MODEC

MODEC Group
Mid-term Business Plan
2021-2023

February 9, 2021

Outline

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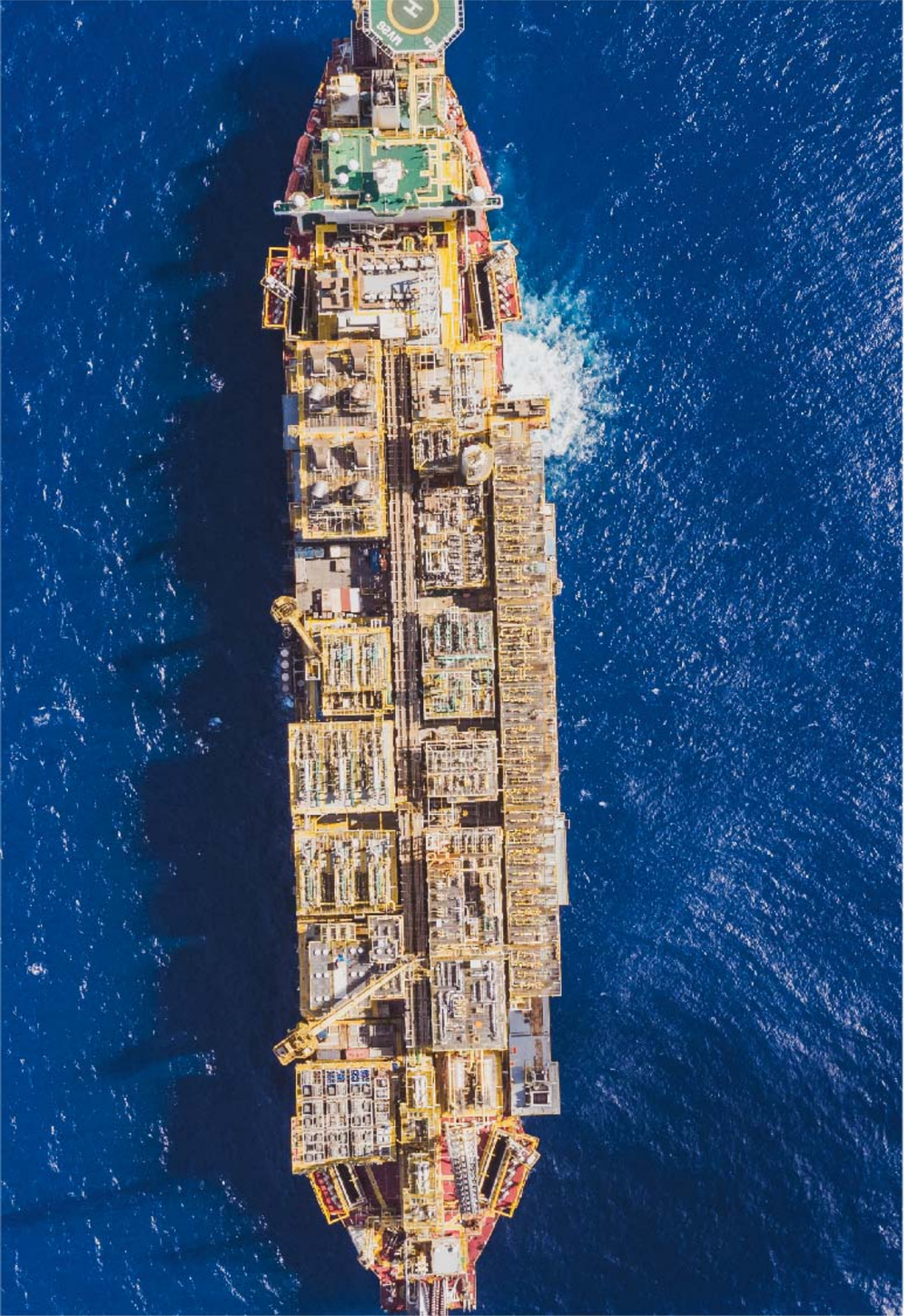
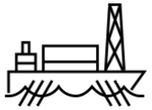


Company Overview & Business Environment

1. Company Overview

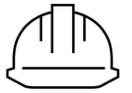
MODEC is a leading provider of floating production solutions, such as FPSOs*1, FSOs *2 and TLPs*3, to the offshore oil & gas industry. These units can handle oil & gas production in ultra-deep water and in harsh environments. MODEC has an exceptionally strong track record to prove its excellency.



Founded in **1968**, MODEC has been leading the offshore industry for over **50**-years

Diverse team comprised of **over 5,000** employees from **25** countries

EPCI *4 track record: **46** completed projects, **6** new under construction.



Over 250 cumulative years of O&M*5 experience with **28** units

MODEC has **17** FPSOs/FSOs operating around the world **24/365**

MODEC is responsible for **about 1/4** of pre-salt production in Brazil

*1 FPSO: Floating Production, Storage, and Offloading system
*2 FSO: Floating Storage and Offloading system
*3 TLP: Tension Leg Platform
*4 EPCI: Engineering, Procurement, Construction and Installation
*5 O&M: Operations and Maintenance

1. Company Overview

Projects

54 units in 18 countries

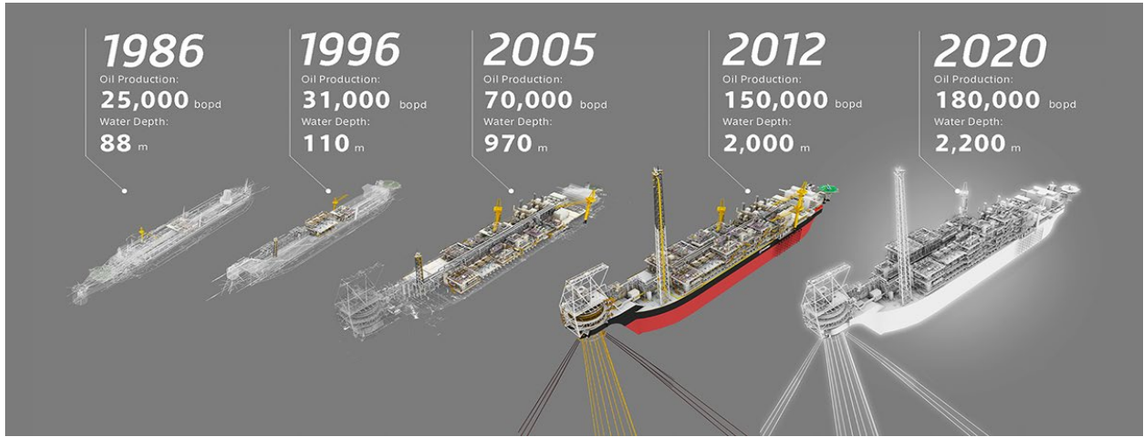
Offices

18 offices in 14 countries

2. Our Strengths & Competencies

Floating Solution

- **Project management capability** enabling robust and smooth execution from project development to EPCI to operations
- **Unparalleled offshore development expertise** accumulated in our long history of O&M service
- **Track record and technical capabilities** in ultra deep-water development
- **Project development partnership** with major oil companies, partners and project finance lenders
- **Proprietary mooring technology**



2. Our Strengths & Competencies

Digitalization

- Started as a corporate initiative to **solve pain points in FPSO operations and maintenance**
- **Unique cloud-based platform** optimized for rapid model development and scaling-up to many other FPSOs
- **Stored +250 billion lines of data** including FPSO operation data, people data, engineering drawings
- Implemented **business process transformation** and **performance management** based on data and evidence
- **Installed 500+ models** converting data into insights and impacts
- **Digital as a potential enabler of Life Cycle Value maximization** (e.g., Operational data to FPSO designs and engineering)

Our FPSO, MV29, was recognized as a **"Lighthouse"** of the Fourth Industrial Revolution, by **World Economic Forum** in January 2020.

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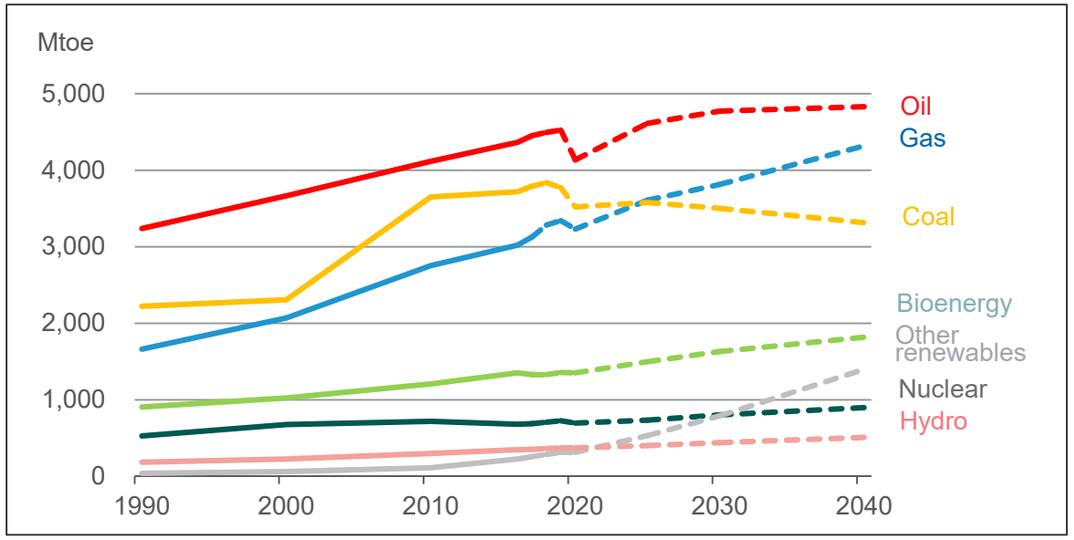
3. Business Environment

Energy Demand



Source: World Energy Outlook 2012 & 2020 – Stated Policies Scenario (IEA)

Oil demand is **unlikely to decline sharply** but tends to decline in the long-term with the growth of demand for renewable energy.

(Due to the impact of COVID-19, oil demand is expected to decrease by about 9% year-on-year in 2020 and gradually recover after 2021.)

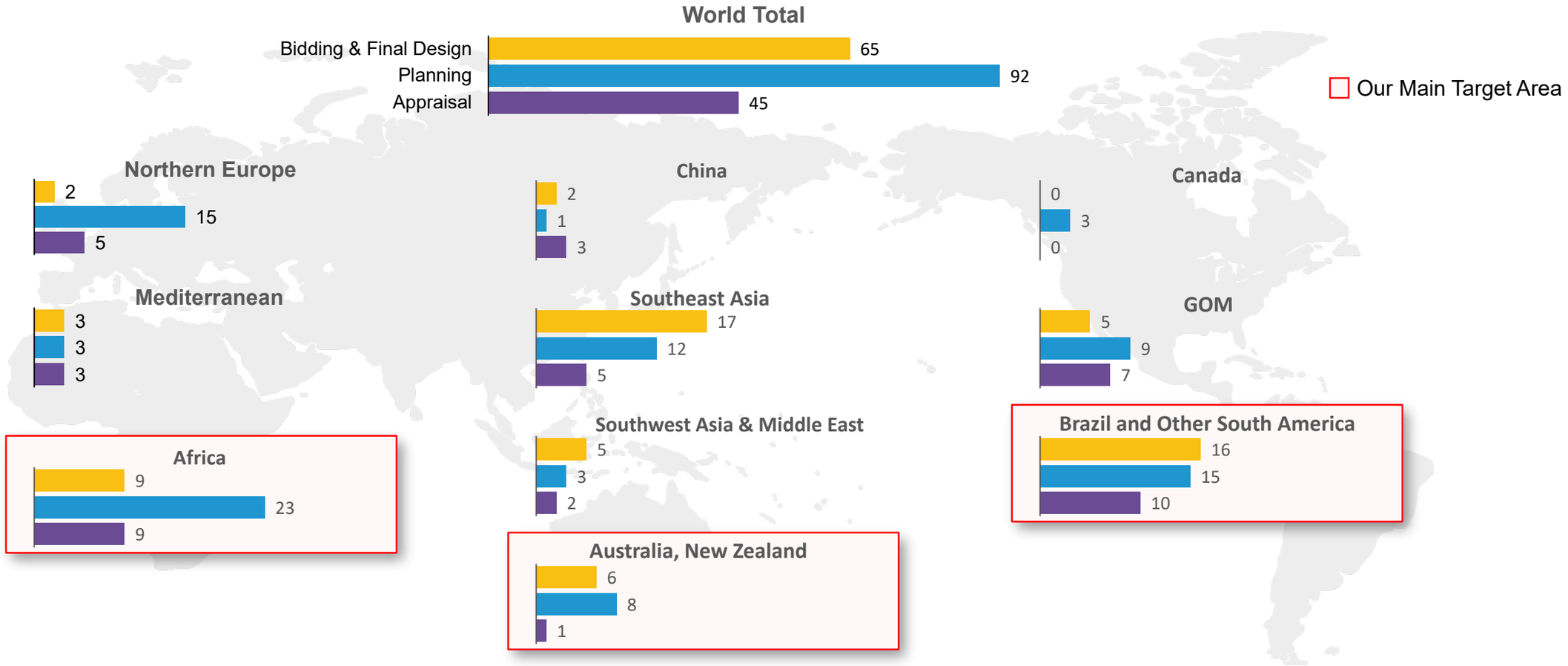
Trends and Topics of the Energy Industry

- President Joe Biden has signed an executive order to rejoin the Paris Agreement.
- Prime Minister Boris Johnson announced a ban on the sale of new petrol and diesel cars from 2030, five years earlier than previously planned.
- Japan plans to set a policy that all new vehicles must be electric starting in mid-2030s. Prime Minister Yoshihide Suga has pledged to reduce Japan's greenhouse-gas emissions to net zero by 2050.
- China plans to gradually eliminate non-hybrid gas-powered vehicles in the next 15 years and promised to become carbon neutral before 2060.
- A majority of oil majors are aiming to become a net-zero emissions energy business by 2050 or sooner.
  One of our clients is committed to accelerating the decarbonization of processes, including “zero routine flaring by 2030”.

3. Business Environment: FPSO/FSO & TLP Market Trends

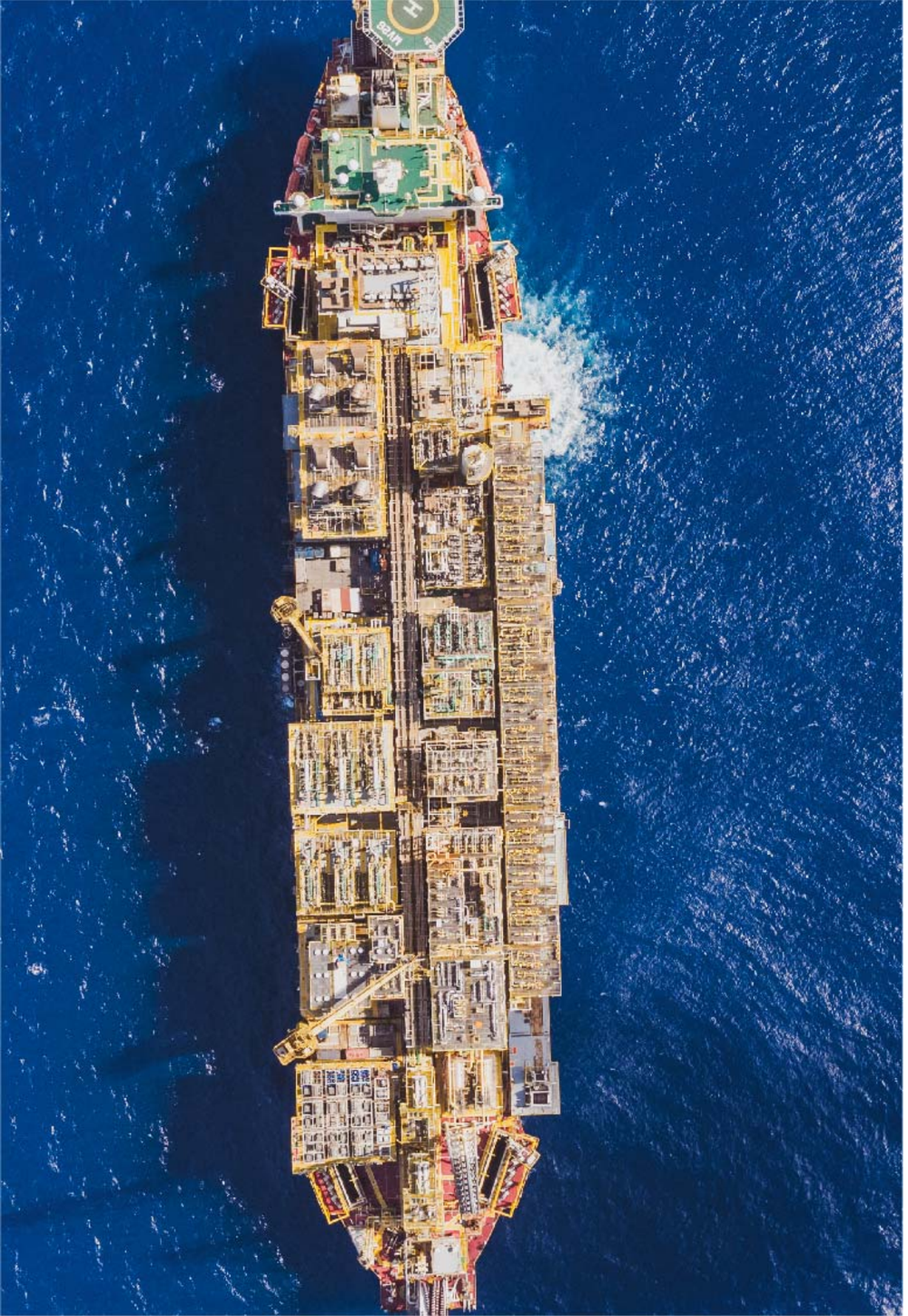
Although some investment decisions are suspended due to the impact of COVID-19, potential demand is expected to remain consistent at the current oil price level*, and development of new projects is expected to proceed steadily.

* The U.S. Energy Information Administration (EIA) expects that Brent prices will average USD49/barrel in 2021 (Short-Term Energy Outlook on Dec 8, 2020)



Projects in Planning Pipeline (Appraisal, Planning, and Bidding/Final Design) as of January 2021

Source: 2021 Jan Outlook Report (EMA)



Long-term Vision

4. Long-term Vision

Our Goal

Become the Offshore Industry's Global Leader exploring Potential of the Ocean and Sustainable Future

Self-innovation & Reshaping Industry

New Business
Creation of Environmentally-Friendly Business

Business Model Evolution

Core Business
Development of Next-Generation FPSO

- Concern for Environment & Decarbonization
- Lifecycle Cost Optimization
- Process Safety & Asset Integrity

Important Themes of Energy & Offshore Industry

5. Business Model Evolution

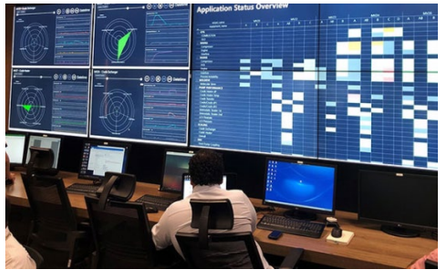
Developing Next-Generation FPSO and new businesses by applying core technologies

New Built Hull / Autonomous Operation / Low Carbon Technology

FPSO Evolution

New Business Creation

Digital Application to Clients and Other Industries



Floating Solution Utilization

Self-developed Technology + Partnership + M&A

6. Path to Long-term Vision

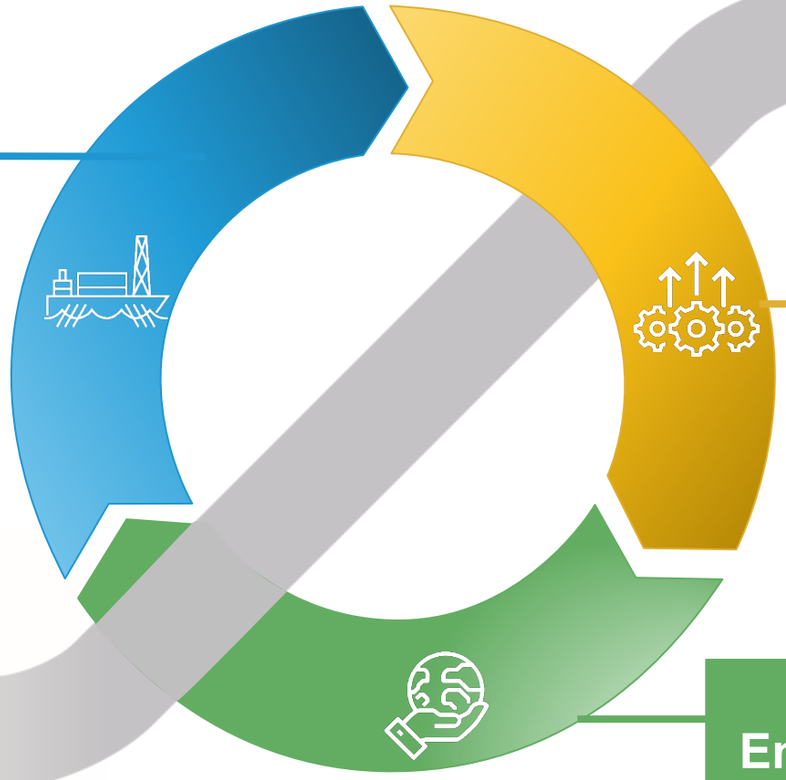
Business model evolution with continued cycle of “Reinforcement of FPSO Business Profitability”, “Investments in R&D” and “Response to Environmental and Social Changes”

PRESENT

Contribution to Society by Supplying Stable Energy

Reinforcing FPSO Business Profitability

- FPSO evolution, improving competitiveness
- Asset Integrity improvement
- Refining core technologies



FUTURE

Contribution to Sustainable Society with Business Model Evolution

Reinforcement of Business Foundation

- Corporate Reformation (Suitable Organization and HR Strategies)
- Investments in R&D

Actions in response to Environmental & Social Changes

- Establishing business structure that is environmentally and socially friendly

Review of Mid-term Business Plan 2018-2020

7. Review of Mid-term Business Plan 2018-2020

Strategic Targets

Maximizing Lifecycle Value

- Evolution of Asset Integrity
- Digitalization

Development of new business

- Penetration into gas market
- Continuous investment in R&D

Target for 2020

- **Revenue**: USD 4,000MM
- **Net Profit:** USD 200MM
- **ROE**: 12%
- **Award**: 2 vessels/year (Oil), 1 vessel(Gas)
- **Digitalization**: 6 vessels in 2018 and expands

Achievements

- The concept of Lifecycle Value is firmly established as our corporate culture with implementation of initiatives such as the organizational reinforcement and risk analysis, as well as enhancing synergies within MODEC group.
- Made substantial progress in Digitalization in Operations (FPSO awarded as WEF* 4th Industrial Revolution Lighthouse)

- Accelerating development of Floating Offshore Wind Power (signed a contract with NEDO** related to the R&D)
- The new offshore hull repair method with vacuum assisted resin transfer molding approved by the American Bureau of Shipping

- Awards : 6 vessels
  Order backlog : USD 11,953 MM (2020-year end)
- Revenue : USD 2,994 MM (2020)
- Diversifying financial sources by issuing the first project bond (awarded PIF*** Bond of the Year 2020)

* WEF: World Economic Forum

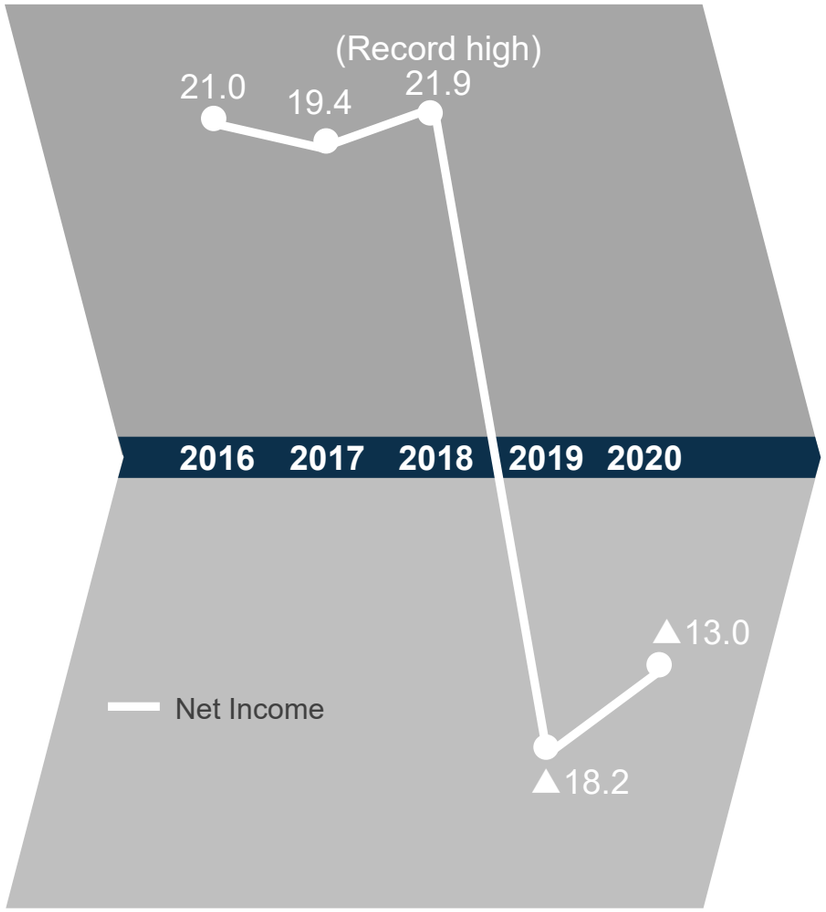
** NEDO: National Research and Development Agency. New Energy and Industrial Technology Development Organization

*** PIF Award: Project & Infrastructure Finance Bond of the Year 2020

7. Review of Mid-term Business Plan 2018-2020

Challenges

Change in Net Income (Billion JPY)



Key factors for net loss (2019 and 2020)	Current status / Impacts on Mid-term Business Plan (MTP)
COVID-19	Heavy impact on operations and constructions due to COVID-19 pandemic in 2020, and the impact will remain during the MTP period.
Cost increase MV34	Construction schedule delayed for MV34 due to COVID-19 and expected to start oil production in the first half of 2022.
Hull damage MV14	Sold for decommissioning in 2020. Recorded a provision for related repair costs and recognized it as extraordinary loss in 2019.

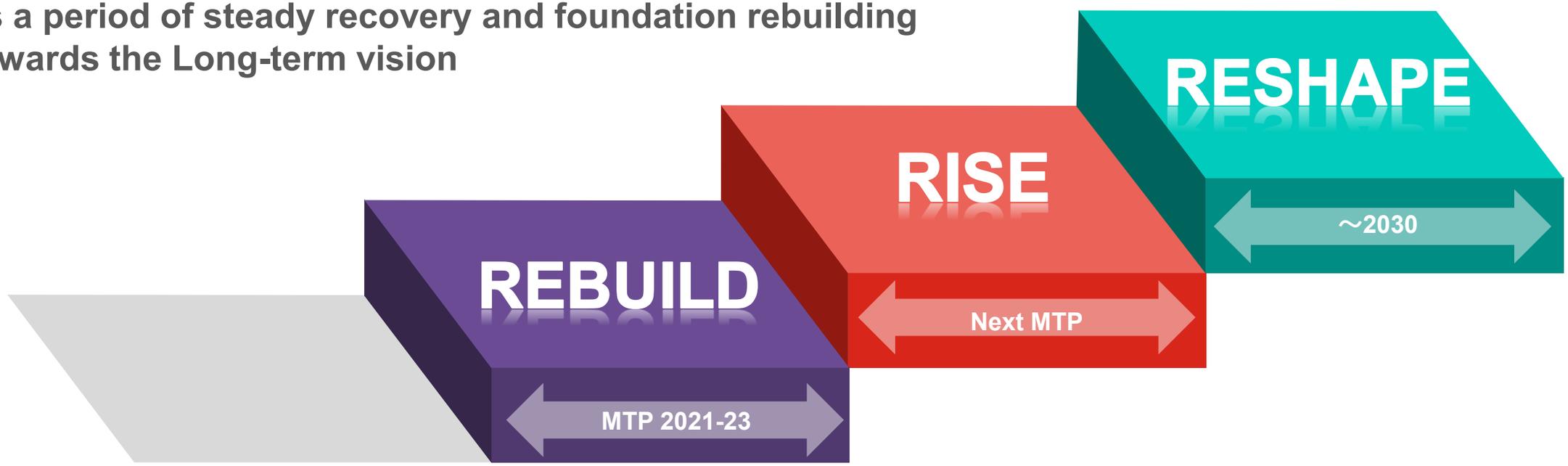
Key Initiatives during MTP period

- It is necessary to build a more integrated asset management structure for expanding the operating area and number of vessels.
- Especially, it is vital to keep asset integrity of aged large vessels constructed according to specifications of earlier stage and installed in Brazil area.

Mid-term Business Plan 2021-2023

8. Mid-term Business Plan 2021-2023

Plotting the three years of the Mid-term Business Plan as a period of steady recovery and foundation rebuilding towards the Long-term vision



FPSO	Recovery and Reinforcement	Income Stabilization	Next Generation FPSO
Digital Business	Commercialization	Business Expansion	
New Business	R&D	Validation and Business Preparation	Commercialization

8. Mid-term Business Plan 2021-2023

Our Themes & Initiatives

Long-term Vision

Contribution to a Sustainable Society

Evolution of the Business Model

Mid to Long-term Strategies

- **Reinforcement of FPSO Business**
- **Reinforcement of Business Foundation**
- **Response to Environmental & Social Changes**

Key Themes in Mid-term Business Plan (MTP)

1. **Asset Integrity Improvement**
2. **Digitalization Strategy Acceleration**
3. **R&D: Incubation of Next Business after FPSO**
4. **Respond to Environmental and Social Demand**

Major Initiatives

1. Intensive maintenance campaign for early-stage FPSO/FSO in Brazil
   - Continue LCV maximization (next generation new built FPSO hulls, and risk management)
   - New operational technical support structure to prepare for growth of operations (3-pole system – Americas, Asia Pacific, and Europe)
2. Setting up digital solution business
   - EPCI control reinforcement by Digital utilization
   - Asset Integrity enhancement by predictive maintenance with Digital and IoT
3. Cultivating future business pillar next to FPSO
   - Accelerating R&D targeting commercialization in the late 2020s (TLP type Floating Offshore Wind Power etc.)
4. Approach to SDGs
   - Promotion of safe and secure working environment
   - Response to decarbonized society

Asset Integrity Improvement

Maintaining Aged Vessels in Brazil

Back-ground	Large FPSOs for ultra deep-water built in early days before establishment of industry standards have different challenges from recent FPSOs in terms of securing asset integrity
Counter-Measures	▪ Revisiting management and maintenance standards to make them stricter than laws and industry standards based on the lessons learned from MV14 hull damage. ▪ Conduct intensive maintenance campaign for MV15 to MV23 in 2021 and partly in 2022 by mobilizing accommodation vessel and sufficient workers (approx. 400 people). (*) ▪ Improving and increasing the technical support team in Brazil. ▪ Revamping maintenance program and its system for planning, management and implementation.

With special maintenance campaign and continuous asset management work, we are committed providing a total service to ensure safe and continuous offshore oil and gas production.

* Special maintenance campaign was originally planned in 2020 but shifted to 2021 due to COVID-19, and the scope became wider.

Accelerated Digitalization Strategy

Three digitalization strategies to evolve MODEC's business

MTP 2018-2020 | **MTP 2021-2023** | **2024-**

Digital as our new services

- Bid
- EPCI
- O&M

Preparation for setting up new business

Setting up Digital Solution Business

- Deliver **"Digital Solutions"** proven in MODEC's FPSO business to potential solution users in Oil & Gas and other industries

Expanding our digitalization sphere from O&M to upstream

- **"Digital Control Tower"** to improve controls on EPCI projects and to support immediate decision making
- **"Smart Procurement"** to streamline our procurement activities

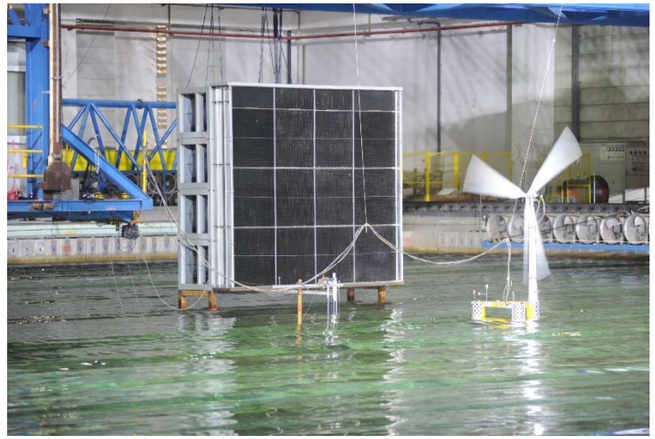
Toward further operational excellence

- **"New prediction models"** to cover more equipment and processes
- **"IoT devices"** and **"next-generation network system"** to expand the capability of remote asset monitoring
- **"Various use cases"** to enhance FPSO operations in areas such as HR, logistics, process safety, asset integrity, and GHG emission control

MTP Key Theme 3

Incubation of next business after FPSO: Floating Offshore Wind Power

Applying our floating technology and Tension-Leg Platform (TLP) design to wind turbines, we aim to commercialize offshore wind power generation (EPCI and O&M)



Water tank test under wind and wave condition

2020 to 2027 Technology development phase (utilizing TLP)

Obtained AiP* from DNV-GL Completed the basic design work

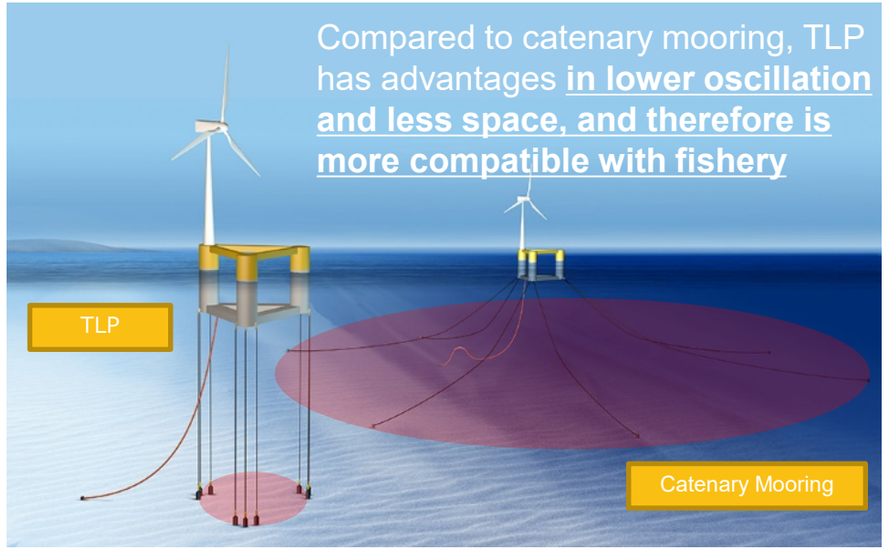
Rigorously working on the NEDO project**

Until around 2030 Commercialization phase

Penetration into major markets (JP, US and EU)

Expanding business as one of our main products

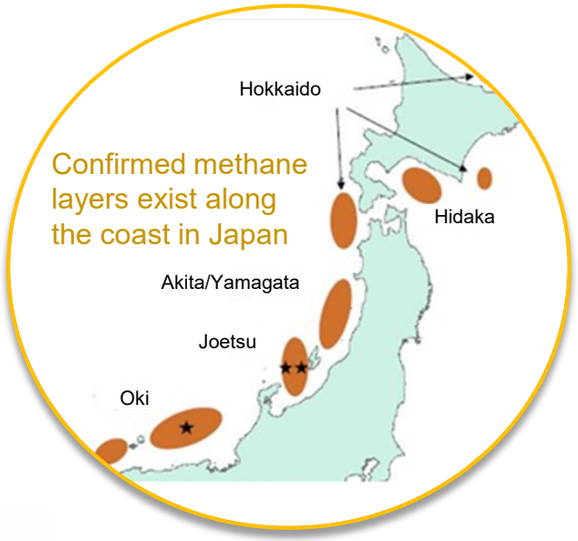
World-wide business development



*AiP：Approve in principle
**NEDO：New Energy and Industrial Technology Development Organization
MODEC is currently working on ”Research and Development for Technology to reduce Capital Expenditure (CAPEX) and Operating Expense (OPEX) of Floating Offshore Wind Turbines”

Incubation of Next Business after FPSO: Seabed Mining Technology

Applying our FPSO technology, we aim to actualize seabed resource mining (such as methane hydrate) in the Japan sea and its commercialization in the long term.



Compared to natural gas, methane hydrate requires less refinery since it purely consists of methane and water

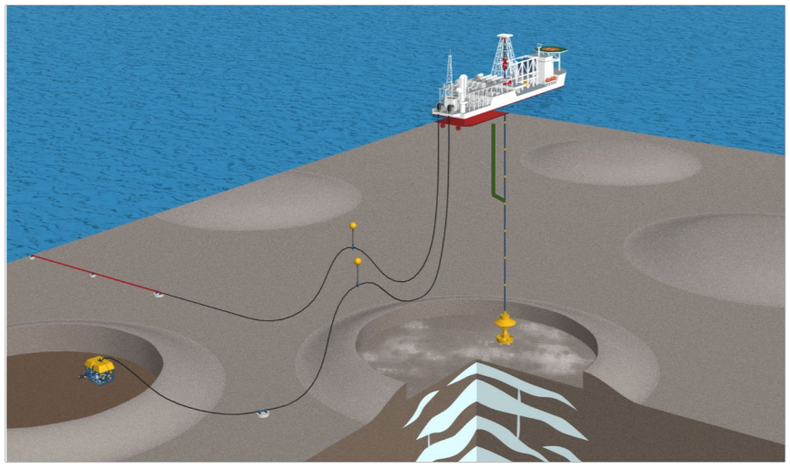
2020 to 2027
R&D on shallow methane hydrate development

Early 2030s
Aiming at actual production

Contributing to domestic natural resource development in Japan

For fuel and feedstock for hydrogen production

Working on government-initiative projects, we are rigorously incubating technology toward commercialization in the future



Harvesting methane hydrate from shallow resource layers under the seafloor

Respond to Environmental and Social Demand

Approach to Sustainable Development Goals(SDGs):

SUSTAINABLE DEVELOPMENT GOALS

SDGs are universal goals which were adopted by all UN Member States in 2015. They consist of 17 goals and 169 targets to end poverty, protect the planet and improve lives.

While we recognize that our business activities may have impact to all 17 goals directly and indirectly, we believe our business activities contribute most to five goals, namely **Goal 5, 7, 8, 13 and 14**, and we will focus to achieve them.

Our Contributions to sustainable society:

5 GENDER EQUALITY

Improve comprehensive support for diversity and gender equality

7 AFFORDABLE AND CLEAN ENERGY

Develop and supply clean energy solution based on our technologies
- Floating Offshore Wind Power
- Seabed methane hydrate

8 DECENT WORK AND ECONOMIC GROWTH

- Promote safe and secure working environments for all workers
- Measures for our path to Zero TRIR
- Recruiting local people and supporting the creation of business
- Take measures to eliminate child labor and forced labor

13 CLIMATE ACTION

Take action to reduce GHG emissions
- Measures to further reduce gas flaring
- A combined cycle power plant for FPSO

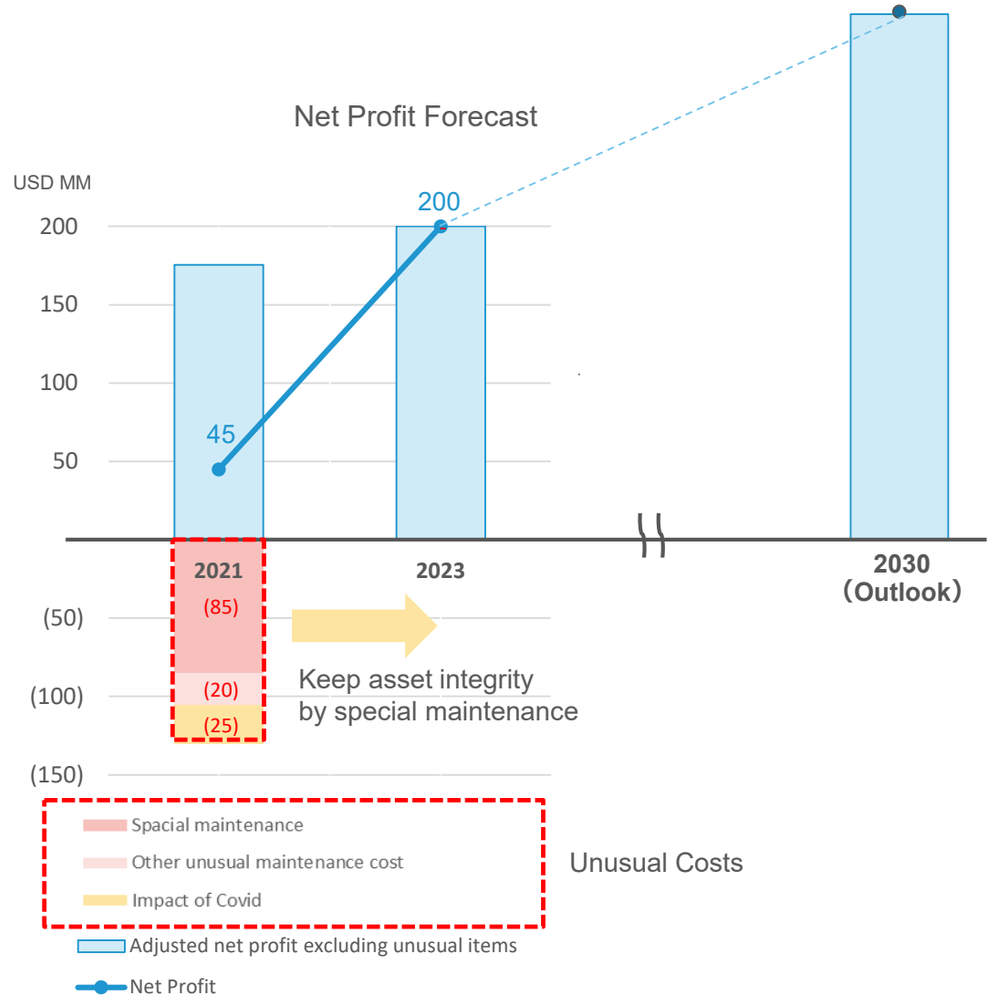
14 LIFE BELOW WATER

Take action to reduce marine pollution
- Measures for reduction in oil spills to Zero
- Further reduction of oil % in produced water
- Increased reduction of plastic use and waste

Financial Highlights

9. Financial Highlights

Path to profitability recovery



Target for 2023

Net Profit : USD 200 MM
ROE :12%
FCF : Covers large investment CF with operating CF

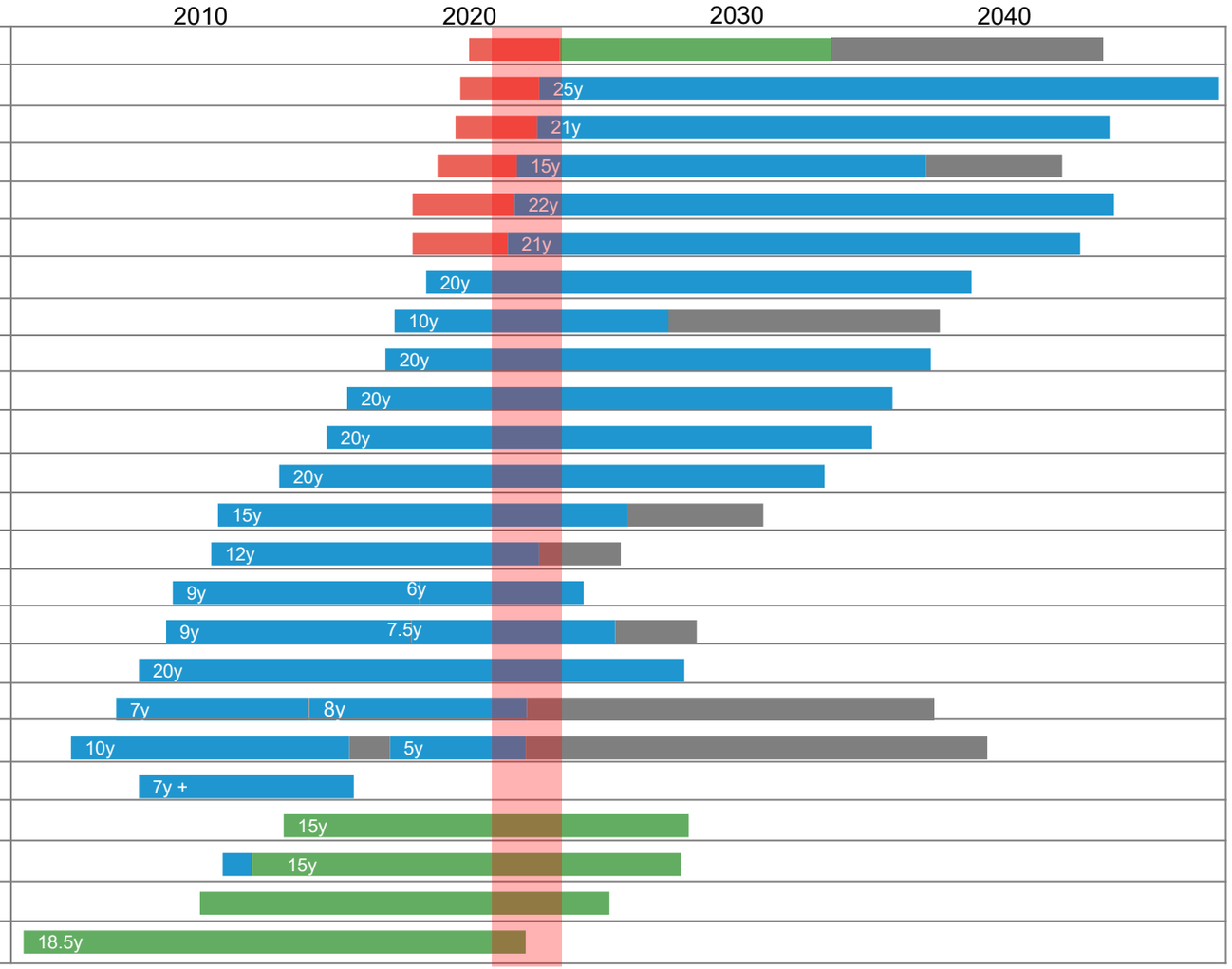
Profitability Recovery

- Minimizing losses from operation and asset management of aged assets in Brazil is the most important task.
- By conducting special maintenance project in 2021 (and partly in 2022), we maintain asset integrity.
- By controlling asset management cost and expanding stable profit from FPSO charter business, net profit will be recovered.

9. Long-term Profit Base

Expanding stable income base by increasing long-term charter & operation projects

1		FPSO Sangomar	Woodside	
2	32.5	FPSO Anita Garibaldi MV33	Petrobras	
3	35.0	FPSO Almirante Barroso MV32	Petrobras	
4	35.0	FPSO MIAMTE MV34	Eni	
5	29.4	FPSO Guanabara MV31	Petrobras	
6	29.4	FPSO Carioca MV30	Petrobras	
1	29.4	FPSO Cicada de Campos dos Goytacazes MV29	Petrobras	
2	25.0	FPSO Prof. John Evans Atta Mills	Tullow	
3	29.4	FPSO Cidade de Caraguatatuba MV27	Total	
4	29.4	FPSO Cidade de Itaguai MV26	Petrobras	
5	29.4	FPSO Cidade de Mangaratiba MV24	Petrobras	
6	34.0	FPSO Cidade de Sao Paulo MV23	Petrobras	
7	42.5	FPSO Cidade de Angra dos Reis MV22	Petrobras	
8	50.0	FPSO Cidade de Santos MV20	Petrobras	
9	45.0	FPSO Cidade de Niteroi MV18	Petrobras	
10	65.0	FSO Rang Dong MV17	JVPC	
11	40.6	FSO Cidade de Macae MV15	Petrobras	
12	42.0	FSO Rong Doi MV12	KNOC	
13	50.0	FPSO Baobab Ivoirien MV10	CNR	
-	40.0	FPSO Stybarrow Venture MV16	standby	
1		FPSO Raroa	OMV	
2		FPSO Kwame Nkrumah MV21	Tullow	
3		FPSO Pyrenees Venture	BHPB	
4		FPSO Fluminense	Shell	

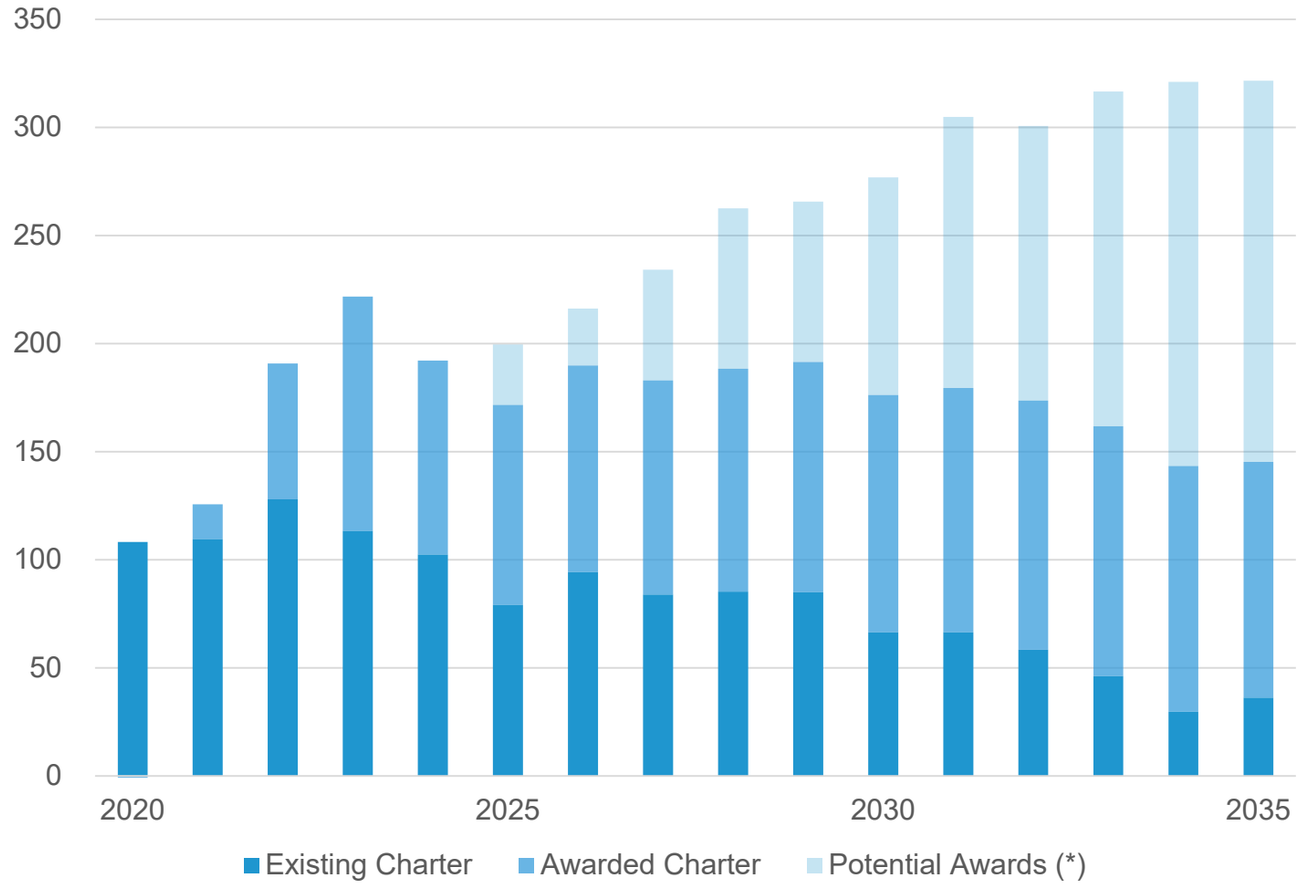


As of 2021 February (fixed)
- EPC(I) period
- Charter period (fixed)
- Charter period (option)
- Operation period

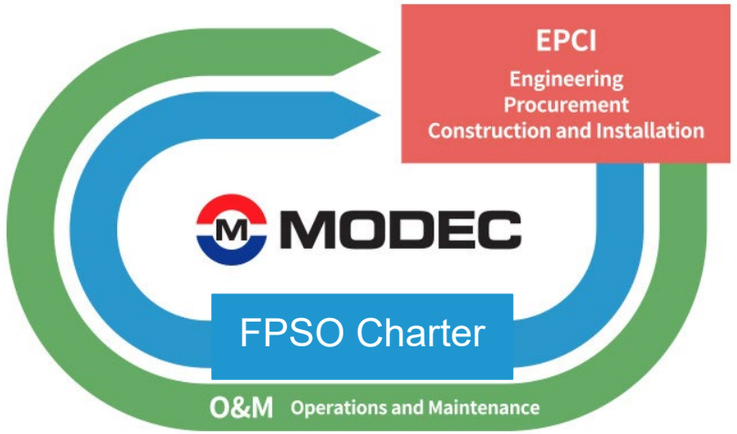
Owned by MODEC group companies (%)

9. Expanding Charter Profit Base

Profit from Charter Business (excl. O&M)



(*) Potential awards for Charter Business assumes 2 charter projects per 3 years until 2035



- Five Charter FPSO are under construction at this moment and those charters will commence in Mid-term Business Plan period
- Assuming normal operational uptime and continuous award of new projects, more than USD200M per year of profit base is expected until late 2030s solely from FPSO charter business


MODEC
GOING BEYOND
THAT IS WHAT WE DO EVERYDAY