

# Impact in Renewables and Climate Change

## Integrated Waste Management Facility

Gerarda Mark – Principal Advisor QHSSE  
[gerarda.m@twm.com.pg](mailto:gerarda.m@twm.com.pg)

Tuesday, 29<sup>th</sup> July 2025



## Our Purpose

TWM exists to create a better reality for PNG, our environment, people and culture

## Our Vision

To showcase PNG as a leader in developing world class essential services that create a positive impact on the environment and society

## Our Values

- Lead The Way
- Live Your Legacy
- Be Honest
- We Care
- Be Safe
- Act Sustainably





# Circular in our Approach – Delivering Change

## ESG Principles and Guidelines

- **Triple ISO accredited** since 2015: Quality (9001), OH&S (45001) and Env. (14001).
- **TWM Information Management System.**
- **Level 3 Environment Permit EP-L3(486)** - the only waste services company to hold such a permit in PNG.
- Alignment to **IFC E&S Performance Standards, and HSE Guidelines.**
- Infrastructure investment designed and operated to **world class standards** (e.g. Vic EPA, US EPA, GIIP, AS) – **De-risking our clients and the country's profile**
- Interface and Collaboration with Key stakeholders – Government, Community, Clients and Partners
- **Investment in Human Capital:**
  - **ECITB** - Engineering Construction Industry Training Board accredited trainer. - Petrotekno (Indonesia RTO); Registered Training Organization (RTO), accredited by PNG Dep. Higher Ed., Research, Science & Tech.
  - **PALM** – Pacific Aust. Labor Mobility Program
  - **Graduate Development & Training Program**



PETROTEKNO



International Finance Corporation  
WORLD BANK GROUP



# A Safe Partner

## • Challenging the Trend: Industry-leading Safety, Health & Environmental Performance

|   | TWM PNG Safety Performance                           | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
|---|--|---------|---------|---------|---------|---------|---------|
| a | Total Manhour Worked                                 | 3129077 | 4138867 | 4246278 | 4444277 | 4446053 | 4446080 |
| b | Number of Loss Time Injuries ( LTI)                  | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| c | Number of Total Lost Days                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| d | Number of Fatalities                                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| e | Equipment / property damage                          | 17.00   | 9.00    | 13.00   | 4.00    | 17.00   | 257.00  |
| f | First Aid Treatment                                  | 0.00    | 0.00    | 1.00    | 0.00    | 1.00    | 6.00    |
| g | Environment Incident                                 | 1.00    | 2.00    | 10.00   | 3.00    | 6.00    | 13.00   |
| h | Medical Treatment Injuries ( MTI) (Excepd First Aid) | 0.00    | 0.00    | 0.00    | 3.00    | 5.00    | 0.00    |
| i | Number of Restricted Work Cases                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 1.00    |
| j | Number of Recordable Cases                           | 0.00    | 0.00    | 0.00    | 3.00    | 5.00    | 0.00    |
| k | Loss Time Injury Rate ( LTIIR)                       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| l | Total Recordable Incident Rate ( TRIR)               | 0.00    | 0.00    | 0.00    | 1.35    | 1.79    | 0.00    |
| m | Severity Rate(SR)                                    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |

For our reference: Note that in PNG we typically report against 200,000 manhours in PNG.

### Safety Performance

- ✓ Zero LTI
- ✓ Zero Fatalities

### Environmental Performance

- ✓ Industry leading performance
- ✓ Multiple industry awards / milestone events

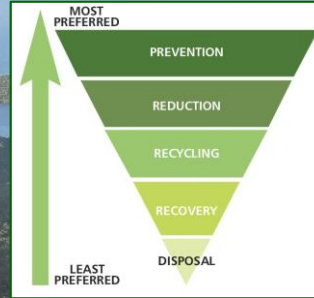
## • Setting the standard: Workforce and infrastructure dev. Building in-country capability and capacity





# Key Infrastructure Investment – TWM Roku IWMF

- 20 Ha / 20,000 sqm
- Zoned Industrial and classified as project area of national significance by Dept. National physical planning
- Environmental Permit L3-485
- Strong Community engagement and relationship
- Built to International standards – US EPA / AUS EPA and Euro EPA
- Innovation / sustainability / In country capacity and capability
- Contributing to national targets and goals



## Strategically located:

- 10KM LNGP, Adjacent to AES Industrial Park and Wharf, 8KM Motu Kea Terminal and 20KM from Port Moresby CBD
- Pacific solution – Western hub (PNG, Pacific island and Timor Leste)



# Class 1 Engineered Landfill



The only Hazardous Class landfill in PNG

Constructed with a Best Practice lining system  
(meeting US, Aus, Euro and UK EPA standards)

Stage 1 – 11,000m<sup>3</sup> (complete)

Stage 2 – 35,000m<sup>3</sup>

Stage 3 - >130,000m<sup>3</sup>

Self-performed by TWM Construction

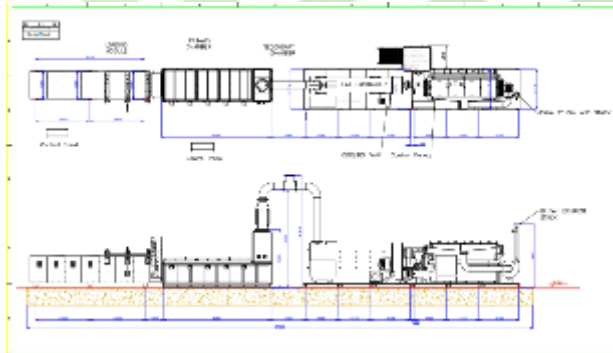


# High Temperature Incineration



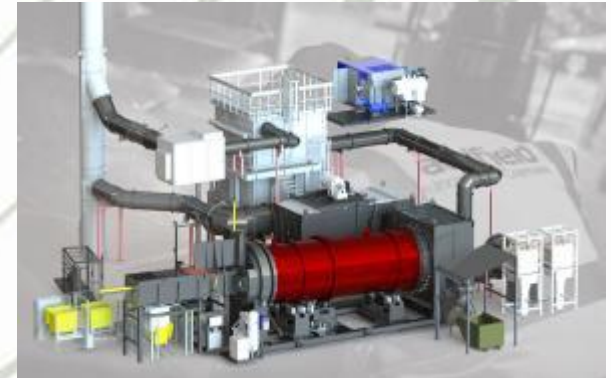
Safe and secure treatment of hazardous waste streams (incl. biohazards, chemicals, pharmaceuticals, solvents).

- Temp.  $>1000^{\circ}\text{C}$  to achieve waste destruction and volume reduction
- Suitable for all wastes - incl. medical, hazardous
- Up to 500kg/hr capacity
- Diesel and or PFO (recycled oil) fired unit
- Pollution Control System



Designed to PNG,  
\*US EPA and \*EU  
standards

Replacement due  
2027 designed to  
IFC performance  
standards





# Hazardous Waste Management



Designed to fully comply with Australian standards AS 1940



Management in strict observation of specific hazards (SDS)



Treatment to render inert / non-hazardous to people and environment

Holder of 12 Waigani Australian hazardous waste export permits since 2016

| Material Type            |
|--------------------------|
| Waste Acids              |
| Waste Alkalis            |
| Waste Biocides           |
| Non Halogenated Solvents |
| Waste Oil                |
| Oily Water               |
| Oxidizers                |
| Activated Carbon         |



IMDG Certified

Full Waste Tracking



# Resource Recovery Centre (RRF)



**A Step Change for PNG!**  
Shifting PNG to the forefront for  
**Sustainable Waste Management**



- Waste sorting and segregation
- Solids processing
- E-waste processing line
- Recovery of resources (RRRR)
- Plastics recycling

# Conclusion

*"In a circular economy, waste is not the end—it's the beginning of something new."*

- Policy & Regulation
- Good Leadership – Transparency
- Responsible decision making – With the end in mind
- Let us be passionate, committed and disciplined

*Our first 50 years – Protecting environment, our people and culture is embedded in the constitution of PNG. Our founding fathers and mothers had this vision.*

*The next 50 years is now up to each and everyone of us to play our role in creating a more sustainable, cleaner and greener future for PNG, the Pacific Islands region and the planet.*



## Tenkyu tru

