

CV of U Khin Maung Win

Name : **U Khin Maung Win** DOB : 15 January 1958

Education : B.Sc. (Industrial Chemistry) (YU) in 1979

B.E. (Chemical Engineering) (YTU) in 1982

M. Eng. (Environmental) (AIT) in 1989 ;

PE (Chemical) (0414) ; ACPE (Asean Chapter Professional Engineer) ; ASEAN Engr:

Position : ~ Patron & Executive Consultant

Myanmar Water Engineering & Products Co., Ltd. (MWEP)

~ Consultant

Drainage & Wastewater Management Authority

Yangon City Development Committee (YCDC)

~ Executive Consultant

Myanmar Wellthy Aqua Solution Co., Ltd. (MWAS)

~ Central Committee

Myanmar International Consulting Engineers Group (MICEG)

~ Visiting Professor

* Civil Engineering Department; Yangon Technological University. (YTU)

**Chemical Engineering Department; Yangon Technological University. (YTU)

~ Supervisor & External Examiner for M.Sc. & Ph.D. candidates

Department of Industrial Chemistry; Yangon University. (YU)

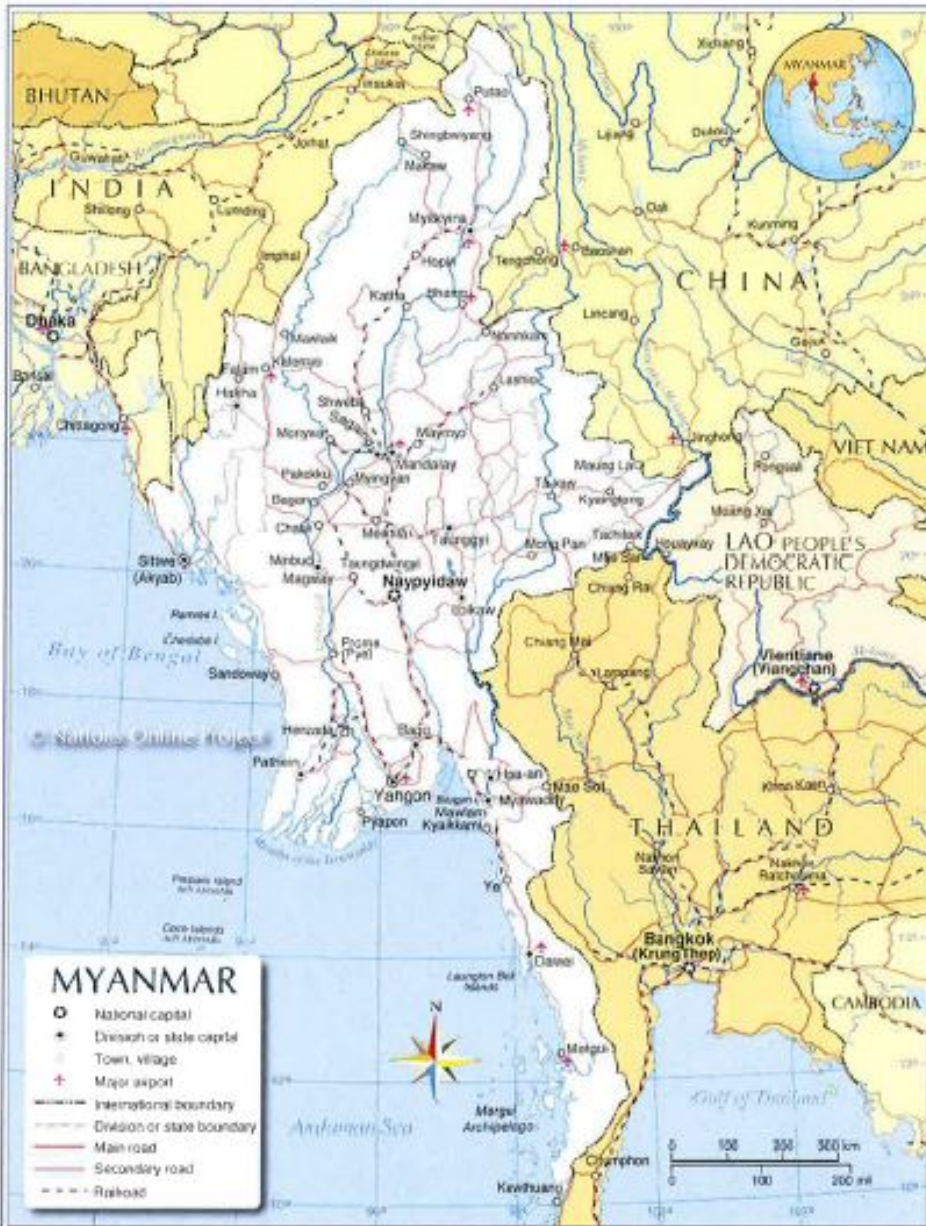
- Experience** : ~One of Entrepreneurs in Water and Wastewater Engineering field in Myanmar and over 25 years experience in Water and Wastewater Engineering Business since 1994.
- ~ Contribution of field experience in teaching, research and development as Visiting Professor in Yangon Technological University (YTU) and Yangon University (YU) since 1996.
 - ~ Conducts as Consultant for Government Institution, Company, NGO and Private Sectors.
 - ~ International cooperation as National Consultant with UNDIO, Smart Myanmar, GIZ, WWF, H&M Group, Rotary Club and Responsible Business Fund (RBF)
 - ~ Business and Project cooperation with International Company such as Joint Venture with Mitsubishi Chemical Aqua Solution to introduce the Membrane Technology and Projects Implementation with Hitachi Zosen Corporation.
 - ~ Introduce the Environmental Management System program and vocational training program for industrial and private sectors.

Water & Wastewater Industry

- Current Situations in Myanmar -



Geography (Myanmar)



- Myanmar, the second largest country in Southeast Asia by land area
- Its characteristics: Mountain ranges in East and West, Long costal strip in South
- Area: 676,553 Square kilometers
- Population 52 Millions people
- 7 States and 7 Divisions comprising with 63 districts for administrations

MYANMAR WATER

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Project Rationale and Linkage to Country / Regional Strategy

Although 70% of Myanmar's population resides in rural areas, the urban population has grown 2.3% per year, faster than the country's total population (1.8% per year). The urban population in Myanmar increased from 14.6 million or 29% of the total population in 2000 to 18.4 million or 31% of the total population in 2010.

Currently, 10% of Myanmar's population lives in two major cities, Yangon and Mandalay, contributing to 30% of gross domestic product (GDP), and this share is expected to rise rapidly. It is estimated that by 2030, 25% of Myanmar's population will live in urban areas, accounting for roughly 50% of Myanmar's GDP.

Once ongoing and planned tax reform in Myanmar result in a functioning tax regime, the majority of tax revenue will also likely come from cities. However, to ensure that urbanization will be a driving force for economic growth and social development, urban planning and management need to be modernized and investments in urban infrastructure need to be increased.

Myanmar Sustainable Development Plan (2018 – 2030)

The Myanmar Sustainable Development Plan (MSDP) is the expression of our national development vision – a vision that finds resonance in the global sustainable development agenda.

Genuine development will only come to Myanmar if, and only if, all these plans move harmoniously and coherently under the aegis of a single national strategy. The MSDP delivers this strategy, providing an overall framework for coordination and cooperation across all ministries, and all States and Regions to forge a common path towards the emergence of a prosperous, peaceful and democratic Myanmar. The Myanmar Sustainable Development Plan (MSDP) provides a long-term vision; a vision of a peaceful, prosperous and democratic country.

A Peaceful, Prosperous & Democratic Myanmar

Goal 1: Peace, National Reconciliation, Security & Good Governance

Goal 2: Economic Stability & Strengthened Macroeconomic Management

Goal 3: Job Creation & Private Sector Led Growth

Goal 4: Human Resources & Social Development for a 21st Century Society

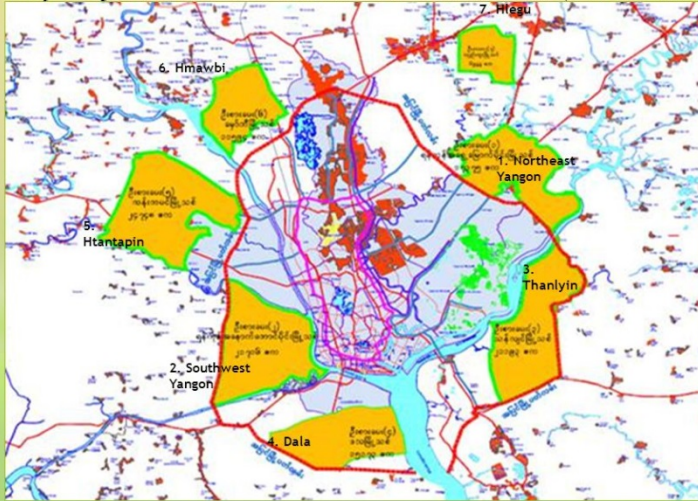
Goal 5: Natural Resources & the Environment for Posterity of the Nation

New Yangon City Project in Yangon



Yangon City Development Committee

Priority Projects for Extension of New Urban Areas (118732 Ac.)



Priority Projects for Extension of Yangon New Urban Area

NYDC received **77 EOIs** submissions, and the breakdown of the number of EOIs for each project is below:

- 1) Power Supply and Distribution (20 EOIs)
- 2) Public Transport System (7 EOIs)
- 3) Cyber Connectivity Infrastructure (13 EOIs)
- 4) Municipal Waste Disposal (15 EOIs)
- 5) Natural Gas Supply and Distribution (14 EOIs)
- 6) Convention Center (8 EOIs)



Contact:

No.56, Chindwin Road, Kamayut Township,
Yangon, Myanmar

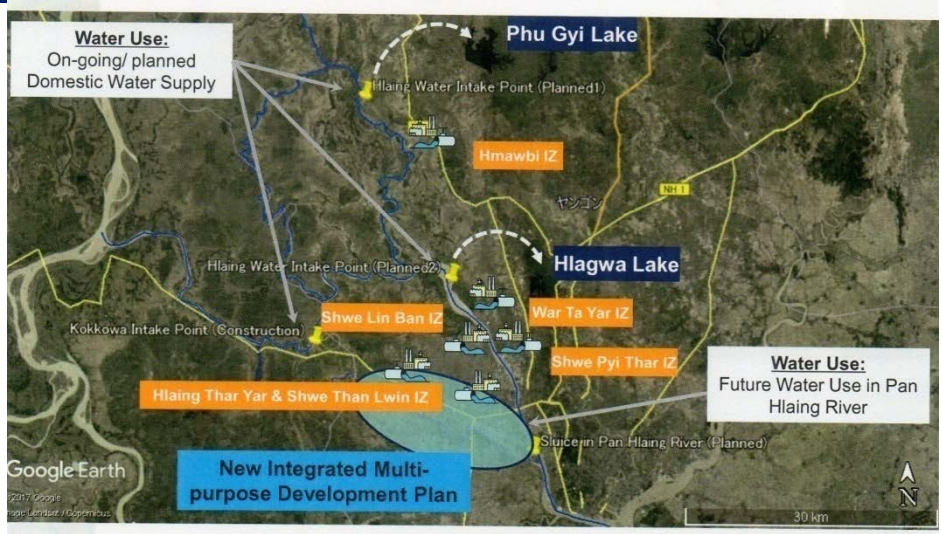
+95 12306377 ; contact@nydc.com.mm

New Yangon City Project : Phase (1)



Industrial Zones (Myanmar)

- Total 41 Industrial Zones (excluding Industrial Parks)
- Yangon : 23 Izs
- Other Cities : 18 Izs
- 11 Planned Izs in 11 Townships in Yangon



Yangon Industrial Zones in the downstream of Hlaing River

- No Central Industrial Wastewater Treatment Plants in most of existing Izs but plan to install CIWWTP in newly Izs
- Most Small & Medium Enterprises (SMEs) located in IZs

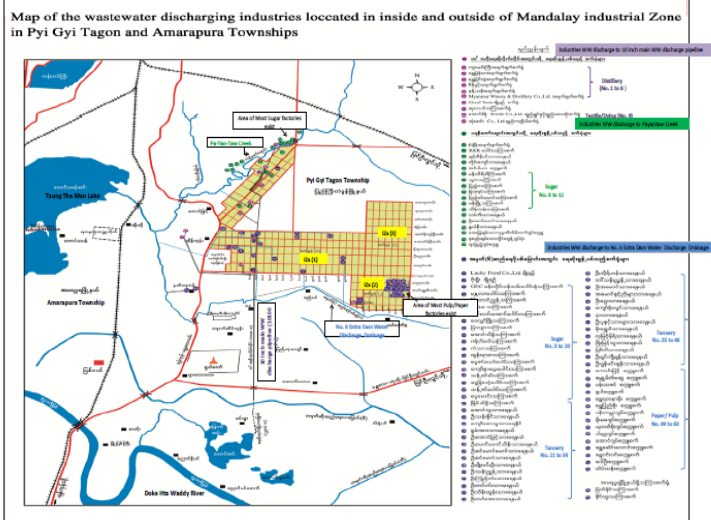


Figure 1. Map showing the pollution pathways with the locations of Mandalay Industrial Zones in Pyi Gyi Tagon and Amarapura Townships (Reference from ECD)

Mandalay Industrial Zones in Pyi Gyi Tagon & Amarapura Townships



Law Enforcement in Myanmar

Economy

- ✓ Foreign Investment Law (2012)
- ✓ Special Economic Zone Law (2014)
- ✓ Arbitration Law (2016)
- ✓ Public Procurement Law (2018)
- ✓ Myanmar Sustainable Development Plan (MSDP) (2018 – 2030)

Public-Private Partnership (PPP) Law
(Draft in 2016)

Environment

- ✓ Environmental Conservation Law (2012)
- ✓ Environmental Conservation Rule (2014)
- ✓ Myanmar Environmental Impact Assessment Procedure (2015)
- ✓ Myanmar Environmental Quality Emission Guidelines (M-EQEG) (2015)

For more infos,

[https://themimu.info/sites/themimu.info/files/documents/Core Doc Myanmar Sustainable Development Plan 2018 - 2030 Aug2018.pdf](https://themimu.info/sites/themimu.info/files/documents/Core%20Doc%20Myanmar%20Sustainable%20Development%20Plan%202018%20-%202030%20Aug2018.pdf)

(Myanmar Sustainable Development Plan)

<https://pppknowledgelab.org/countries/myanmar> (Myanmar Public Private Partnership)

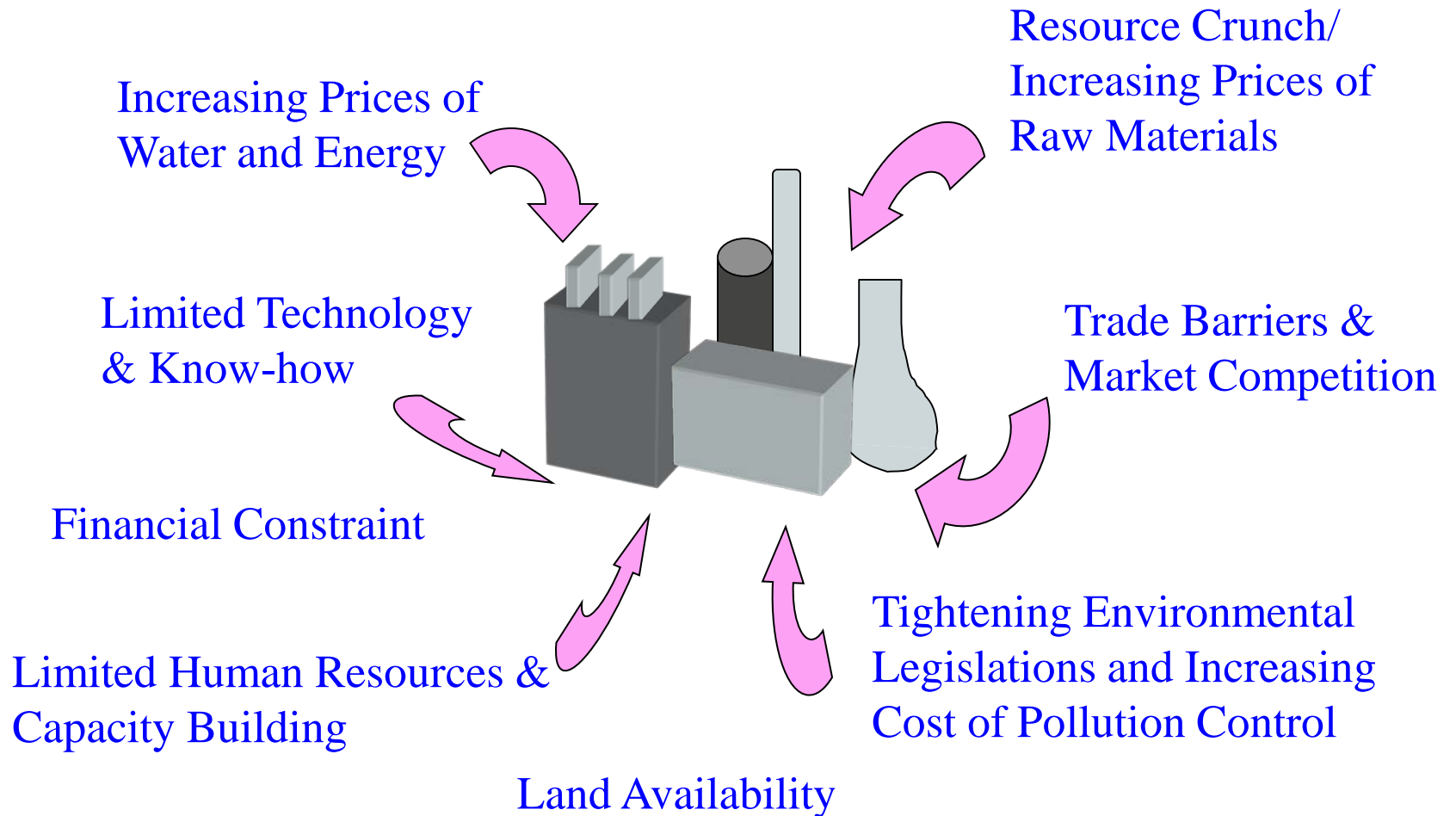
<http://www.ecd.gov.mm/?q=law>
(Environmental Conservation Law)

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Challenges for Industries to Develop WWTPs in Myanmar.



Project for Capacity Development in Basic Water Environment Management and EIA System in the Union of Myanmar conducted by JICA. (2015 ~ 2018)

- To implement the Environmental Law in national and local level, the cooperation of Union of Myanmar Government and Japan International Cooperation Agency (JICA) was signed on 23 December 2014.
- **Overall goal** : Impact of Industrial effluents from industrial zones on river water quality is alleviated and advanced EIA approach for complicated issues are taken into account.
- **Project Purpose** : Capacity for developing basic water pollution control measures based on obtained and interpreted information is enhanced and the institutional frame work of the EIA review works is established.

Project for Capacity Development in Basic Water Environment Management and EIA System in the Union of Myanmar conducted by JICA. (2015 ~ 2018)

Outputs

- (1) : Inspection Procedure is Standardized. (Water Environmental Management)
- (2) : Capacity for implementing water quality survey to obtain reliable information is enhanced. (Water Environment Management)
- (3) : Database of water pollution sources and river water quality is developed. (Water Environment Management)
- (4) : Capacity of interpreting the information for water pollution control measures is enhanced. (Water Environment Management)
- (5) : Necessary technical manuals and forms of the EIA review are developed.(EIA)
- (6) : Capacity of MONREC and the EIA Report Review Body on the EIA review is enhanced. (EIA)

"The Greater Yangon Water Supply Improvement Project (MY-P5)"

The ODA Loan agreement was concluded between The Government of the Republic of the Union of Myanmar and Japan International Cooperation Agency (JICA) on 5 September 2014, to provide concessional loans of up to a total of **23 billion Japanese Yen**. The objective of the project is to enhance water supply service by expanding water treatment facilities and improving distribution network, thereby contributing to improvement in the living environment of regional residents in Greater Yangon. **"The Greater Yangon Water Supply Improvement Project (MY-P5)"** has been implemented in collaboration with Japan International Cooperation Agency (JICA) and Yangon City Development Committee (YCDC) and will be ended in 2022.

The project aims at improving water supply services to meet the increasing water demand by using **raw water from the Kokkowa River and constructing a new Water Treatment Plant and construction and rehabilitation of associated transmission and distribution facilities**, which in turn will contribute the improvement of living environment and economic development of Yangon City.

Preparatory Survey for Greater Yangon Water Supply Improvement Project (phase II) :

- **Publisher** : Japan International Cooperation Agency, TEC International Co., Ltd, Nippon Koei Co., Ltd., NJS Consultants Co., Ltd.
- The project aims at improving water supply services to meet the increasing water demand by using raw water from the Kokkowa River and constructing a new Water Treatment Plant and construction and rehabilitation of associated transmission and distribution facilities, which in turn will contribute to the improvement of living environment and economic development of Yangon City.

Source Link: http://open_jicareport.jica.go.jp/618/618/618_104_12285656.html

JICA : Yangon Sewerage System Development Project

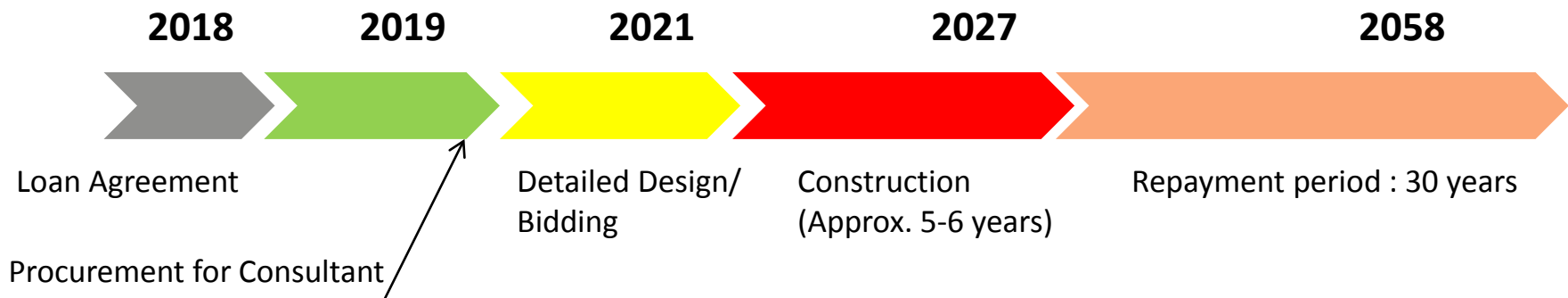
Project Life	40 years
Loan Amount (JICA ODA)	JPY 45,900 million
Area of Service	Central Business Zone



Scope of Project

- Main sewer
- WWTP 112,000 m³/day, **MBR**

- Upgrade Existing WWTP 14,775 m³/day within the same compound
- MBR Flat Sheet or Hollow Fibre Membranes



So how can we cooperate

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Netherlands Government and Loans from Two Netherlands Banks for a Water Supply Project in Pyigyitagun Township, Mandalay Region

The project will purify **water from the Dutthawadi River and supply 70 percent of the township's needs**. Currently, a project of the Japan International Cooperation Agency provides 30pc of the township's water.

The grace period for the loan is three years, while the repayment period is 10 years. The interest rate is 2.3pc, so about K5 million will have to be invested in water meters and completed by 2021.

The Amarapura Project - Improving Water Service in Mandalay City

The Amarapura Project aims to provide new access to water services for at least 2,000 households in the Amarapura Township and implement incentive measures for these households to connect to the networks.

This Project was initiated by the **Agence Française de Développement (AFD)** in partnership with **Mandalay City Development Committee (MCDC)**. AFD provided **a grant of 2.5 million Euros to MCDC to finance this project** which is currently under implementation with the support of GRET in consortium with the French consulting firm Suez Consulting.

20,000 water meters in Pyigyitagun at a cost of €59.92 million (K103.4 billion) will be installed at Pyigyithagun Township, of which the Netherlands government will provide half as a grant and the loans for the rest is accomplished by others sources.

Japan to Fund Mandalay Water Treatment Facility

A wastewater treatment and quality monitoring facility for textile factories in Mandalay will be the first project Japan will fund under its environmental cooperation agreement with Myanmar.

The experimental project will be built in Wundwin township, where there are a lot of textile factories, according to the memorandum of cooperation that is expected to be signed by the two countries early next month, said U Hla Maung Thein, Director General of the Environmental Department at the Ministry of Natural Resources and Environment Conservation (MONREC).

Makiko Arima of the International Cooperation Office, Global Environmental Bureau, in Japan's Environment Ministry (MOEJ) said she hopes the agreement will be signed soon.

Myanmar: Mandalay Urban Services Improvement Project

The **Asian Development Bank (ADB)** is working with Myanmar to help Mandalay improve its water and sanitation services. The project is building a new water treatment plant and upgrading and extending the existing supply network. It is also building the city's first centralized wastewater collection and treatment plant, which will produce biogas from sludge and help power the plant.

Project Status	Active
Project Type / Modality of Assistance	Grant / Loan
Source of Funding / Amount	
Grant 0455-MYA: Mandalay Urban Services Improvement Project	
Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility	US\$ 4.00 million
Loan 3316-MYA: Mandalay City Urban Services Improvement Project concessional ordinary capital resources lending/ Asian Development Fund	US\$ 60.00 million
Loan: Mandalay City Urban Services Improvement Project Agence Francaise de Developpement	US\$ 46.00 million
Asia Investment Facility	US\$ 6.80 million

Myanmar : Second Mandalay Urban Development Project

Project Name	Second Mandalay Urban Services Improvement Project
Project Number	50109-002
Country	Myanmar
Project Status	Proposed
Project Type / Modality of Assistance	Grant Loan
Source of Funding / Amount	
Loan: Second Mandalay Urban Services Improvement Project concessional ordinary capital resources lending / Asian Development Fund	US\$ 150.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Gender Equity and Mainstreaming Governance and capacity development Partnerships
Sector / Subsector	Transport / Urban public transport Water and other urban infrastructure and services / Urban sanitation - Urban sewerage - Urban solid waste management - Urban water supply

Central Industrial Wastewater Treatment Plant to be established in Mandalay Industrial Zone (2)

The project to establish a central industrial wastewater treatment system has started in Mandalay Industrial Zone (2) in Mandalay Region with 65 percent financial aid from **Responsible Business Fund (RBF) of Denmark** and 35 percent aid from local SMEs.

The treatment plant can treat over 60,000 gallons of wastewater from 23 leather processing factories. There have been reports that wastewater from Mandalay Industrial Zone is flowing to Dokhtawady River through a 10-inch pipe without being treated.

The project will cost over **K500 million**. RBF will provide 65 percent (K328.5 million) and SME owners 35 percent. The land for the project has been bought by those SME owners.

An agreement was signed in mid-October this year to implement the project which is due to be completed in six months, said an official from **Myanmar Water Engineering and Products Co Ltd. (MWEP)**

Wastewater Treatment Plant at Monywa industrial zone 70% complete.

The wastewater treatment plant in the leather and vermicelli section of the Monywa industrial zone is now 70 per cent complete, said U Wei Tint, who runs a vermicelli business and is the chair of the wastewater treatment plant construction committee.

The committee signed an agreement with a **Responsible Business Fund (RBF) Denmark delegation** to construct the wastewater treatment plant by 31 December 2019.

“The construction of the plant is estimated to cost K1,500-2,000 million. Therefore, it could not be financed by the 15 businesses as they could bring in only K750 million. Fortunately, they linked with an organization funded by the Denmark government and received a contribution of K750 million. The Denmark delegation also provided a K170-million biogas generator and other equipment valued at K40 million,” said U Wei Tint. The project is developed by **Myanmar Water Engineering & Products Co., Ltd. (MWEP)**

UNIDO : Climate Change Mitigation through Methane-Recovery and Reuse from Industrial Wastewater Treatment in Myanmar

Project Overview

- **Project Objective:** Increasing Myanmar's efforts towards climate change mitigation by minimizing GHG emissions through the application of integrated low-emission wastewater treatments and the Transfer of Environmentally Sound Technologies (TEST).
- **Donor:** Global Environment Facility (GEF)
- **Budget:** GEF Grant: 3,984,589 USD, Co-financing: 19,105,322 USD
Project Preparation Grant (PPG): 125,000 USD
- **Duration:** 5 years / Lead partner: Department of Urban and Housing Development, Ministry of Construction
- **Status:** The project is currently in the design phase (PPG) of the project document, with activities expected to start on the ground in 2019, upon approval by the GEF.

UNIDO : Resources Efficiency & Cleaner Production (RECP) Project in Myanmar

A pilot **Resource Efficient and Cleaner Production (RECP)** programme in Myanmar will be implemented by the United Nations Industrial Development Organization (UNIDO), the UN's specialized agency has said.



The project will target the food processing, textile and tourism sectors in Yangon and Mandalay regions, and will introduce clean technology to goods and services industries in Myanmar, UNIDO said.

The project will be funded by the State Secretariat for Economic Affairs of Switzerland (SECO), a key supporter of the RECP programme.

“UNIDO, in collaboration with the Ministry of Industry, as well as other government agencies and private sector actors, aims to help improve resource productivity and environmental performance of Myanmar enterprises, in particular SMEs,” said Rene Van Berkel, former Chief of UNIDO’s Cleaner and Sustainable Production Unit.

Budget: USD 565,000

Donor: SECO Main Counterparts: Ministry of Industry

UNIDO : Improvement of Industrial Energy Efficiency (IEE) in Myanmar Project

Energy efficiency is the cornerstone of good energy policy; it provides multiple benefits for meeting security, environmental, and economic goals. In addition, it is highly cost-effective and smart: smart from a government perspective, and smart from a business perspective.

The Government of the Republic of the Union of Myanmar has recognized the importance of energy efficiency and has set targets, along with the other ASEAN Countries. It is known by the Ministry of Industry that at least 40% of energy usage in Myanmar could be saved as of estimated by International Experts and 12% in 2020, 16% in 2025, 20% in 2030 would be reduced according to Energy Efficiency Policy.

Project Objective: To promote sustained Green House Gas (GHG) emissions reduction in the Myanmar industry by: improving policy and regulatory frameworks; institutional capacity building for industrial energy efficiency (IEE); implementation of energy management system (EnMS) based on ISO 50001; and optimization of energy systems in industry.

Budget: USD 2,830,000

Donor: GEF Main Counterpart: Ministry of Industry



SMART MYANMAR IS A SWITCH ASIA PROJECT FUNDED BY THE EUROPEAN UNION AND IMPLEMENTED BY



IN COOPERATION WITH



CBI





About SMART Myanmar

SMART Myanmar is funded by the European Union and builds on the initial SMART project implemented between 2013-2015. SMART actively supports and promotes sustainable consumption and production (SCP) of garments “Made in Myanmar” – a concept with emphasis on **resource efficiency** and **social responsibility**.

Working closely with companies and business support organizations located in Myanmar, SMART builds capacity by increasing skills and knowledge in local partner organizations to realize a switch to sustainable production that embraces social and environmental compliance. To assure the continuity of the project, local sustainability experts are trained to support Myanmar manufacturers in addressing international standards, ensuring improved working conditions and efficiency on a long-term basis. SMART Myanmar is being continued in a third phase as **SMART TaG**, a new project also funded by the European Union and co-funded by private sector partners (brands, retailers and factories). SMART TaG aims to further upscale, expand and strengthen responsible and sustainable manufacturing practices across the Myanmar garment industry and will publicly launch on December 6th, 2019, although some activities of the project began since May, 2019. This new project phase is funded by the European Union until 2022 and includes a new partner consortium involving sequa, amfori, the Confederation of Trade Unions Myanmar and the Centre for Economic and Social Development.

Rotary



How Rotary makes help happen

Through water, sanitation, and hygiene (WASH) programs, Rotary's people of action mobilize resources, form partnerships, and invest in infrastructure and training that yield long-term change.

Rotary is a global network of 1.2 million neighbors, friends, leaders, and problem-solvers who see a world where people unite and take action to create lasting change – across the globe, in our communities, and in ourselves.



Water for a community

Rotary clubs partnered with local organizations to install a rainwater harvesting and distribution center for 4,000 people in Madan, India. They also delivered training programs for women in the community and students in 35 schools.



WASH in Guatemala schools

Rotary clubs in Guatemala improved conditions for as many as 1,793 children in 10 schools in the town of Escuintla by providing toilets, washing stations, water tanks, and training.



WASH in Guatemala schools

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Myanmar Water Engineering & Products Co., Ltd.

Presentation For Water & Wastewater Business in Myanmar



Myanmar Water Engineering and Products Co., Ltd.

mwepmyanmar@gmail.com

www.facebook.com/mwep.myanmar/

About MWEP

Company name	Myanmar Water Engineering and Products Co., Ltd.
Head office	No. 15, Thu Mingalar Lane 1, Thu Mingalar Housing Estate, Thingangyun Tsp, Yangon, Myanmar.
Founded in	May 1994
Capital	USD 2 Million
Managing Director	Ms. Pwint Ei Phyu
Employees	40
Sales	USD 0.6 Million (as of FY2017, 1USD = 1360 MMK)
Subsidiaries	Super International Construction Co., Ltd. Super International Gems Co., Ltd. MW Aqua Solutions Co., Ltd.
Joint Venture	Wellthy Corporation (Japan)
Contact No./ Email	+95 1 571694, +95 1 8564547 +95 9 765139869 (Pwint Ei Phyu) mwepmyanmar@gmail.com , pwinteiphyu.pep4@gmail.com

MYANMAR WATER

ENGINEERING AND PRODUCTS CO.,LTD



Business Overview



Water and Wastewater Engineering (EPC)



Teaching and Trainings

Multidisciplinary fields (Project-oriented Company)

Environmental consultation/studies/assessment reports for IEE,EIA,EMP,ETP

25 years of experience in Myanmar



Operation and Maintenance

Water Quality Analysis



Over 100 turnkey projects of Water and Wastewater treatment installed by MWEP in Myanmar.

MYANMAR WATER
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What do we do?

Our Scope of Engineering

Water Treatment Systems

- Pre-treatment systems
- Lime soda softening process
- Solid contact clarifier/ clari-flocculators
- Plate type/ lamella clarifiers
- Rapid sand gravity filters/ pressure filters/ self cleaning filters
- Media filters (Activated carbon/ Iron removal/ heavy metal removal/ anthracite)
- Disinfection (Chlorination/ UV/ Ozone systems)
- Compact Potable Water Treatment Unit
- Water Softener
- Chemical Dosing System

Membrane-based Treatment Systems

- Pre treatment units to membrane-based treatment
- Ultra filtration treatment systems
- Reverse osmosis treatment systems
- Compact skid mounted RO units
- Desalination Units



MYANMAR WATER

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What do we do?

Our Scope of Engineering

Wastewater Treatment Systems

Anaerobic Biological Treatment

- Sludge Digestion
- Anaerobic Bio-filter
- Anaerobic Digesters (UASB)
- Continuous Stirred-tank Reactor (CSTR)

Aerobic Biological Treatment

- Conventional Activated Sludge Process (CAS)
- Attached Growth / Suspended Growth Bio-film Technologies
- Package Plants (Skid Mounted Container)
- Membrane Bio-reactor (MBR)
- Moving Bed Bio-film Reactor (MBBR)

Laboratory

- Water & Wastewater Analysis
- Laboratory equipment, instrument, chemicals and apparatus Supply



MBBR Media



MYANMAR WATER

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Our Valuable Customers

Food & Beverages

- Myanmar CP Livestock Co., Ltd.
- Pyi lone Chan Tha Co., Ltd. (Fish Processing)
- International Beverages Trading Co., Ltd. (IBTC)
- Golden Queen Alcohol Distillery
- Shwe Yee Win Alcohol Distillery



Hospitals

- Asia Royal
- Bahosi
- 500 Bedded Yangon Speciality
- Grand Hantha International



Consultancy Services

- Smart Myanmar
- Puls Trading Far East Ltd. (H&M)
- United Nation Industrial Development Organization (UNIDO)



Real Estate

- Serge Pun & Associates Ltd. (SPA)
- First Myanmar Investment Public Company Ltd.
- Yangon City Development Committee (YCDC)
- Tet Lann Co., Ltd.
- One Nine Construction Co., Ltd.

Hotels

- Myat Min Co., Ltd. (Novotal Hotel, Inle)
- Family Business Group Construction Co., Ltd. (Sheraton Hotel, Yangon)

Garment

- Ree blue Myanmar Ltd.
- Jui Seing Co., Ltd.



DENMARK

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-Applications in Myanmar - - Challenges - - Potential Business -

MBR Applications in Myanmar

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S/N	Project Name	Capacity (m3/day)	Status	Location
1	Star City Zone A	1100	Completed (Total – 8 Projects) in Yangon	Thanlyin Tsp
2	YCDC Residents housing	30/38		Mangalar Taung Nyunt Tsp
3	City Golf	10		Insein Tsp
4	Ila Condo	50		Dangon Seikkan Tsp
5	Royal Myanmar Education center	60		Thanlyin Tsp
6	Myanmar Padauk	20		Panzuntaung Tsp
7	First Printing	5		Shwe Pyi Thar Tsp
8	Pyi Lone Chan Tha (Fish Processing)	10		Shwe Pyi Thar Tsp
9	Star City Zone C	480	Ongoing (Total – 3 Projects)	Thanlyin Tsp
10	Sheraton Hotel	190		Tamwe Tsp
11	Grand Hantha International Hospital	40		Kamayut Tsp

- ✓ Purchase History (2013-2018) – Approximately JYP 20 Millions (USD 0.19 Millions)
- ✓ 12 Wastewater treatment using MBR are installed in Myanmar.

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Challenges in Myanmar

Japanese Bodies in Myanmar

- Japan International Cooperation Association (JICA)
- Nippon Koei Consultants Co., Ltd
- Oriental Consultants Japan Co., Ltd

Others

- Responsible Business Fund (Denmark)
- UNIDO
- GIZ

Reason

- Financial Constraints
- Awareness in Technology
- Law Enforcement
- Conservative Party (JICA)
- Market Penetration by Flat Sheet

Business Approach

BOT or PPP or Loans or Grant

Business Potential

- One existing WWTP in Mdy-IZs with BOT (Pending)
- JICA Loan Water Treatment Projects in 13 Division (Phase I completed, Phase II ongoing)
- Water Supply Development Project in 10 zones of Greater Yangon with PPP

International
Local
Hybrid

Investment

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UASB-MBBR Applications in Myanmar

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S/N	Project Name	Capacity (m ³ /day)	Status	Location
1	British School Yangon	110	Completed	Mayangone Tsp
2	Shwe Yi (Distillery)	12	Ongoing	Mandalay
3	Leather Tannery Mdy (Centralized Wwtp)	280	Ongoing	Pyigyitagon, Mandalay
4	Monywa Izs (Centralized Wwtp)	800	Ongoing	Monywa
5	Unido (Ygn/ Mdy) (Centralized Wwtp)	About 1200	Potential	Ygn/ Mdy
6	Centralized WWTP Construction Project	-	Pending	Mandalay IZs

6. Centralized WWTP Construction Project

Project Life	50 years (BOT)
Investment	USD 10.3 million



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WWTP – Applications –

Shwe Yi Distillery (12 m3/day)



UASB Process

Star City Zone-C (480 m3/day)



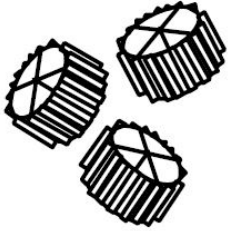
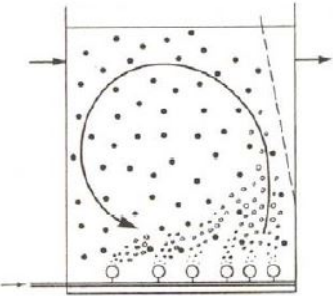
Membrane Element



Membrane Module

MBR Process

British School Yangon (110 m3/day)



The shape of biofilm carrier

MBBR Process

MYANMAR WATER

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Project Examples 4: Sewage Treatment (MBR)



Star City (Thanlyin) (1100 m³/day)



Capacity: **1100 m³/day**, Upgraded
 Project: Star City (Thanlyin) Housing Estate
 Client: Thanlyin Estate Development Co., Ltd.
 Type: Combined/ MBR/ WWTP
 Operated in: April, 2015
 Located in: Thanlyin Township, Yangon

MYANMAR WATER
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Project Examples 1: Sewage Treatment



Capacity: **14775 m3/day**
 Project: Central Business District (CBD)
 Client: YCDC
 Type: Sewage/ CAS/ WWTP
 Operated in: 2004
 Located in: Botahtaung Township, Yangon

Central Business District (The Biggest Sewage Treatment in Myanmar)



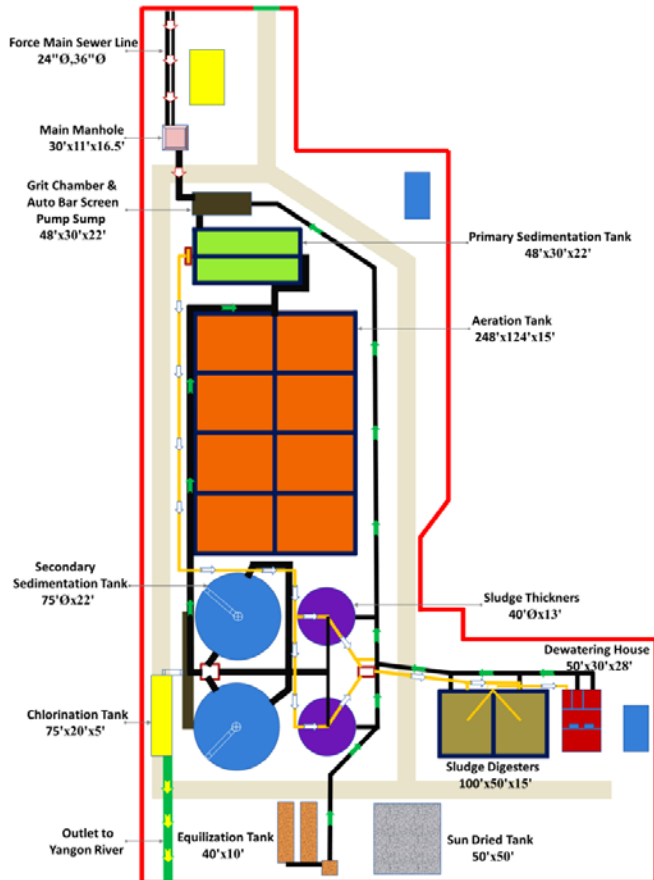
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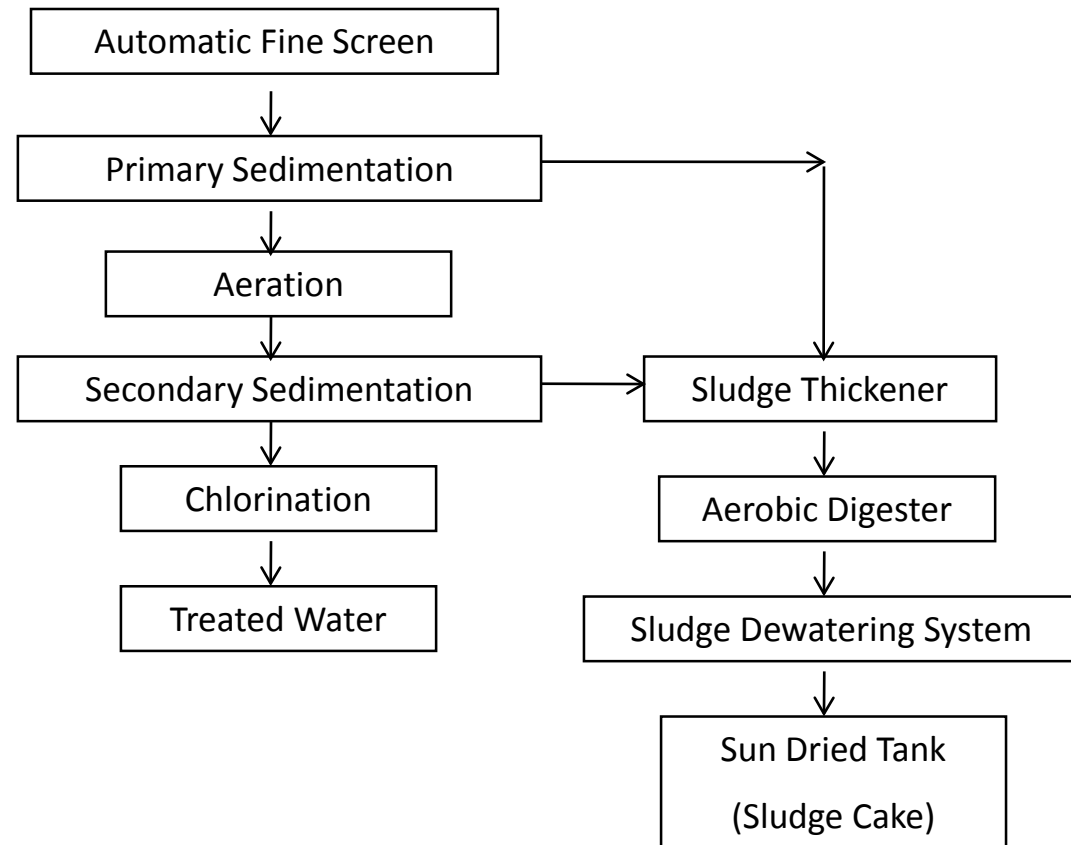
Project Examples 1: Sewage Treatment

Area Map



Area – 5.56 Acres
Population – 300,000

Process Flow Diagram



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Project Examples 12: Industrial Wastewater Treatment



Shwe Yee Win Distillery (500 m³/day)



Capacity: **500 m³/day**
Project: Shwe Yee Win
Type: Distillery Waste/ WWTP
Operated in: 2017
Located in: Twante Township, Yangon

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Project Examples 16: Industrial Wastewater Treatment

Capacity: **100 m³/day**
Project: Myanmar CP
Client: Myanmar CP livestock Co., Ltd.
Type: Chicken Process Waste/ WWTP
Operated in: 2014
Located in: Yangon



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Project Examples 14: Industrial Wastewater Treatment

Capacity: **1000 m³/day**
Project: Ree Blue Garment (Jean)
Type: Garment Waste/ WWTP
Operated in: 2016
Located in: Shwe Pyi Thar Township



Ree Blue Garment (1000 m³/day)



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End of session

Any question?

Thank you for your attention!

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