

*Mission: Engineering for Sustainable Growth of the Global Community*

*Vision: Global Leading Engineering Partner*

*Values: Integrity, Creativity, Diversity, Learning, Team*



# FY2019 Management Policy

May 15, 2019

Toyo Engineering Corporation

1. FY2018 Performance Summary
2. Update of Ethylene Project in USA
3. Root Causes of Cost Overrun at Ethylene Project in USA
4. Ongoing Initiatives to Secure Sustainable Profits (since FY2015)
5. Update of Other Projects
6. Major Ongoing Projects
7. Market Outlook and FY2019 New Order Target
8. FY2019 Forecast

# 1. FY2018 Performance Summary

- ◆ JPY 5.6 billion operating loss due to cost increase at Ethylene Project in USA
  - ◆ JPY 0.8 billion net loss despite JPY 3.4 billion ordinary income
- (Unit : JPY billion)

	2019/3/31	2018/5/15 Forecast	Difference
Net Sales	294.9	300.0	(5.1)
Gross Profit	10.6	21.0	(10.4)
Gross Profit Margin	3.6%	7.0%	-3.4%
SG&A(Selling, General and Administrative Expenses)	16.2	19.0	2.8
Operating Income	(5.6)	2.0	(7.6)
Non-Operating Income and Expenses	9.0	0.5	8.5
Ordinary Income	3.4	2.5	0.9
Net Income	(0.8)	1.0	(1.8)
New Orders	298.0	300.0	(2.0)

- ◆ Backlog of Contracts : JPY 426.3 billion
- ◆ Dividends per share : None

# 2. Update of Ethylene Project in USA

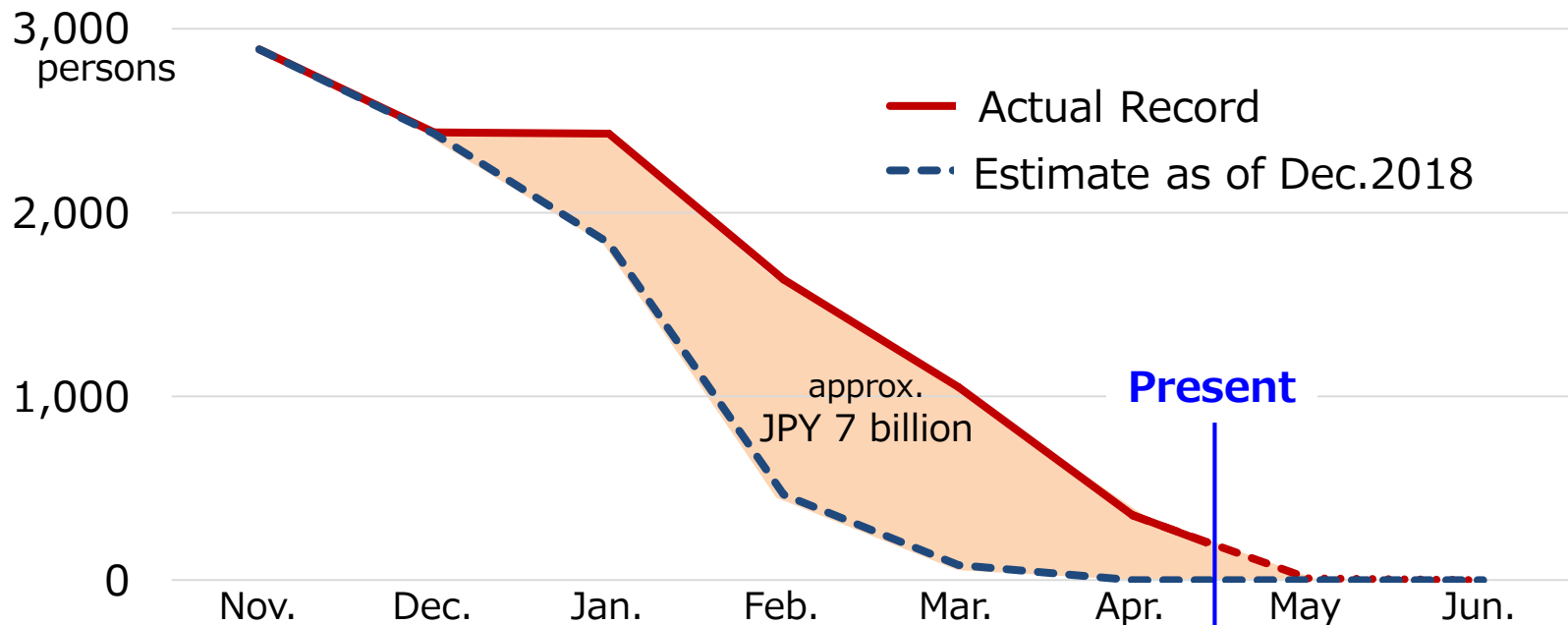
- ◆ Construction completed, start-up work in progress
- ◆ JPY 10 billion additionally booked covering costs up to Plant Acceptance

<Breakdown>

Workers cost increase due to schedule change etc. : approx. JPY 7 billion (see below graphic)

Other reasons (additional equipment & materials, construction machines etc.) : approx. JPY 3 billion

- ◆ Number of workers mobilized (from Nov. 2018 to Jun. 2019)



### 3. Root Causes of Cost Overrun at Ethylene Project in USA

- ◆ Original contract amount : approx. JPY 150 billion
- Cumulative cost overrun : approx. JPY 80 billion
  
- ◆ Root causes of cost overrun :
  1. Conflict of antinomic contract formation  
EPC Lump sum with the owner, while T&M\* with the sub-contractor
  2. Short supply of skilled workers and their low productivity
  3. Unexpected troubles at the initial stage of project  
(single sub-contractor formation, mistake on piling work)
  4. Insufficient management capability in T&M contract

\*T&M: Time and Materials

## 4. Ongoing Initiatives to Secure Sustainable Profits (since FY2015)

- ◆ Rigorous process for risk screening from proposal stage
  - Selective proposal focusing on advantageous products & experienced areas
  - Enhancement of governance by Board of Directors for risk measures on important proposals and those with novelty
  - Offer pricing after joint approval by top managements (CEO, EVP & CFO)
  - Construction risk shut-off in North America projects
  
- ◆ Strengthening of EPC execution & project management capability
  - Thorough analysis on any novelties and feedback share among projects
  - Construction-Commissioning oriented Engineering/Procurement
  - Strengthening of construction management capability  
(e.g. Real-time monitoring of construction situation)
  - Appropriate assignments depend on project size and risk magnitude

- ◆ Ethylene Project in Malaysia
  - Construction completed, start-up work in progress
  - At refinery area, a fire incident happened on 12 April 2019, but no damage was found at TOYO's scope of plants.
  
- ◆ Other Projects
  - Every other project is going as planned after introduction of "Rigorous process for risk screening from proposal stage" since FY2015.
  - Major projects successfully completed in FY2018
    - e.g. Mega-solar (Japan), Fertilizer (India) and,  
Gas Petrochemical Complex (Turkmenistan)

# 6. Major Ongoing Projects

As of 2019/3/31



## Russia

2018 Ethylene  
2018 Polyethylene



## Turkmenistan

2014 Gas Petrochemical Complex  
(Completed)



## Nigeria

2017 Fertilizer



## India

2017 Fertilizer  
2015 Fertilizer (Completed)



## Indonesia

2018 Acrylic Acid  
2018 Butene-1/MTBE  
2017 Polyethylene  
2017 Gas Compression  
2015 S-SBR (Completed)  
2015 Railway Systems (MRT)  
(Completed)



## Japan

2018 Propylene Splitter  
2018 Biomass Power x3  
2018 Mega-Solar x1  
2018 Expansion of Naphtha Cracking Furnace x1  
2017 Biomass Power x1  
2017 Mega-Solar x3  
2014 Mega-Solar x1 (Completed)



## USA

2015 Ethylene



## Thailand

2018 1,3-Butadiene/Butene-1  
2018 Ethylene  
2017 Gas Power SPP x1  
2016 Gas Power SPP x1 (x4 Completed)  
2015 Gas Power SPP x0 (x5 Completed)  
2014 Gas Power SPP x0 (x1 Completed)



## Malaysia

2014 Ethylene Complex

※Year: Fiscal year of Award



# 7. Market Outlook and FY2019 New Order Target

**New order target : JPY 300 billion**

Business	Market Outlook	Major targeted orders/Activity
Plant	<ul style="list-style-type: none"> <li>Continued growing demand for petrochemical and fertilizer mainly in emerging markets</li> <li>Rising needs for renewal of petrochemical plants in Japan</li> </ul>	<ul style="list-style-type: none"> <li>LNG regasification facilities in India</li> <li>Petrochemical plants in China</li> <li>Petrochemical and gas-chemical plants in Japan</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>Continued demand in Japan for renewable energy and gas-fired power generation to be replaced from nuclear power</li> <li>Continued demand for power generation and transportation systems in emerging markets</li> </ul>	<ul style="list-style-type: none"> <li>Mega-solar plants in Japan</li> <li>75MW Biomass power plants in Japan</li> <li>Gas-fired power plants in South East Asia and Japan</li> </ul>
Solution Business (former Energy)	<ul style="list-style-type: none"> <li>Stable demand for life extension of existing oilfield and growing needs for associated gas treatment plants</li> <li>Entering in oversea markets of domestic clients</li> </ul>	<ul style="list-style-type: none"> <li>Technological support services for NOC in Middle East</li> <li>Comprehensive support services for domestic clients</li> </ul>
Company-wide	<ul style="list-style-type: none"> <li>A wave of innovation by radical development of digitalization</li> </ul>	<ul style="list-style-type: none"> <li>Acceleration of implementing DX-PLANT™*</li> <li>Creating further competitiveness by DXoT**</li> </ul>

\*DX-PLANT™ : TOYO's unique service to assist the client's O&M(Operation & Maintenance) and business by utilizing Digital Twin enable to monitor plant operation in real time

\*\*DXoT : Abbreviation of Digital Transformation of TOYO. Company-wide activities to set up operational reforms by maximizing utilization of IT

# 8. FY2019 Forecast

(Unit : JPY billion)

	Forecast 2020/3
Net Sales	240.0
Gross Profit	21.5
Gross Profit Margin	9.0%
SG&A (Selling, General and Administrative Expenses)	18.5
Operating Income	3.0
Non-Operating Income and Expenses	0.0
Ordinary Income	3.0
Net Income	2.0
New Orders	300.0

◆ Dividends per share : None (plan)



## Toyo Engineering Corporation

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The forecasts given above are based on information available at the time of compilation and are inherently subject to a variety of risks and uncertainties. Actual results may vary significantly from forecasts due to factors including, but not limited to, changes in the economic or business environment and exchange rate fluctuations.