

Environmental Business

~Water and New Energy~

Marubeni Corporation

Environmental Infrastructure Department
Infrastructure Project Division

GENERAL DESCRIPTION OF MARUBENI CORPORATION



Head Quarter, Tokyo, Japan



Gold Coast Light Rail PPP Project
Transport & Infrastructure



Gulfstar One, LLC
Energy Infrastructure



Maynilad Water Services
Environmental Infrastructure

- Top 5 Japanese Trading Company
 - Breadth of sectors with 5 business groups & 17 business divisions
 - Operations in **68** countries (Asia, Middle East, Europe, Americas)
- Significant financial strength
 - Ranked **153rd** in 2022 Fortune Global 500
 - Net income of US\$3.6 billion, in FY2022
 - About 46,000 employees (Consolidated basis as of March, 2023)
- Long & Stable History
 - Founded in 1858
 - Listed in Tokyo stock exchange



AGS
Environmental Infrastructure



The Sweihan power project
Power Division



Helena Agri-Enterprises
Agri Business Division
Strictly Confidential



Roy Hill
Metals & Mineral Resources Div.



Creekstone Farms Premium Beef
Food Division

MARUBENI'S ORGANIZATION

5 Business Groups

Consumer Products Group

Materials Group

Energy & Infrastructure Solution Group

Transportation & Industrial Machinery, Financial Business Group

Digital Innovation

16 Business Divisions

Lifestyle Division

ICT Business & Logistics Division

Food Division-I

Food Division-II

Agri Business Division

Forest Products Division

Chemicals Division

Metals & Mineral Resources Division

Infrastructure Project Division

Power Division

Energy Division

New Energy Business Development Dept.

Aerospace & Ship Division

Finance, Leasing & Real Estate Business Division

Construction, Industrial Machinery & Mobility Division

Next Generation Business Department, Division

Next Generation Corporate Department Division

Many Business Departments

Planning & Strategy Dept.

Energy Infrastructure Dept.

Transport Infrastructure Project Dept.

Infrastructure Strategic Investment Dept.

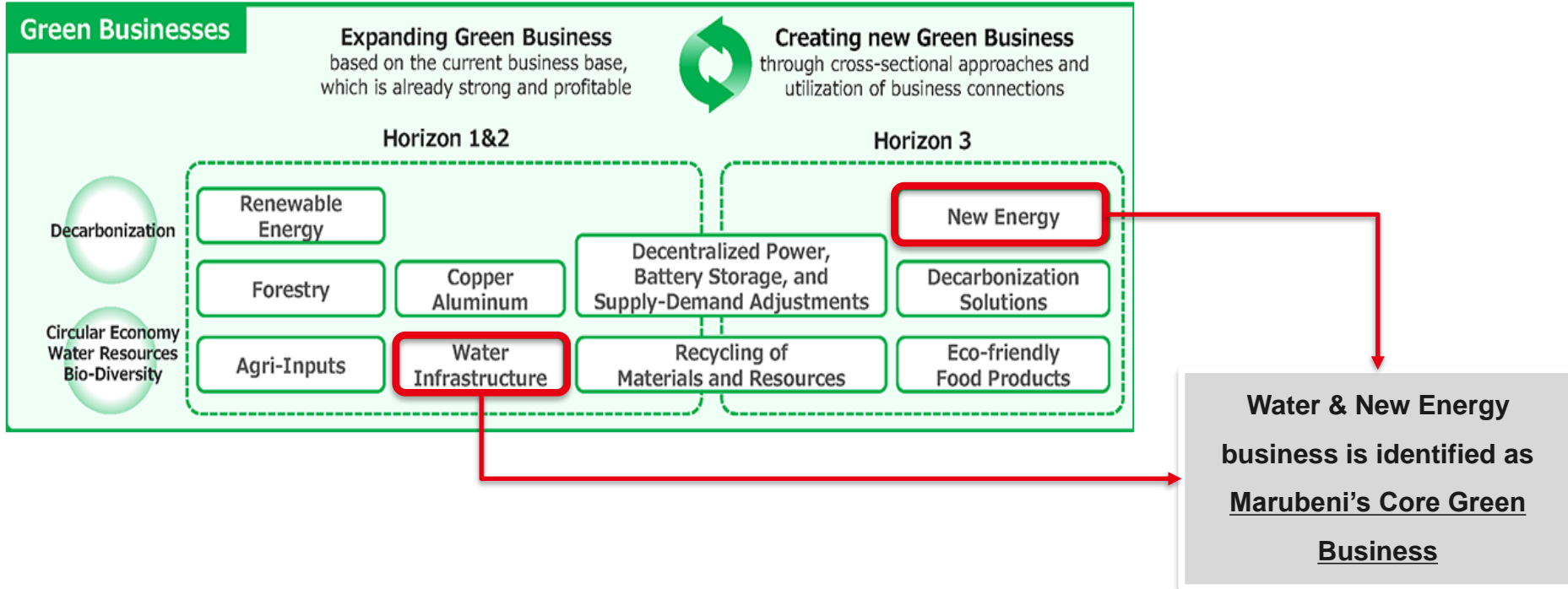
Marubeni Power & Infrastructure Systems

Environmental Infrastructure Dept.

Based on Business Types, Marubeni has **5** Business Groups and **16** Business Divisions, furthermore each Division is composed by several Departments.

Water Business belongs to the **Environmental Infrastructure Dept.** and New Energy Business is covered by **New Energy Business Development Dept.**

Marubeni's Mid-Term Management Strategy "GC2024"



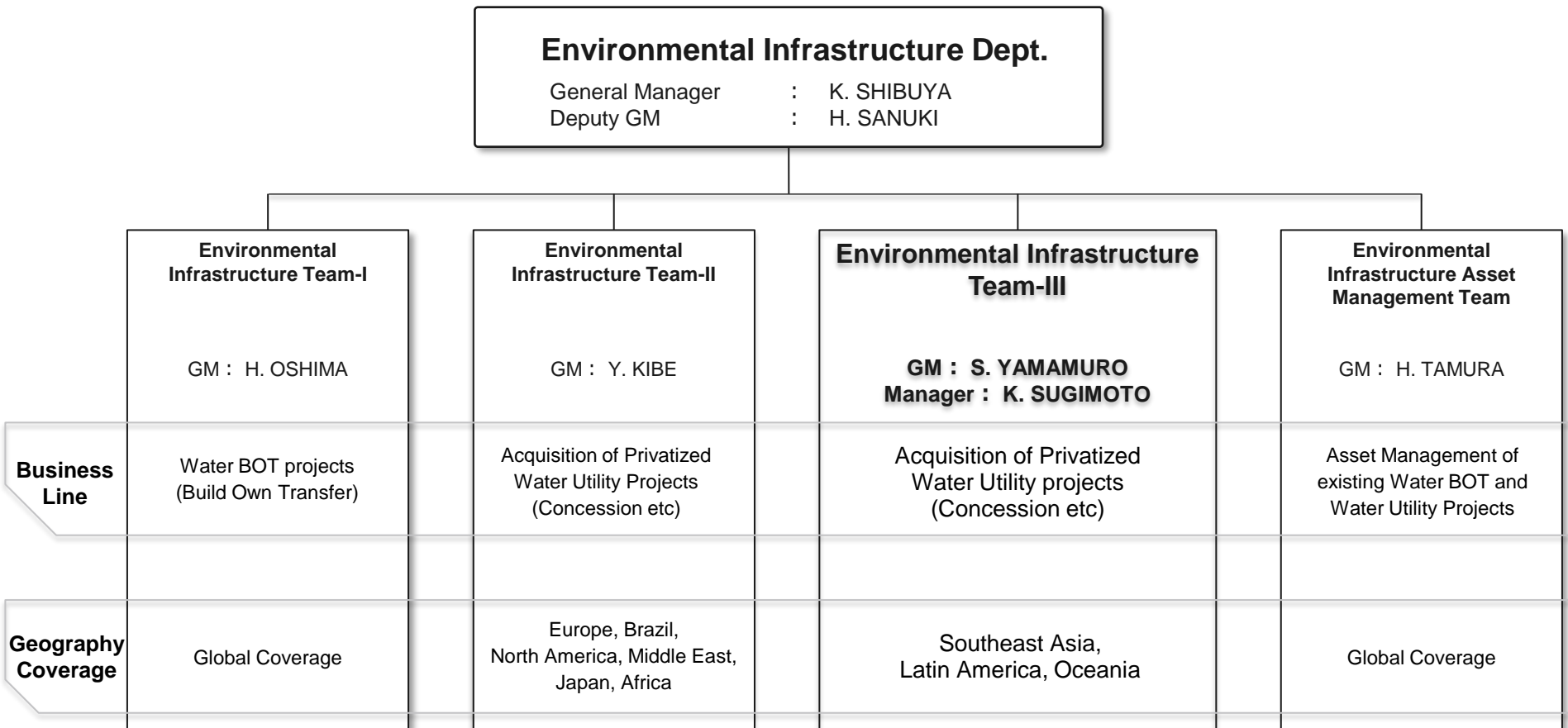
Marubeni aspiring to become :

“Forerunner in Green Business”

Environmental Infrastructure Dept. is **dedicated for all Water Business with global coverage.**

Water Business : Concession, BOT/BOO, O&M, EPC, Service Supply etc.

A key focus area is the **Long-term Business such as Concession and BOT/BOO** where we believe that we can take advantage of knowhow and worldwide experiences.



WATER BUSINESS - PROJECT MAP

- CONCESSION
- BOT/BOO
- EPC
- IWPP

Mexico - BOT
 PEMEX Salina Cruz
 Desalination 13,400 m³/d
 Recycle Water 8,600 m³/d
Aguasistema Salina Cruz S.A. de C.V.
 Marubeni 50% (~2011)
 Degremont 50%



Portugal - Concession
 11 Concession PPP
 WTP 44,000 m³/d
 WWTP 483,000 m³/d
AGS S.A.
 Marubeni 100%

UAE - IWPP
 Taweelah B
 727,000 m³/d

UAE - IWPP
 Taweelah A2
 227,000 m³/d

UAE - IWPP
 Fujairah 2
 591,000 m³/d

UAE - IWPP
 Shuweihat S2
 455,000 m³/d

China - BOT
 Chengdu, Sichuan
 WTP 400,000 m³/d
 Chengdu General des
Eaux-Marubeni Water
 works
 Co., Ltd.
 Marubeni 40% (~2017)
 Veolia 60%

China - BOT / O&M/EPCM
 Anhui WWTP etc. TTL 2,600,000 m³/d
 Anhui Guozhen Environment Protection
Technology Joint Stock Co., Ltd.
 Anhui Guozhen Group 37.58%
 Anhui Railway Fund 12.90%
 Others 49.52%



Saudi Arabia - IWSP
 Petro Rabigh
 192,000 m³/d

Libya
 Cathodic Protection
 Great Man-made River Project

Saudi Arabia - BOO
 Shuqaiq 3
 450,000 m³/d

Peru - BOT
 Chillón WTP 216,000 m³/d
Consorcio Agua Azul S.A.
 Marubeni 29.0%
 ACEA 44.0%
 Inversiones Liquidas SAC 27.0%

Brazil - Concession
 WTP 66,000 m³/d
 WWTP 20,000 m³/d
AGS S.A.
 Marubeni 100%



UAE - EPC
 Shuweihat Water Transmission
 455,000 m³/d

Qatar - EPC+O&M
 Doha West WWTP
 280,000 m³/d
 Lusail WWTP
 60,000 m³/d

Qatar - EPC
 Doha North
 Pumping Station/
 Pipeline 439,000 m³/d

South Africa - BOT
 Durban WWTP 47,500 m³/d

Marubeni	10.0%
Veolia Water Solution & Technologies	51.0%
Umgeni Water Board	18.5%
Khulami	18.5%
Zetachem	2.0%

Philippines - Concession
 West Zone of Metro Manila
 WTP 2,700,000 m³/d
 WWTP 664,000 m³/d
 Sludge TP 1,190 t/d
Maynilad Water Services Inc.
 Marubeni 20.0%
 Metro Pacific Investments 52.8%
 DMCI Holdings Inc. 25.2%
 Others 2.0%

Australia - EPC/O&M/BOT/RENTAL
 Engineering for Desalination Plant
 More than 450 Water Plants
Osmoflo Holdings Pty. Ltd.
 Marubeni 30% (~Aug.2018)
 Hitachi Zosen Corp. 70%



Chile - Concession
 Region 1/15, 3, 9, 12
 WTP 676,598 m³/d
 WWTP 691,459 m³/d

Agua Nuevas S.A.
 Marubeni 50%
 Mizuho Marubeni Leasing 50%



Chile - Concession
 Valdivia
 WTP 70,848 m³/d
 WWTP 46,224 m³/d

Agua Decima S.A.
 Marubeni 100%

Aguas Nuevas S.A.

Santiago, Chile



Period	:	30 years (2004 - 2034)				
Population	:	1.67million (524,000 clients)				
Outline	:	Full Water & Wastewater Services to Region 1/15, 3, 9, 12 and operation of 2 hydroelectric plants in Region 1				
Scope	:	Water Intake / Treatment / Distribution, Wastewater collection / Treatment / Discharge, Full customer services (Metering / Billing / Collection)				
Shareholders	:	<table border="0"> <tr> <td>Marubeni Corporation</td> <td>50.0 %</td> </tr> <tr> <td>Mizuho Marubeni Leasing Corporation</td> <td>50.0 %</td> </tr> </table>	Marubeni Corporation	50.0 %	Mizuho Marubeni Leasing Corporation	50.0 %
Marubeni Corporation	50.0 %					
Mizuho Marubeni Leasing Corporation	50.0 %					

Aguas Decima S.A.

Valdivia, Chile



Period	:	Indefinite				
Population	:	150,000 (45,000 clients)				
Outline	:	Full Water & Wastewater Services to Valdivia (Region 14)				
Scope	:	Water Intake / Treatment / Distribution, Wastewater collection / Treatment / Discharge, Full customer services (Metering / Billing / Collection)				
Shareholders	:	<table border="0"> <tr> <td>Aguas de Marubeni SpA</td> <td>99.9 %</td> </tr> <tr> <td>Marubeni Chile Ltda.</td> <td>0.1 %</td> </tr> </table>	Aguas de Marubeni SpA	99.9 %	Marubeni Chile Ltda.	0.1 %
Aguas de Marubeni SpA	99.9 %					
Marubeni Chile Ltda.	0.1 %					

Maynilad Water Services , Inc.

Manila, Philippine



Period	:	40 years (1997-2037)								
Population	:	10.46million (540 km ²)								
Outline	:	Full Water & Wastewater Services to 17 cities and municipalities in west zone of Metro Manila								
Scope	:	Water Intake / Treatment / Distribution, Wastewater collection / Treatment / Discharge Full customer services (Metering / Billing / Collection)								
Shareholders	:	<table border="0"> <tr> <td>Marubeni group</td> <td>20.0 %</td> </tr> <tr> <td>Metro Pacific Investments corp.</td> <td>52.8 %</td> </tr> <tr> <td>DMCI Holdings Inc.</td> <td>25.2 %</td> </tr> <tr> <td>Others</td> <td>2.0 %</td> </tr> </table>	Marubeni group	20.0 %	Metro Pacific Investments corp.	52.8 %	DMCI Holdings Inc.	25.2 %	Others	2.0 %
Marubeni group	20.0 %									
Metro Pacific Investments corp.	52.8 %									
DMCI Holdings Inc.	25.2 %									
Others	2.0 %									

AGS - Administração e Gestão de Sistemas de Salubridade, S.A.

Lisbon, Portugal



Period	:	25 - 30 years
Population	:	1.3 million
Outline	:	Full Water & Wastewater Services - 10 Concession · PPP in Portugal - 2 Concession in Brazil
Scope	:	Water Intake / Treatment / Distribution, Wastewater collection / Treatment / Discharge, Full customer services (Metering / Billing / Collection)
Shareholders	:	Marubeni Corporation 100 %

Consortio Agua Azul S.A.

Lima, Peru



Period	:	27 years (2000-2027)
Population	:	850,000
Outline	:	Chillon River Water Treatment Plant BTO Project
Scope	:	Water intake from Chillon river and groundwater Water treatment and supply
Off-taker / Licensor	:	Sedapal / Ministry of Housing, Construction and Sanitation
Shareholders	:	Marubeni Corporation 29.0 % ACEA 44.0 % Inversiones Liquidas SAC 27.0 % 2.0 %

Shuqaiq Three Company For Water

Shuqaiq, Kingdom of Saudi Arabia



Period	:	25 years (2021-2046)
Capacity	:	450,000 m3/d
Outline	:	Shuqaiq 3 Independent Water Plant Project
Scope	:	Development, design, financing, engineering, procurement, construction, ownership, operation, maintenance and insurance of the Plant
Off-taker	:	Saudi Water Partnership Company (SWPC)
Shareholders	:	Marubeni Corporation 45.0 % Abdul Latif Jameel CDC Ltd. 30.0 % Rawafid Alhadarah Holdings Ltd. 15.0 % Acciona Agua S.A. 10.0 %

Chengdu Generale des Eaux-Marubeni Waterworks Co., Ltd.

Chengdu, China



Period	:	18 years (1999-2017)
Off-taker	:	Chengdu Waterworks General Company
Outline	:	Potable water supply to Chengdu city, Sichuan
Main Asset	:	Water treatment plant 400,000 m3/d Intake facility 800,000 m3/d Intake pipeline (completed in 2002) 27 km
Scope	:	Construction of intake facility and pipeline / Water treatment plant and operation of the plant Water supply to Chengdu city
Shareholders	:	Marubeni Corporation (~2017) 40.0 % Veolia Eau-Compagnie Generale Des Eaux 60.0 %

Anhui Guozhen Environment Protection Technology Joint Stock Co., Ltd.

Hefei, Anhui, China



Employee	:	2,045 (consolidated basis)
Capital	:	RMB 306mil (JPY 5,250 million)
Outline	:	Investment, O&M, EPC, and manufacturing relating to following business area. Sewage treatment / Water reuse/Industrial water treatment/Pipe Network/Lake Purification.
Projects	:	BOT / TOT 50 projects 2,600,000 m3/d O&M 30 projects 1,600,000 m3/d
Shareholders	:	Anhui Guozhen Group 37.58 % Anhui Railway Fund 12.90 % Others 49.52 %

Shuweihat Water Transmission Scheme – Pipeline / Pumping Station

Shuweihat, Abu Dhabi, UAE



Project cost	:	USD 827.5 mil
Partner	:	Taisei Corporation
Completion	:	July 2005
Client	:	Abu Dhabi Water and Electricity Authority
Scope	:	Water pipeline construction
		- Pipeline length 500 km
		- Ductile iron pipes (1,600) 410,000 t
		- Civil work 15 mil m3
		- Pumping Station 455,000 m3/d

Great Man-made River Project Cathodic Protection for Sarir - Sirte PCCP Conveyance Line

Libya



Project cost	:	Libyan Dinar 20 mil (USD 36 mil)
Sub contractor	:	GAMA Endustri Tesisleri Imalat ve Montaj A.S. Temel Endustriler Insaat Sanayi ve Ticaret A.S.
Completion	:	February 2004
Client	:	Libya Great Man-made River Authority
Scope	:	<ul style="list-style-type: none"> ✓ Design, supply and installation of External Cathodic Protection System for 150km prestressed concrete cylinder pipes ✓ 12 months O&M

Doha West Sewage Treatment Works – Extension 3 & 4

Doha, Qatar



Project cost	:	USD 353 mil (EPC 254 mil / O&M 99 mil)
Partner	:	Degremont S.A.
Completion	:	September 2012
Client	:	Public Works Authority
Scope	:	<ul style="list-style-type: none"> - Expansion of existing sewage treatment plant - 10 years O&M Capacity (175,500 m3/d - from 62,100 m3/d) - Population served (650,000 - from 230,000)

Doha West Sewage Treatment Works – Extension 5

Doha, Qatar

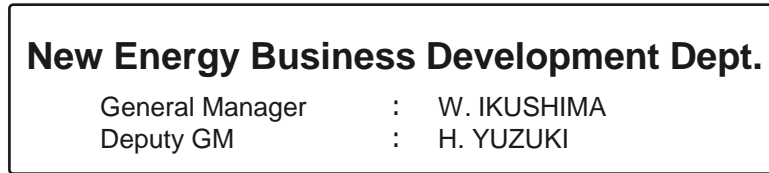


Project cost	:	USD 219 mil
Partner	:	Degremont S.A.
Completion	:	December 2017
Client	:	Public Works Authority
Scope	:	<ul style="list-style-type: none"> ✓ Expansion of existing sewage treatment plant ✓ Capacity (280,000 m3/d - from 175,500 m3/d) ✓ Population served (1,040,000 - from 650,000)

New Energy Business Development Dept. is **dedicated for:**

1. **H₂ & Ammonia Cross Border**, 2. **H₂ Local Supply Chain**, 3. **SAF/e-Methane** and 4. **CCUS**

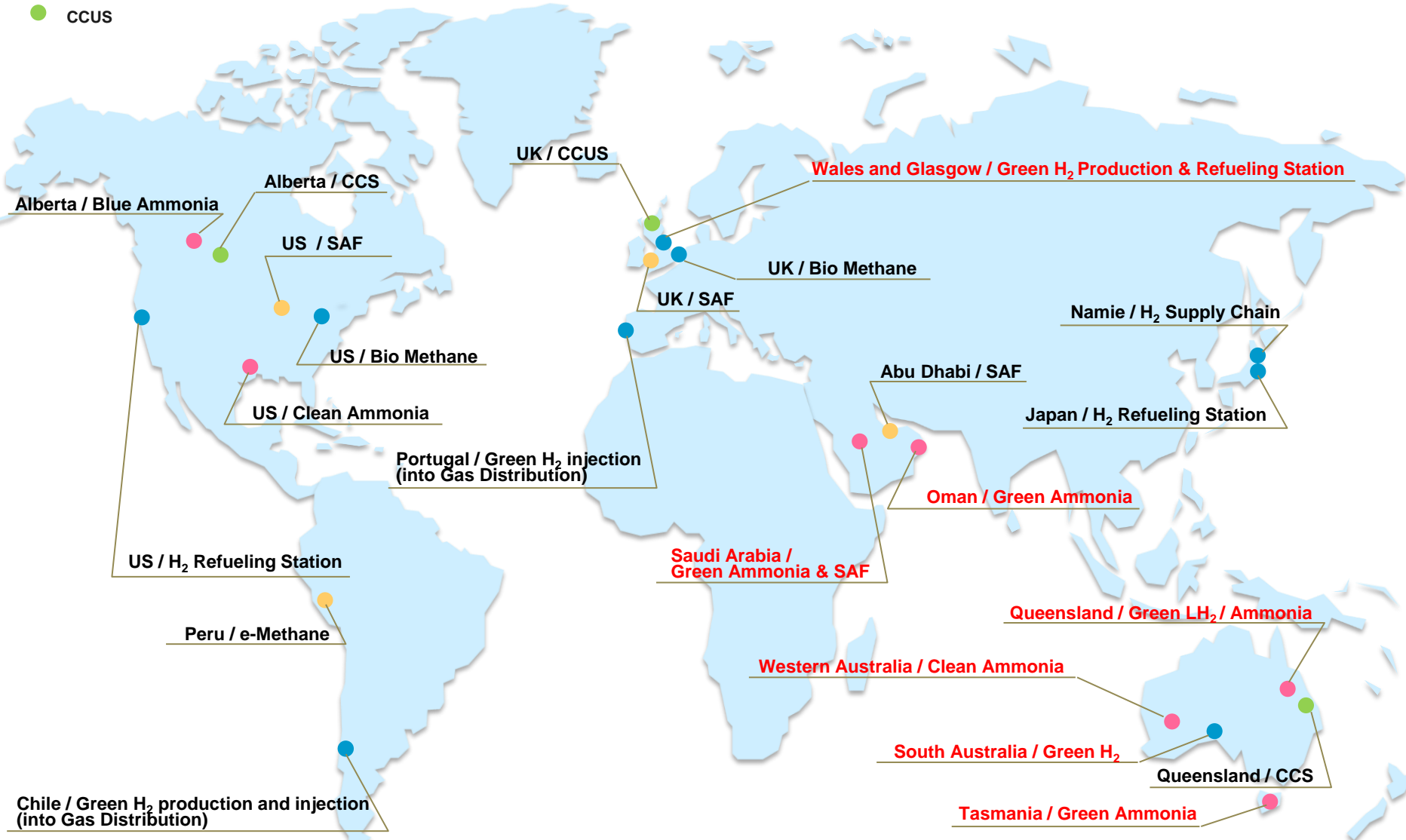
A key focus area is where we can take advantage of our knowhow and experiences in Power, Infrastructure and Energy to develop New Business.



	Planning Team	H ₂ & Fuel Ammonia Business Development Team-I	H ₂ & Fuel Ammonia Business Development Team-II	H ₂ & Fuel Ammonia Commercialization Team	Next Generation Fuel Business Development Team	CCUS Business Development Team
	GM : H.KUROKAWA	GM : K.UEHARA	GM : S.AOYAMA	GM : K.MATSUKAWA	GM : J.SHIRAIISHI	GM : M.OKAMOTO
Business Line	Strategic Planning Regulation & Market Study	Cross Border H ₂ & Ammonia project development	H ₂ project development for local demand	Sales and marketing of H ₂ & ammonia	Alternative fuels (ex. SAF and e-methane) project development	CCUS project development and environmental credit trading
Geography Coverage	Global Coverage	Middle East, Oceania, All America	EU, Japan, Oceania, All America	Japan, Asia, EU	EU, Middle East, All America	EU, Oceania, North America

NEW ENERGY BUSINESS - PROJECT MAP

- H₂ & FUEL AMMONIA CROSS BORDER
- H₂ LOCAL SUPPLY CHAIN
- SAF/e-METHANE
- CCUS



Green LH₂ / Ammonia Queensland, Australia



- Period : F/S (2021 - 2022)
Pre-FEED (2023) and FEED (2023 – 2024/2025)
Operation Start (2028~2031)
- Outline : Production of H₂ by Renewable Energy
Exportation of Liquified H₂ to Japan
Supply of H₂ to Ammonia Production Plant
- Partner : Stanwell, Iwatani, Kansai Electric Power,
Keppel infrastructure

Green H₂ South Australia, Australia



- Period : Construction (- 2024)
Operation Start (2024 -)
- Outline : Production of H₂ by Renewable Energy
Export Green H₂ by Metal Hydrate to from Australia to Indonesia
After the Export to Indonesia, Green H₂ to be consumed in local offtaker
- Partner : N/A

Green H₂ Production Bridgend, UK



- Period : Construction (2024)
Operation (2026 -)
- Outline : Production of H₂ by Renewable Energy
Supply of H₂ to Local Consumption
- Partner : -

MOU for Green Ammonia & SAF Saudi Arabia



- In March 2023, the MOU was signed between Marubeni and Governmental Public Investment Fund (PIF) in Saudi Arabia.
- Marubeni and PIF are aiming to develop Green H₂ Projects and working for Project Scope, Project Land, Project Schedule etc.
- Also, Green Ammonia Project and e-SAF Project are being discussed.

H₂ Refueling Station

Japan & USA



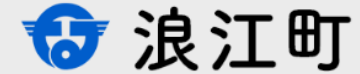
Period : Operation Start (CONFIDENTIAL)

Outline : Japan
Development of H₂ Stations and Distribution of H₂ with Marubeni Group Company
USA
Development of H₂ Eco System with Major Truck Station Operators

Partner : Major H₂ Suppliers, Vehicle Makers, Major Truck Station Operators

H₂ Supply Chain

Namie, Japan



Period : Sign of Agreement (2021)
F/S and Operation Start (2022 -)

Outline : Development of H₂ Supply Chain Model with Namie Town
H₂ Supply in small cylinder to Residentials and Energy produced by H₂ to Industrials through existing Energy Distribution Network

Partner : HITACHI, Marubeni Energy, Namiemachi

Green H₂ injection (into Gas Distribution)

Portugal



Period : Construction End (2021)
Operation Start (2022 -)
Currently 12% injection and the idea is to increase to 20%

Outline : Distribution of blended Gas (Natural Gas and Green H₂) to Residential, Commercial and Industrial customers through Gas Distribution Network.

Partner : Floene and Gestine

Green H₂ production and injection (into Gas Distribution)

Chile

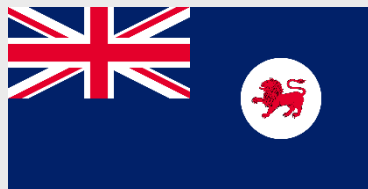


Period : Operation Start (2022 -)
Currently 5% injection and the idea is to increase to 20%

Outline : Production of Green H₂ by Renewable Energy
Distribution of blended Gas (Natural Gas and Green H₂) to Residential and Commercial customers through Gas Distribution Network

Partner : GasValpo

Green Ammonia *Tasmania, Australia*

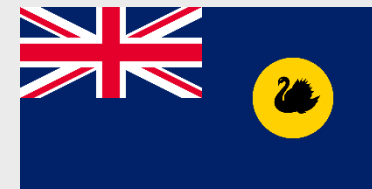


Period : F/S (- 2024)
Operation Start (- 2030)

Outline : Production of Green H₂
Production of Green Ammonia by Green H₂
Exportation of Green Ammonia to Japan and East Asia

Partner : Woodside, IHI

Clean Ammonia *Western Australia, Australia*

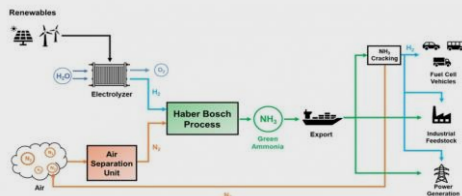


Period : F/S (- 2024)
Operation Start (- 2030)

Outline : Production of Blue and Green H₂ (Clean H₂)
Production of Clean Ammonia by Clean H₂
Exportation of Clean Ammonia to Japan

Partner : JOGMEC, Woodside, Hokuriku Electric Power, Tohoku Electric Power, Kansai Electric Power, Hokkaido Electric Power

Green Ammonia *Salalah District, Oman*



Period : Sign of Joint Development Agreement (2021)
Finance Close (2026)
Operation Start (2029-)

Outline : Production of Green H₂
Production of Green Ammonia by Green H₂
Supply of Green Ammonia to Domestic & International Users

Partner : DUTCO, SAMSUNG, OQ Alternative

Regulations

- Green H₂ sector is still developing, so with universal/world Regulations Market will be stabilized.
- In some developed area, we can develop business, based on Local Regulations, however Local Regulations are variable and limited, so we are adjusting Project Structure depending on the Market.
- We strongly believe that the universal/world Regulations or Common Standards are indispensable for more open and mutual developments, synergies and transactions in the world.

Auto Financing

- H₂ Price is still low because Demand is still very limited, and the Demand depends on not Economic Reason but Intangible Values such as Sustainability Indicators.
- On the other hand, Material costs for Green H₂ (i.g. Energy Cost, Production System Cost and Transportation Cost) are still high, therefore, generally speaking, Profitability is very low and practically it's impossible to develop any Business without Subsidies from Governments.
- If we can reach Fair Price which covers all Costs and Margins, we believe that the Market will become independent of the special supports like Subsidies and will be evolved and matured.

Technical Innovation

- As mentioned in the previous points, Cost Reduction is key to develop Green H₂ Projects more, and Technical Innovation for the Cost Reduction is necessary to commercialize this sector.
- Core parts are Energy Production, Equipments of Production System and Transportation.

Thank you!!