know we must live-by and put into action every moment we spent building this company.

- Integrity & Transparency
- Exceptional Value & Maximizing Returns





## SOCIAL RESPONSIBILITY

Quoted from CNA dated 30-Jan-2017



Most people do not know what to do with e-waste; only a fraction recycle: NEA study



(f) (y) (in) (x)

Quoted from CNA dated 29-Jan-2017



ETHICAL
PROGRAMS &
PROCESSES

Most people do not know what to do with e-waste; only a fraction recycle: NEA study

| By Monica Kotwani | Singapore generates more than 60,000 tonnes of e-waste a year - the equivalent of 220 Airbus A380 planes.

| Out of this, half is generated by households, NEA said. Each person disposes of around 11kg of e-waste, the equivalent of 73 mobile phones.

NEA said the study found that while people typically trade in or sell e-waste of high value such as mobile phones, they discard the rest with their general waste. In fact, only 6 per cent of e-waste from households ends up in e-waste recycling bins. More than a quarter is just thrown away.

Bulky items such as washing machines and refrigerators may be passed on to deliverymen upon receiving new appliances, but even this is sometimes discarded at common areas.

The study also found that this e-waste could end up with scrap traders and ragand-hope men

"Many of these collectors do not have the capability to maximise resource recovery from e-waste, and as a result, only components of significant value are recycled," NEA said.

Quoted from CNA dated 19-Jan-2018











National Youth EnvirOlympics
Challenge 2016 - Enviro Nation
Forum

















Officially launched on 18<sup>th</sup> November 2017
Punggol 21 Community Club.









Taman Jurong YEC - Annual Recycling Project 2018



#### Taman Jurong CC YEC Recycling Project

1 February at 22:30 · Singapore · @

Virogreen - Singapore will be down at our bazaar only on Sunday from 9am to 3pm. They will be providing onsite hard disks destruction services. There will also be banners put up to educate residents on proper e-waste disposal. So do come down to visit our bazaar!













Bukit Timah CC - Chinese New Year Celebration: E-waste Awareness Event 2018







Punggol North - Racial & Religious Harmony Event 2018

















North East CDC - Clean & Green @ CompassOne Event 2018















People's Association - Women for Climate
Action Event 2018





NEA 3R Awards for Shopping Malls - 2019









bring it to the blue recycling bin near

4. Do not put any food and liquid waste, tissue, ceramics, light bulbs, batteries or bulbs items into the recycling him.



\* Presently over 50x Ewaste Bins located Island-wide in Singapore























Our Corporate E-waste Ambassadors & Partnerships



























Official Recycling Partner - SITEX 2018





Official Recycling Partner with ReWired - NTU / NUS



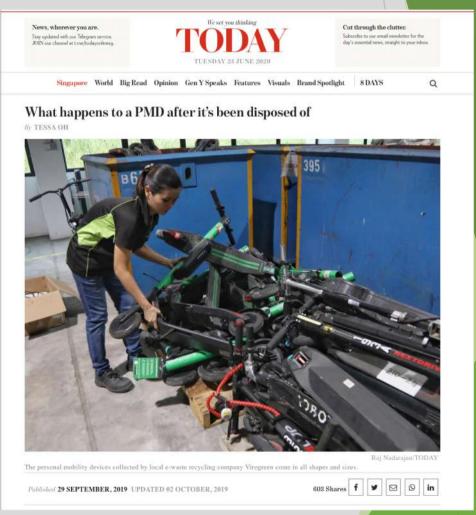




#### PMD Disposal Exercise 2019 - 2020







Quoted from TODAY dated 02-Oct-2019





# WHY RECYCLE? WHY VIROGREEN?















#### **Integrity & Transparency**

- ISO 9001 & 14001, SS506 / OHSAS 18001 certified.
- Responsible Recycling (R2) certified.
- Compliancy with the Control on Transboundary Movements of Electronic & Electrical waste (E-waste) - BASEL PERMIT.
- Localized Waste license / permit.
- Localized Second hand Dealer License.
- Localized IMDA Dealer License.

# QUALITY PROCESSES / ENVIRONMENT FRIENDLY

## Exceptional Value & Maximizing Returns

- Appointed as the Agent of an Asian Reputable Refinery.
- Approved Localized Qualified remanufacturing facility.





Responsible Recycling R2



ISO 9001: 2015



ISO 14001: 2015

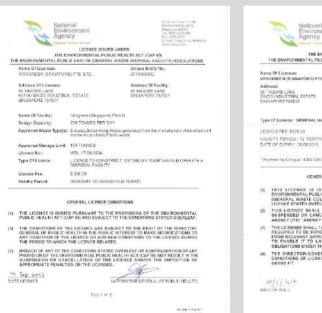


SINGAPORE'S

AJA

OHSAS 18001: 2007 SS 506 Part 1: 2009





LICENCE REQUIDIONDER

THE ENVIRONMENTAL PUBLIC REALTH ACT CAR 26, THE SHIFT CONDITIONS

STREET STREET STREET COLLECTOR STATE CONDITIONS

WHO CARRY STREET STREET COLLECTOR STATE COLLECTION REGULATIONS

THE ENVIRONMENTAL PUBLIC REALTH GENERAL WASTE COLLECTOR STREET COLLECTION REGULATIONS

WHO CARRY STREET STREET COLLECTOR STATE COLLECTOR STREET STREET COLLECTOR STATE COLLEGE STATE

NEA GWDF License for E-waste

NEA General Waste Collector's License





SINGAPORE'S

IMDA Dealer Class License

SPF Secondhand Goods Dealer License



List of Licensed General Waste Disposal Facilities (GWDFs)  MPORTANT NOTE: Please contact the companies for more information.																				
	Company	UEN	Facility Address	Contacts	Mixed Waste	Food Waste	E-Waste	Waste from manufacture of	Spent Copper Stag	Paper	Plastic	Scrap Metal	Wood Waste	Horticultural Waste	C&D waste	Tyre/Rubber Waste	Biomass Waste	Glass Waste	Textile Waste	Others
As of 6 <sup>th</sup> Sep 2017, Virogreen Singapore is the									y.											
Licensed GWDF whom is approved to handle 200 tons										ı	γ			Y						
of E-waste, Waste from Electronic waste, Plastic &									٧											
	V1 Recycle Pte Ltd	200307525R	15 Defu LA Column (Auto 3)	dsj				1			Y									
	Vernac Services Pte Ltd	197802468R	142 Tuas South Avenue 2 #01-142 West Point Bizhub 637176	kennyhuan semacservices.com; kennyngyese soo.com			ν.													(Y)
	Veolia ES Singapore Industrial Pte Ltd	198703108N	Lot 77 PT, 1320 PT, 1322 PT & 1323 PT, MK 12 Lim Chu Kang Road Sarimbun Recycling Park 000000	yonghong.lim@veolia				y		Y.		у		×		×.				<b>.y</b> .:
	Veolia ES Singapore Industrial Pte	198703108N	23 Pandan Avenue #00-00 ONYX House 609389	yonghong.lim@veolia.com										٧						
	Virogreen (Singapore) Pte Ltd	201400808C	95 Tagore Lane #01-00 Sindo Industrial Estate 787537	philip.tan@virogreen.net			¥	Y			٧	٧								
	Yew Lee Seng Metal Pte Ltd	198802289Н	14 Defu Lane 11 Defu Industrial Park F 539170	edward.ang@unionsteel.com.sg	Y							Y			Y					

Since 1 August 2017, NEA began licensing General Waste Disposal Facilities (GWDFs). A GWDF is defined as a disposal facility which receives, stores, sorts, treats or processes general waste, and includes recycling facilities. Companies for the can apply Licence/Exemption via https://licence1 busine ss.gov.sg. All general waste disposal facilities must obtain their licence or submit an exemption declaration by 31 July 2018.

Information extracted from NEA website: http://www.nea.gov.sg/docs/default-source/energy-waste/waste-management/online-masterlist\_-1-feb-2018.pdf



## **OUR KEY FOCUS**



SERVE WITH PRIDE To help our customer to effectively optimize value through these services we provide.

We help our customers with the following services;

- End-Term IT Life-Cycle (ITAD)
- Secure Destruction
- Electronic Waste Recovery







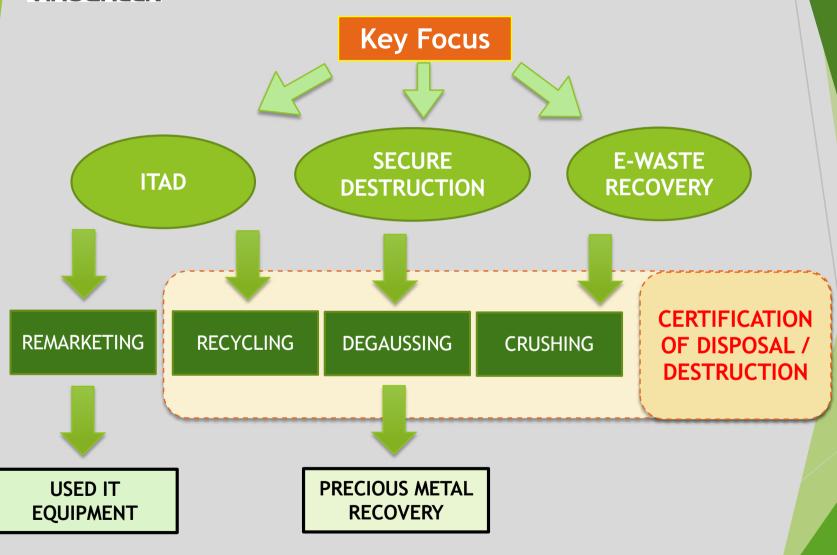








## **OVERVIEW OF OUR SERVICES**





#### **BACKGROUND**

Laptops, Desktops, Printers, Mobile Phones, Tablets, Powerbanks, Cables, Charges, Ear phones etc

Used Electrical /
Electronics Equipment /
Parts / Components /
Accessories

**Consumers** 

<u>Manufacturers</u>
Production of New
Products / Components

E-Waste Collectors / Recyclers

Segregation, Dismantling, Sorting & Packaging

**End Refinery** 

Recovery of raw materials

Recyclable

Ferrous Metal

Non-ferrous metal

Plastic

Paper-based Materials

Copper

Gold

Silver

Other Precious Metal Non-Recyclable / Hazardous

Batteries

Mercury-based Materials

Gases

Other harmful Materials



## **REACHING OUT**

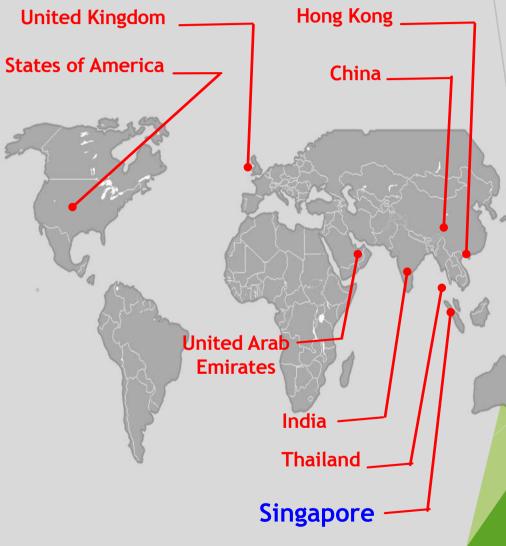
We are now serving in the following countries.

**United States of America** 

- Singapore HQ
- **Hong Kong**
- **Thailand**
- India
- China
- 6) United Kingdom
- **United States of** America
- 8) United Arab Emirates

The network coverage is expanding which may include;

- Australia & New Zealand
- Japan
- Korea
- Indonesia





#### **END TERM IT LIFECYCLE (ITAD)**



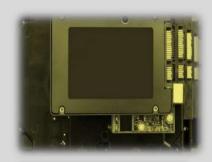
ULTIMATE VALUE

#### ITAD - IT Asset Disposal

This line of business focus on helping our customers with the following:

- Disposal and Recovery = Recycling
- IT Asset Trade-In = Remarketing
- Minimizing cost and maximizing recovery dollars.
- Obsolete / Unwanted IT assets are being dispose in a safe and ecologically responsible manner.





# Our "Zero Hop" Policy Service = Maximum Security for our customers

We provide data destruction for most storage devices in market with standards up to US department of Defense DOD - M5220 requirements.

Today we can offer Degaussing and Destruction services for the following devices.

- 1.8", 2.5" & 3.5" Spindle Hard Drives
- 2.5" and 3.5" SSD Hard Drives
- Backup Tape Media (DLT to LTO)
- USB media sticks

## SECURITY FIRST





Our Machinery facilities have the following specifications to meet industry standards.



- Up to 300 Hard-disk drives per hour
- 9,300 Oe, .93 Tesla nominal
- CE and ANSI Certified.

Our Machinery facilities also have the following compliance standards to government mandates.

- PCI DSS (Payment Card Industry) Data Security Standard
- NIST (National Institute of Standards and Technology)
- NIST SP 800-36
- NIST SP 800-88
- HIPAA (Health Information Portability and Accountability Act)
- PIPEDA (Personal Information Protection and Electronic Documents Act)
- GLBA (Gramm-Leach-Bliley Act)



ABSOLUTE
PIECE OF
MIND



#### Garner HD-3WXL Degasser

- Capable to be deploy onsite.
- ► Each degaussing = >10 sec.







#### **Garner PD5 Destroyer**

- Capable to be deploy onsite.
- ► Each destruction = 20 sec.











Photos of Crushed HDDs (3.5" & 2.5") and Shredded CDs





KS-13120HSV-20 Output - >1.0" size

#### Heavy duty Hard Drive Shredder KS-13120HSV-20

- We are in the progress in upgrading our machinery which is the Kostal Hard Disk Shredding Machine with Recorder / Barcode System
- Capacity / speed 5 to 6 drives / minutes
- Shred size 20 x 40-90 mm wide x random
- Media Formats Server HDDs (up to 1.65" thick)
- Standard Power 5.0 HP, 230V 3 Phase



Heavy duty Hard Drive Shredder KS-13120HSV-20

Photos of Shredded HDDs (3.5" & 2.5")







Heavy duty Hard Drive Shredder KS-13120HSV-20





#### **CERTIFICATIONS**

#### Sample of Certification issued to Customers

#### **Certificate of Destruction**



#### **Certificate of Recycling**











24x7 - CCTV System (day & night)





Walk-thru Metal Detector



Biometric Door Access System





Single Entry / Exit Gate



Night Guard System

















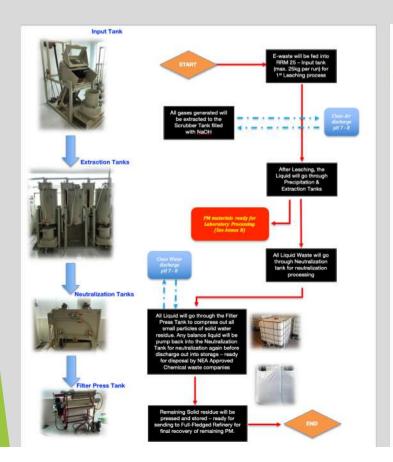


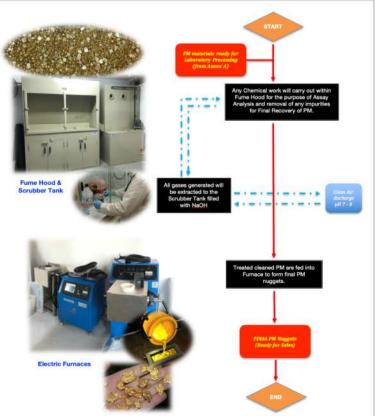
Enhanced Secured Processing Enclosure with Biometric Access
Control & Alarm System
(24x7 CCTV ability - day & night)



Inhouse Processing for High valued E-waste:-Recovery & Refining of Precious Metal



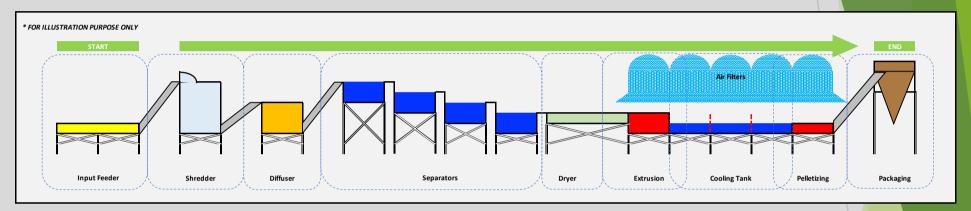






## OUR ENHANCED FACILTIES - Upcoming

#### PLASTIC RECYCLING / MANUFACTURING PROCESSING\*



#### LITHIUM RECOVERY / PROCESSING\*





- 1. Plastic Remanufacturing
- 2. Lithium Recovery
- 3. Waste to Energy
- 4. Waste Water to Clean Water

\* FOR ILLUSTRATION PURPOSE ONLY





#### MAXIMUM RECOVERY

MAXIMUM RETURNS

## **E-WASTE RECOVERY**

#### A ONE STOP - ZERO HOP - SOLUTION

- Direct Shipment to Refinery.
- Reduced Shipment duration.
- Maximum Recovery Return.
- Shorter Recovery Return Settlement.

Always looking to help our customers with their requirements on E-waste recovery.

- Manufacturing trails / Prototypes e-waste
- Manufacturing e-waste
- Expired / Obsolete e-waste

#### SAMPLE RECOVERY RATE - MONETORY VALUE\*

<b>Precious Metal</b>	Content	Recovery PM	LME	V	alue (USD\$)		
Copper	20.30 %	4,060.00 kg	6,094.00 \$/ton	\$	24,741.64		
Gold	80.00 g/t	1.60 kg	1,249.00 \$/oz	\$	70,491.56		
Silver	1,100.00 g/t	22.00 kg	14.70 \$/oz	\$	11,407.61		
Palladium	28.00 g/t	0.56 kg	1,247.00 \$/oz	\$	24,632.54		
		4,084.16 kg		\$	131,273.35		

<sup>\*</sup> Based on 20ton of Printed Circuit Boards



#### E-WASTE REFINERY

# DIRECT HANDLING BY REPUTABLE ASIAN REFINERY



Guaranteed Trans-boundary
 Movements of E-waste - BASEL PERMIT.







5. Best Recovery return policy for our customers - max. 45 days towards Final Settlement.



Maximum returns



Refinery

Precious metal output

Preemptive Analysis of E-waste

Collection





Ship direct



#### **READY TO SERVE YOU**





ALWAYS WITH YOU

- Your decision today is important to us.
- Your feedback is vital to our success.
- Your requirements are our commandments.
- We listen and will be always willing to make amendments for our customers
- We are a small company, meaning we can be flexible in creating customized solutions for our customers with minimal turn around time.
- Be onboard to sample our services today.



## Thank you

www.virogreen.net