

# Komatsu IR-DAY in 2020 Investors & ESG Meeting

## Komatsu's Environmental Activities

December 16,2020  
General Manager, Environmental Affairs Department  
Yoshie Ideura

- Mid-term Management Plan
- Initiatives Based on TCFD Framework
  - Governance
  - Risk Management
  - Strategies
    - Risks, opportunities and addressing strategy based on scenario
  - Indicators and Targets

## Management Targets of the Mid-Term Management Plan and Related Performance

Management Target		FY2019 (First year of the plan)	
		Indicator	Performance
Growth	<ul style="list-style-type: none"> <li>Growth rate above the industry's average</li> </ul>	Sales growth rate	<b>▲10.3%</b>
Profitability	<ul style="list-style-type: none"> <li>An industry's top-level operating income ratio</li> </ul>	Operating income ratio	<b>10.3%</b>
Efficiency	<ul style="list-style-type: none"> <li>10%-level ROE</li> </ul>	ROE	<b>8.6%</b>
Financial position	<ul style="list-style-type: none"> <li>Keep a fair balance between investment for growth and shareholder return (including stock buybacks), while placing main priority on investment</li> </ul>	Net debt-to-equity ratio	<b>0.43</b>
Shareholder return	<ul style="list-style-type: none"> <li>Set the goal of a consolidated payout ratio of 40% or higher</li> </ul>	Consolidated payout ratio	<b>57.7%</b>
ESG	<ul style="list-style-type: none"> <li>Reduction of environmental impact CO<sub>2</sub> emissions: Decrease by 50% in 2030 from 2010. Renewal energy use: Increase to 50% of total energy use in 2030.</li> <li>Evaluation by external organizations: Selected for DJSI (World &amp; Asia Pacific) and CDP A-list (Climate Changes and Water Risk)</li> </ul>	Reduction of environmental impact  Evaluation by external organizations	CO <sub>2</sub> emissions: Decrease by 40% in 2021 Renewable energy use: Increase to 15% of total energy use in 2021 Selected for DJSI CDP Climate Change: A CDP Water Risk: A-
Retail finance business	<ul style="list-style-type: none"> <li>ROA: 1.5%–2.0%</li> </ul>	ROA	<b>1.5%</b>
	<ul style="list-style-type: none"> <li>5.0 or under for net debt-to-equity ratio</li> </ul>	Net debt-to-equity ratio	<b>3.80</b>

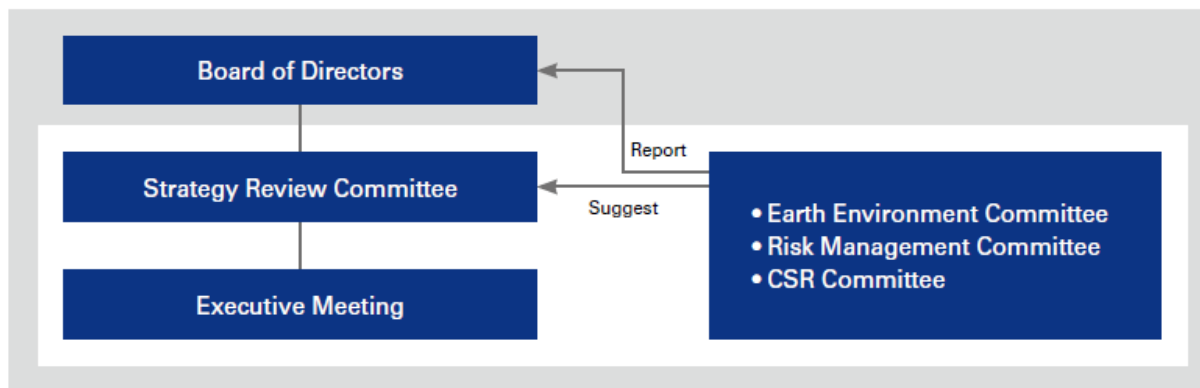
DJSI: Corporate social responsibility index developed jointly by S&P Dow Jones Indices of the United States and RobecoSAM.

CDP: The non-profit global environmental disclosure platform. Companies receive scores of A to D- for how effectively they are tackling climate change, deforestation and water security by answering to the questionnaire from CDP.

## Initiatives Based on TCFD Framework

### Governance

#### ▶ Climate Change-Related Reporting and Deliberation System



#### ▶ Major Discussion Items Related to Climate Change

Name	Chairperson	Major Discussion Items Related to Climate Change
Board of Directors	Chairman of the Board and Representative Director	<ul style="list-style-type: none"> <li>• Report from Earth Environment Committee (once a year)</li> <li>• Reports from research, development, and product planning divisions and the Chief Technology Officer (once a year)</li> <li>• Reports from production and procurement divisions (once a year)</li> <li>• Mid-term management plan progress report (once a year)</li> </ul>
Strategy Review Committee	President	<ul style="list-style-type: none"> <li>• Growth strategies for major plants (including climate change-related matters, five times a year)</li> <li>• Report from Environmental Affairs Department (once a year)</li> </ul>
Executive Meeting	President	<ul style="list-style-type: none"> <li>• Progress in regard to product development and production systems (monthly)</li> <li>• Climate change lectures by external specialists (once a year)</li> </ul>

## Risk Management

### Risks Surrounding the Company

#### Hazard Risk

Risks of natural disasters and other disasters caused by external factors

#### Operational Risk

Inherent risks associated with corporate activities such as the violation of laws and scandals

#### Strategy Risk

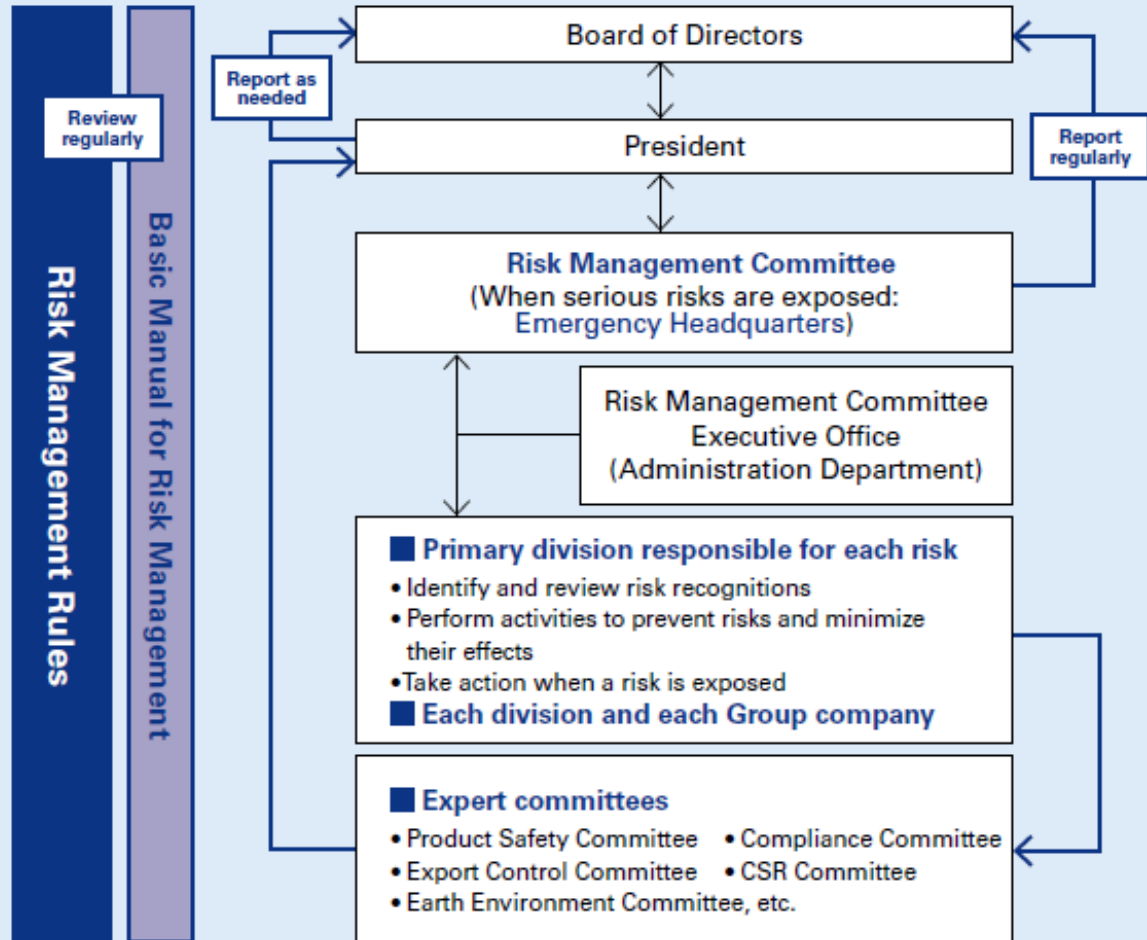
Risks related to the significant change of social situations and business uncertainties

#### Financial Risk

Risks related to finance including fluctuations in interest rates and stock prices

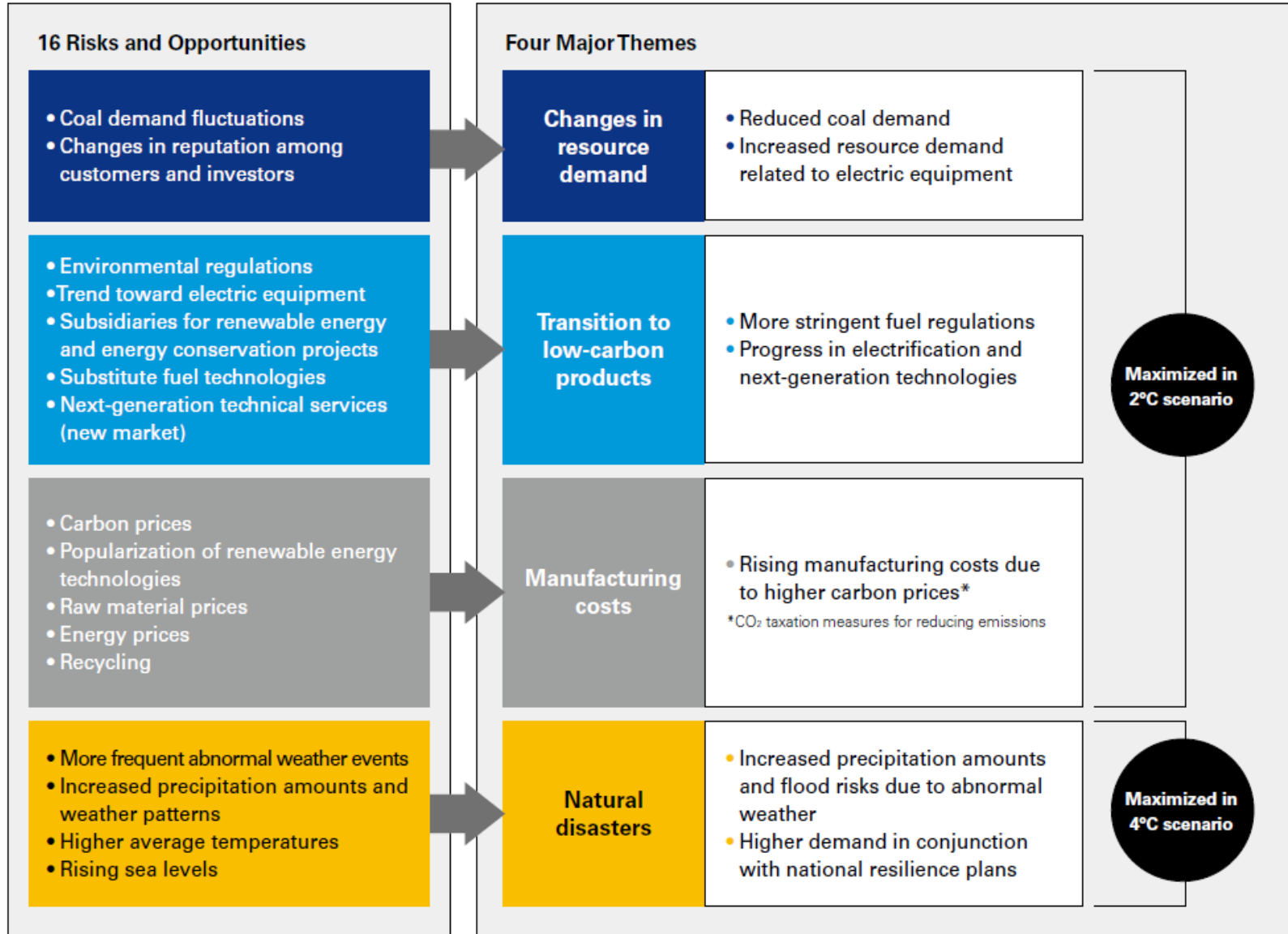


### Risk Management System



## Strategies

### ▾ Risks and Opportunities and Groupings



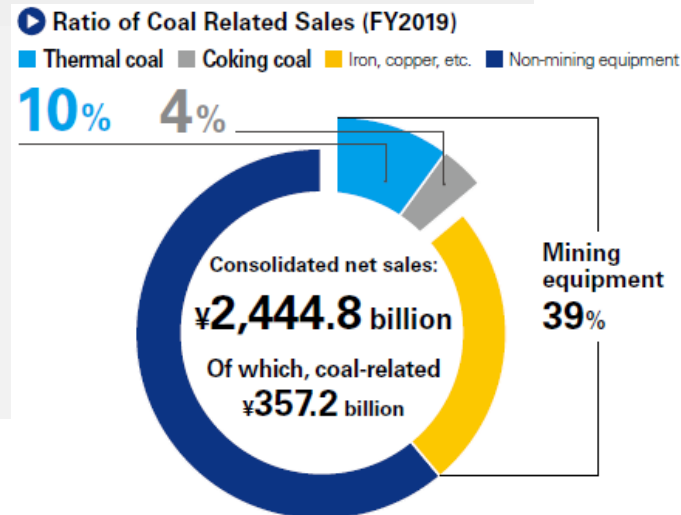
## Changes in Resource Demand

	Risks	Opportunities
<b>2°C scenario</b>	<ul style="list-style-type: none"> <li>Regulation of power generation using fossil fuels</li> <li>Massive reductions in coal production volumes under IEA scenarios</li> <li>Reduced sales to coal-related customers by Komatsu</li> </ul>	<ul style="list-style-type: none"> <li>Rapid transition from fossil fuel-powered equipment to electric equipment</li> <li>Higher demand for copper and other resources necessary for electric equipment (motors, batteries, fuel cells, etc.)</li> <li>Increased sales to copper and other relevant mining-related customers by Komatsu in conjunction with trend toward electric equipment</li> </ul>
<b>4°C scenario</b>	<ul style="list-style-type: none"> <li>Limited regulation of coal in developing nations</li> <li>Coal production volumes in 2030 in line with current levels under IEA scenarios</li> <li>Reduced appetite for investment in coal mines</li> </ul>	<ul style="list-style-type: none"> <li>Trend toward electric equipment less pronounced than in 2°C scenario</li> <li>Higher demand for copper and other resources necessary for electric equipment</li> <li>Rise in investment for streamlining mine operations</li> </ul>

## Strategies

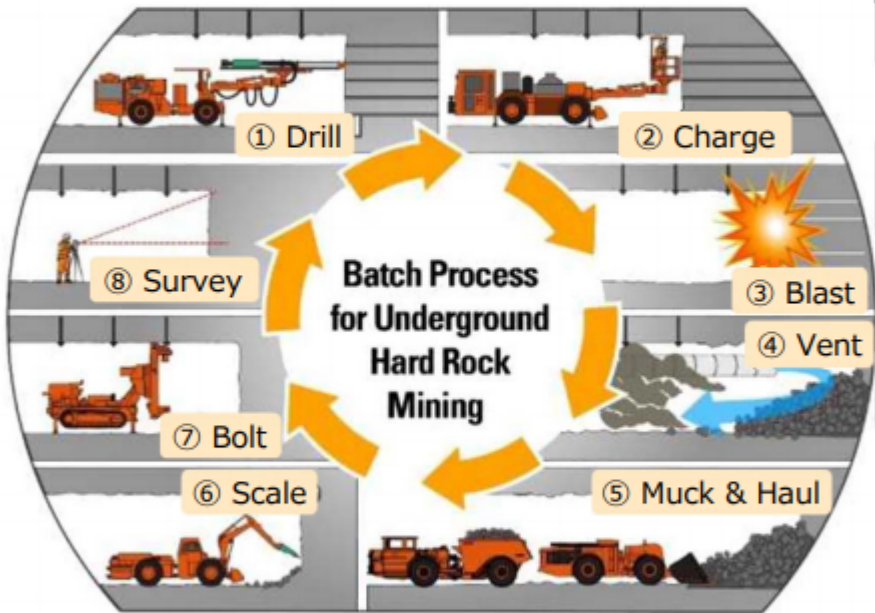
### Exploration of business opportunities arising from climate change through value creation by means of innovation and growth strategies based on innovation

- Increased metal resource demand in conjunction with transition to electric equipment—Expansion of underground mining equipment operations
- Contribution to sustainable forestry—Provision of equipment and systems for streamlining processes spanning from afforestation to logging
- Contribution to rehabilitation of closed mine sites and greenification of deserts—Forest restoration projects at closed mine sites and forest machine operations
- Transition to circular economies—Expansion of equipment restoration (“Reman”) business



- We aim to develop products which are not existing, but delivering more value to customers “Dantotsu Product” for expanding our market share.
- No Blasting (Safety), No Diesel (Environment), No Batch (Productivity)  
⇒ Underground mining automation factory

① Conventional excavation method (Drilling and Blasting : D&B)



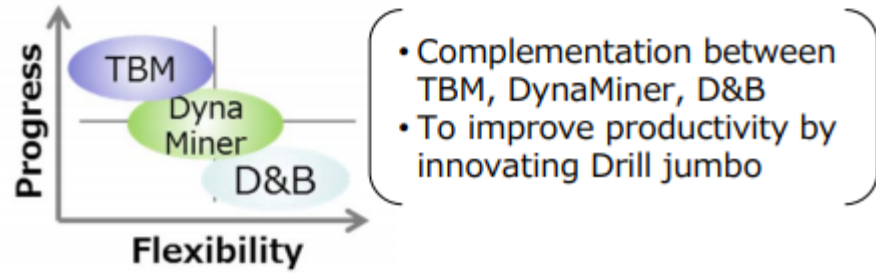
② “Dantotsu” UGHR products instead of D&B

- No Blasting
- No Batch
- No Diesel

- **DynaMiner**: excavated by Dynamic Disc Cutting based on undercutting technology  
=> Safety, Reduce support, Flexible tunnel shape, Working environment improvement 
- **Mining TBM**(Tunnel Boring Machine): excavated by many disc cutters  
=> Safety, Rock support reduction, Working environment improvement  
Rapid excavation = early production start 
- **Hybrid LHD**:  
=> Reduce emissions & temperature raise in tunnel  
:Improve health & working environment, Reduce ventilation cost 

**Key words at “Dantotsu” UGHR products**

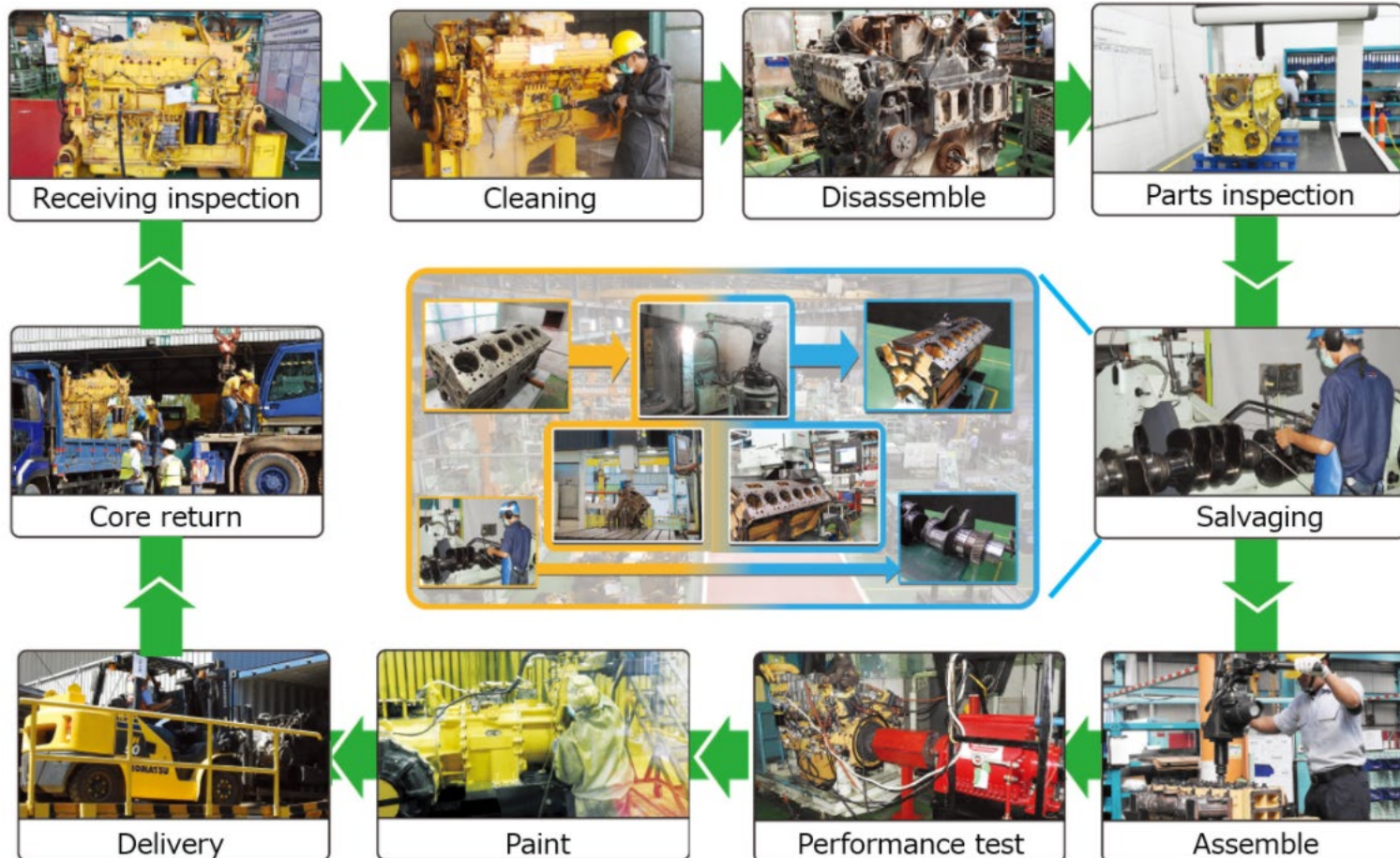
No Blasting    No Batch    No Diesel





In Remanufacturing (“Reman”) operations, the engine and transmission components collected during regular replacements are restored to the same status as if they were new so that these products can once again be sold on the market.

- Guaranteed quality and performance on a level with new products
- Lower prices than new products
- Shorter equipment downtimes through supply of appropriately stocked Reman components
- Resource conservation and waste reduction through component reuse and recycling



Komatsu is working to mechanize forestry operation, including planting, cultivating, and harvesting trees, to contribute to sustainable forestry and CO2 reduction.

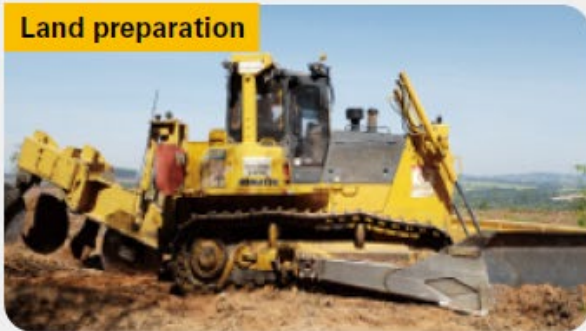
- Introduction of New Tree Planting Products

**Planting**



D61EM-23M0 automated tree planter

**Land preparation**



D85EX subsoiling machine



- Improvement of Harvesting and Extracting Productivity and Safety

**Harvesting**



PC130F Harvester  
(forest machine based on hydraulic excavators)

**Extracting**



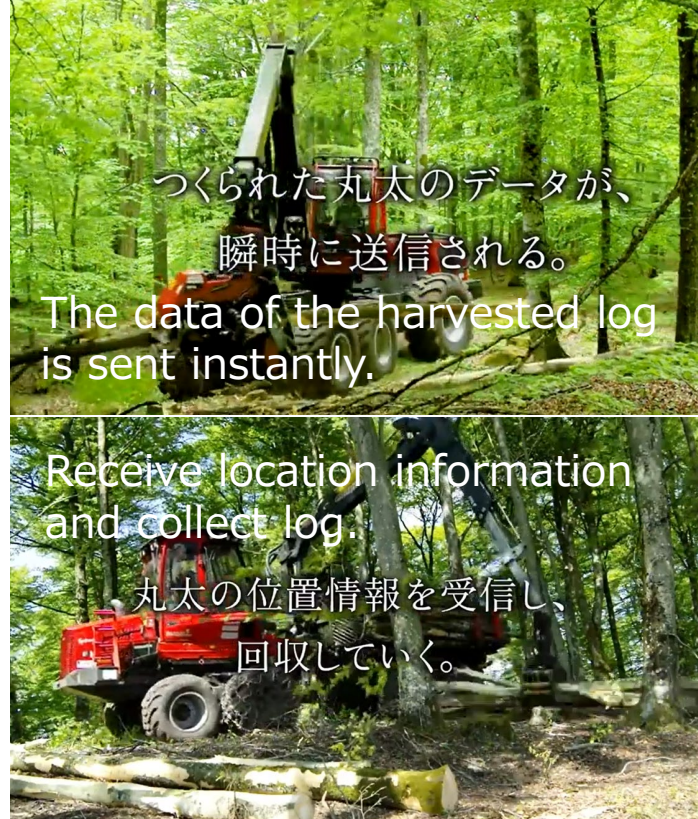
Forwarder 895  
Forest Forwarder Usable on Slopes

## Initiatives for smart forestry utilizing ICT



3D image

Create a 3D image from the drone's shooting data. The number, diameter, and volume of woods are automatically calculated based on the image. It is possible to improve the efficiency of forest resource surveys before logging.



つくられた丸太のデータが、  
瞬時に送信される。

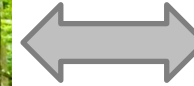
The data of the harvested log  
is sent instantly.

Receive location information  
and collect log.

丸太の位置情報を受信し、  
回収していく。

Working hours can be reduced by  
cutting and sorting using an ICT  
harvester.

<In the future>



Timber market  
Timber consumers

- We are also focusing on developing applications that utilize data from harvesting.
- In the future, we will share information on the timber market and timber consumers with forestry companies, and contribute to the efficiency of business operations.

Projects are underway to transform the sites of closed mines into lands where plants grow and restore them as a forest.

### Forest Restoration Project

• **North America** : Participated in a project to restore about 4km<sup>2</sup> of closed mine site in 3 years from April 2019. Underway with the support of the U.S. Department of Agriculture and Forest Service in partnership with the NPO Green Forests Work (GFW), which specializes in greening the former mine site. Start by digging up the compacted mine site with Komatsu's heavy machinery so that plants can grow. In 2019, 50,000 trees were planted on 0.4 km<sup>2</sup>.

• **Australia** : Joint afforestation project by three companies, major mineral resource company Anglo American PLC and Komatsu Australia Pty. Ltd. and Komatsu Mining. At the kick-off event in March 2020, 120 people including employees of three companies, local residents and elementary school students participated and planted 4000 trees in a single day.



## [Afforestation of Dipterocarpaceae in Indonesia]

1. The Dipterocarpaceae is an ecologically important tree species that constitutes the tropical forests of Southeast Asia, but it has been the target of logging as lauan wood.
2. Although tropical forest has decreased, it is difficult to produce saplings, and no trees has been planted, and that is the challenges for tropical forest regeneration.
3. Since 1993, Komatsu has been working with the Ministry of Forestry of Indonesia, the institute for forest, to develop technology for the production of saplings of the Dipterocarpaceae family by the cutting method that does not rely on seeds, and succeeded in mass production of saplings.
4. Approximately 200,000 test plantations were created on Java and Sumatra using saplings produced with this technology, contributing to the study of planting methods and growth analysis of the Dipterocarpaceae family.
5. Even now, the local subsidiary KMSI continues to manage it as a test plantation site in collaboration with the Ministry of Forestry of Indonesia.



Development of sapling production method.



1997: Tree planting in desolated land



2015



Management building in the plantation

Developed an ICT-equipped "agricultural bulldozer" by having a partnership agreement with Ishikawa Prefecture.

Started rice cultivating test using swamp bulldozer with Indonesian government.



**V-furrow direct seeding by the agricultural bulldozer**

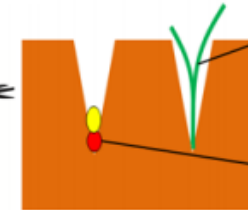
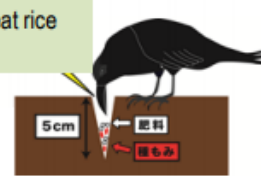


Even small seedlings won't go under water.

In direct seeding, sprouts are short, so high-precision leveling of the paddy surface is important for seedlings grow uniformly in water.

Smooth paddy thanks to excellent leveling.

Can't eat rice seeds.



Good sprouting inside the V-furrow, rarely falling down

Minimal damage from wind or rain as protected by the V-furrow. No need for fertilizer after seeding.

Overcoming the weakness of direct seeding



**Agricultural bulldozer working in Indonesia**

Highly precise position analysis and high-precision leveling enables direct seeding cultivation that does not require rice sapling.

Model for V-furrow direct seeding in dry soil and growing in water-filled paddies by using multifunctional ICT-intensive dozer (Ishikawa Prefecture Agricultural Exp. Stn.)



Plowing & leveling



V-furrow direct seeding



Paddy + Fertilizer

Germinating & growing



Water filling



Growing



Harvesting

## Transition to Low-Carbon Products

	Risks	Opportunities
<b>2°C scenario</b>	<ul style="list-style-type: none"> <li>• Regulations promoting transition to fuel-efficient equipment, electric equipment, and other low-carbon products</li> <li>• Rapid changes in research and development trends and competitive climate and market entry by new competitors</li> </ul>	<ul style="list-style-type: none"> <li>• Higher demand for electric, fuel-efficient, and bio-fuel equipment</li> <li>• Expansion of equipment restoration (“Reman”) business in conjunction with transition to circular economies</li> <li>• Increased demand for SMARTCONSTRUCTION and other solutions contributing to decarbonization</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Respond to transition risks by shifting toward low-carbon products through realization of the safe, highly productive, smart, and clean workplaces of the future described in the mid-term management plan</li> </ul>	

## Addressing the risk of transition to low-carbon products

Komatsu introduced electric mini excavator to the market



Mini Excavator PC30E-5

## Manufacturing Costs

	Risks	Opportunities
<b>2°C scenario</b>	<ul style="list-style-type: none"> <li>• Taxation of fossil fuels and CO<sub>2</sub> emissions</li> <li>• Transfer of higher product purchase prices to Komatsu</li> <li>• Rising power fees and energy costs following investment in power generation facilities with low CO<sub>2</sub> emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Increased competitiveness through production technologies that reduce CO<sub>2</sub> emissions</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Mitigation of cost increases by achieving CO<sub>2</sub> reduction and renewable energy targets defined in the mid-term management plan</li> </ul>	

## Natural Disasters

	Risks	Opportunities
<b>4°C scenario</b>	<ul style="list-style-type: none"> <li>• Increased frequency of heavy rain and floods due to abnormal weather</li> <li>• Risks of disaster damages to Komatsu plants at high risk of flooding</li> <li>• Component supply delays following damages to suppliers from disasters</li> </ul>	<ul style="list-style-type: none"> <li>• Increased demand for flood-control works</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Institute heavy rain and flood countermeasures across the value chain</li> </ul>	

### Addressing the risk of manufacturing cost

CO2 reduction by introducing renewable energy



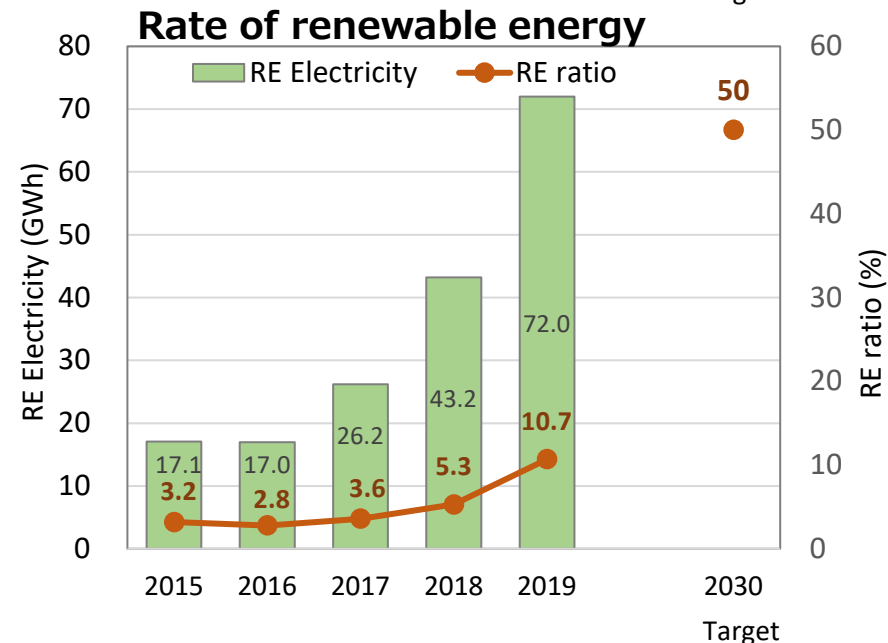
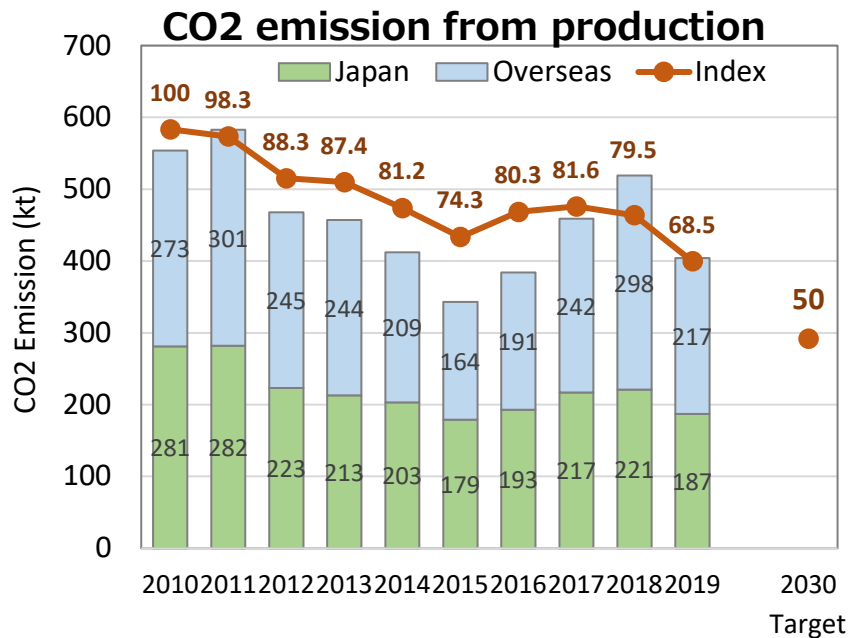
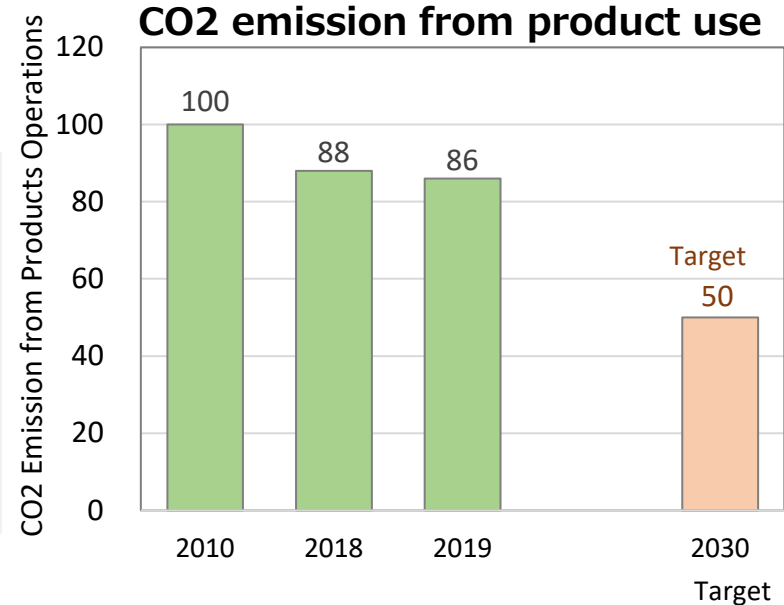
Solar panel introduced at Thai plant (2018)



## Indicators and Targets

### 2030 Targets

- CO2 emission from product use:  
Decrease by 50% (Base year 2010, Basic unit index)
- CO2 emission from production:  
Decrease by 50% (Base year 2010, Basic unit index)
- Rate of renewable energy use:  
50% in 2030



- Komatsu has improved on-site safety and productivity and reduced environmental impact by implementing solutions that utilize ICT and IoT, which are the strength of Komatsu Group.
- We will continue to steadily engage in ESG activities that society requires.

