



Progress Report on Mid-Term Management Plan T-2018

February 16, 2017

Tokai Carbon Co., Ltd.

President & CEO: Hajime Nagasaka

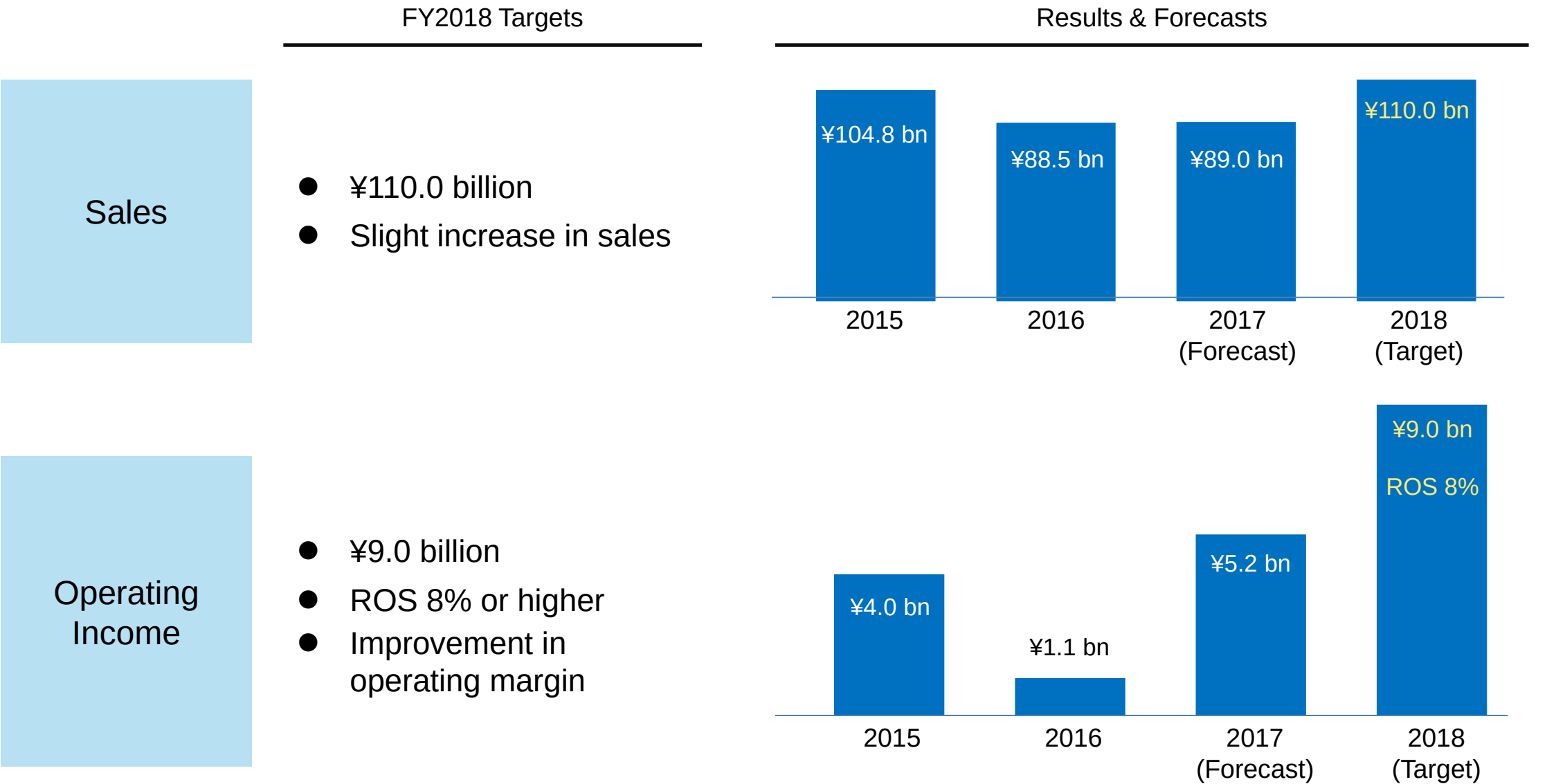
Overview of T-2018

Positioning of the three-year management plan

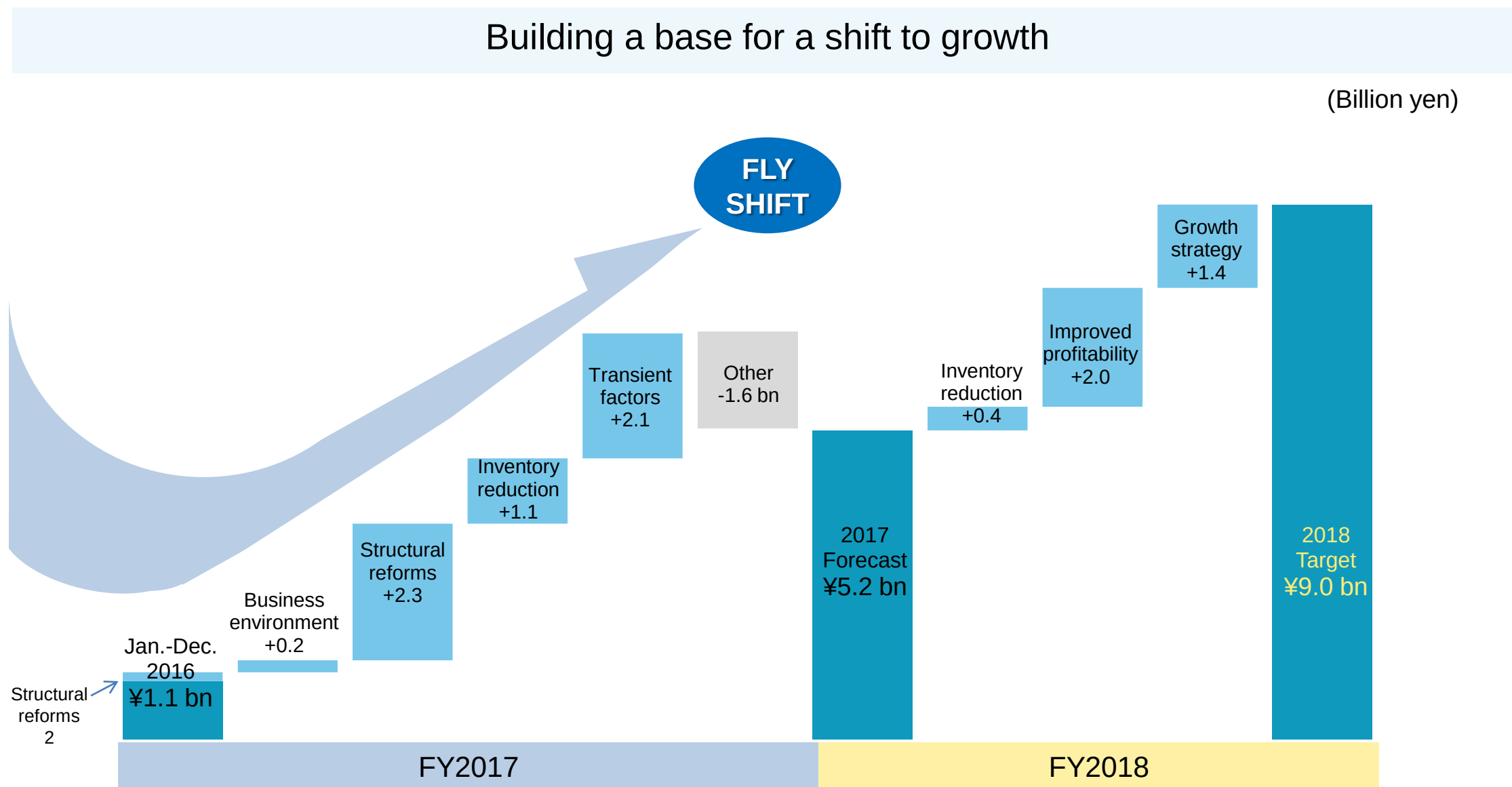


T-2018 Numerical Targets

Sales: ¥110.0 billion; Operating Income: ¥ 9.0 billion; ROS: 8%



Rapid Rebound in Operating Income



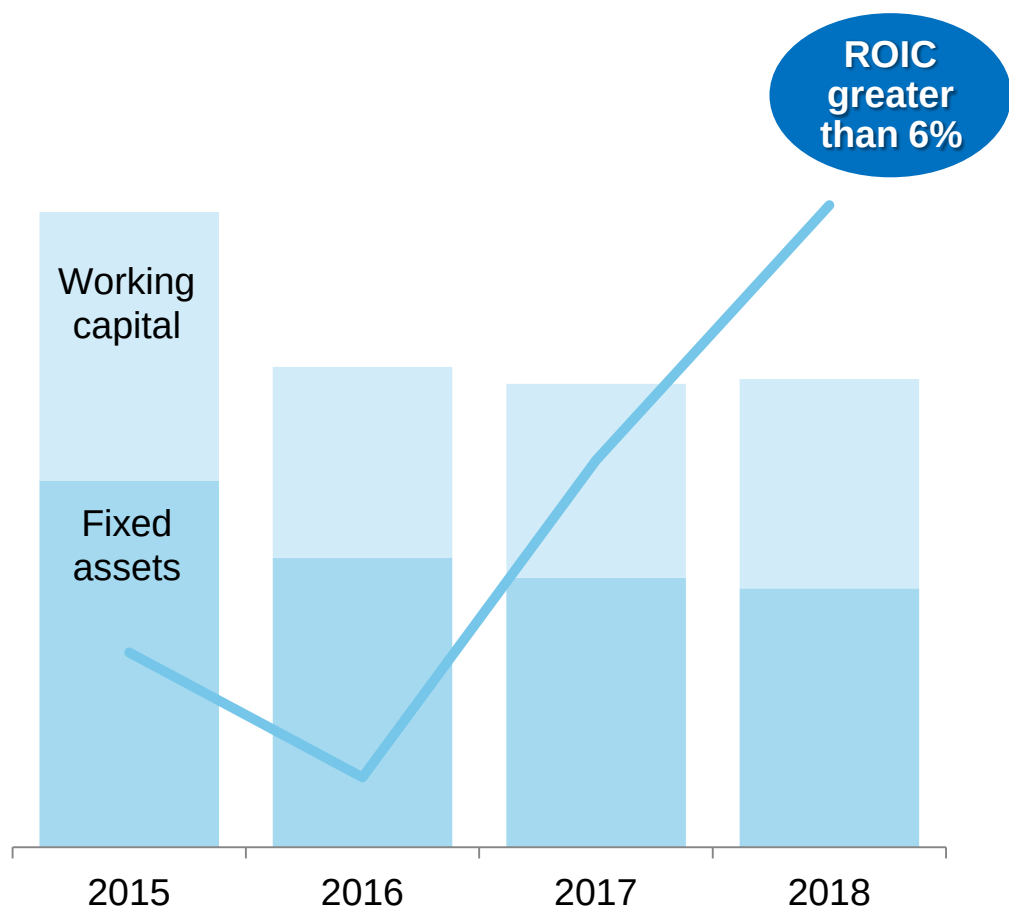
* Transient factors (recognized in FY2016): Provision of allowance for doubtful accounts, disposal of slowing moving inventory, research and development expenses, etc. posted

* Other: Reversal of elimination (-¥1.0 bn), inventory valuation at period-end, etc.

* Inventory reduction: The reduction in operating rate due to production cut-backs in 2016 (which increased fixed costs) will resolve in 2017.

Numerical Target for ROIC

Restore profitability, reduce fixed assets, sell non-core businesses, and reduce inventory



Reduce inventory

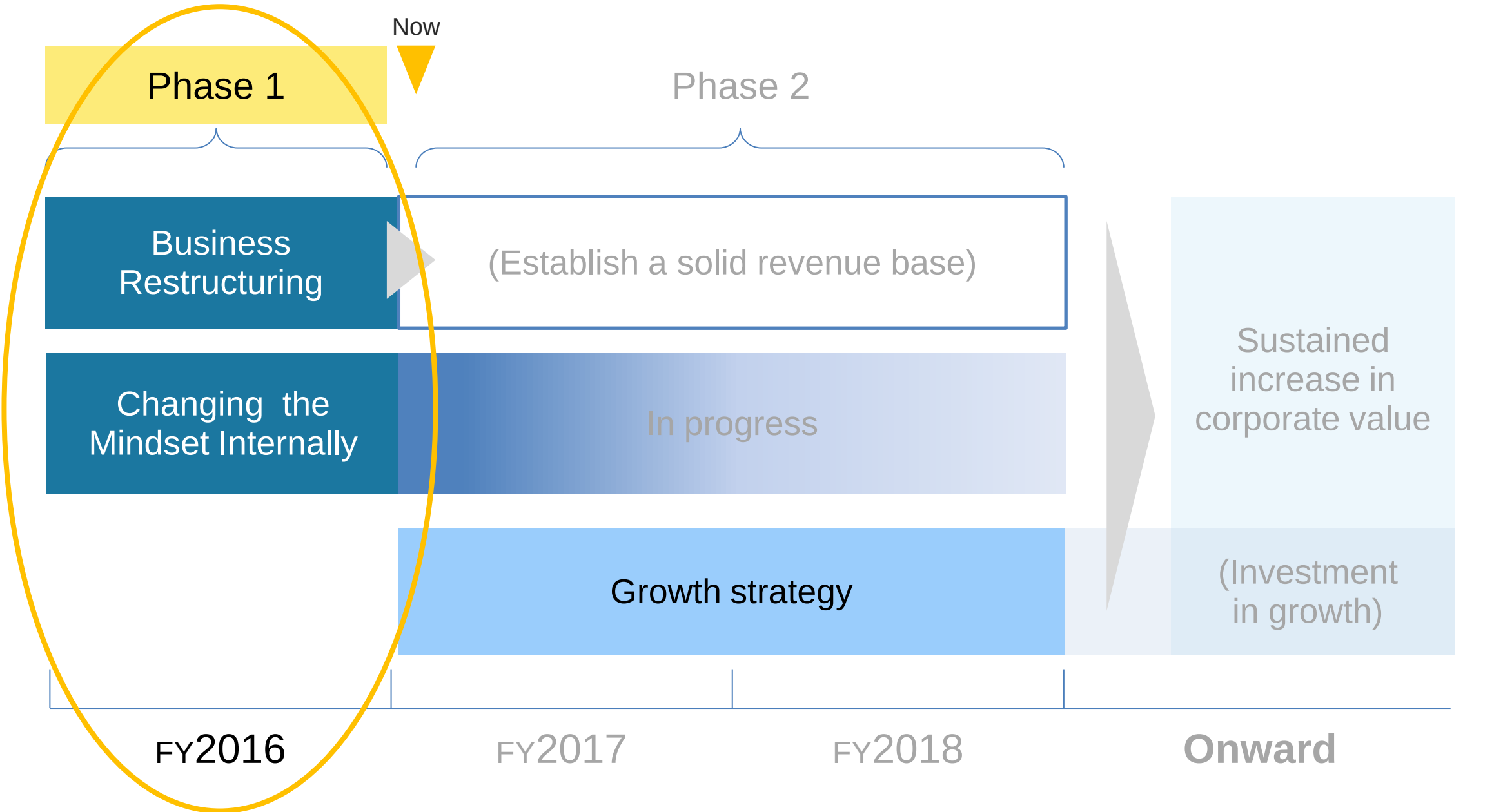
By roughly ¥13 billion for all segments (FY2016)

Reduce fixed assets

- Reduce carbon black production capacity
- Reduce fine carbon production capacity
- Sell idle assets of Tokai Konetsu Kogyo Co., Ltd.
- Sell Nagoya Green Club land
- Take impairment loss on graphite electrodes

T-2018 Overview

Positioning of the three-year management plan



Phase 1: Business Reconstruction

Business Restructuring

Undertook and implemented all of the initially scheduled action plans

Item	Measures	Results
(1) Optimization of carbon black manufacturing plants	Close one line at Tokai Carbon (Tianjin) Co., Ltd.	- Reduced capacity by roughly 40% and reduced the number of personnel - Moved to a mass production structure for specialty products
	Close one line at the Ishinomaki Plant	Reduced production capacity by roughly 20%
(2) Structural reforms in the Fine Carbon business	Reduce isotropic graphite production capacity	Reduced production capacity by roughly 45%
	Streamline product line-up	- Achieved specialization in isotropic graphite, extruded graphite, and carbon brushes - Exited unprofitable products
(3) Optimization of personnel	Offer voluntary retirement for those desiring it, and take other steps	Reduced the number of personnel by approximately 100 people company-wide
(4) Initiatives to address industry restructuring in the Graphite Electrodes business	Prepare for industry reorganization	
(5) Asset reduction	Reduce inventory	Reduced inventory by more than ¥13.0 bn
	Reduce fixed assets Exit non-core businesses	- Transferred idle assets from Tokai Konetsu Kogyo Co., Ltd. - Sold Nagoya Green Club assets, etc.

Phase 1: Changing the Mindset Internally

Changing the Mindset Internally

Implemented various measures.

Will continue to work on initiatives for the remainder of T-2018.

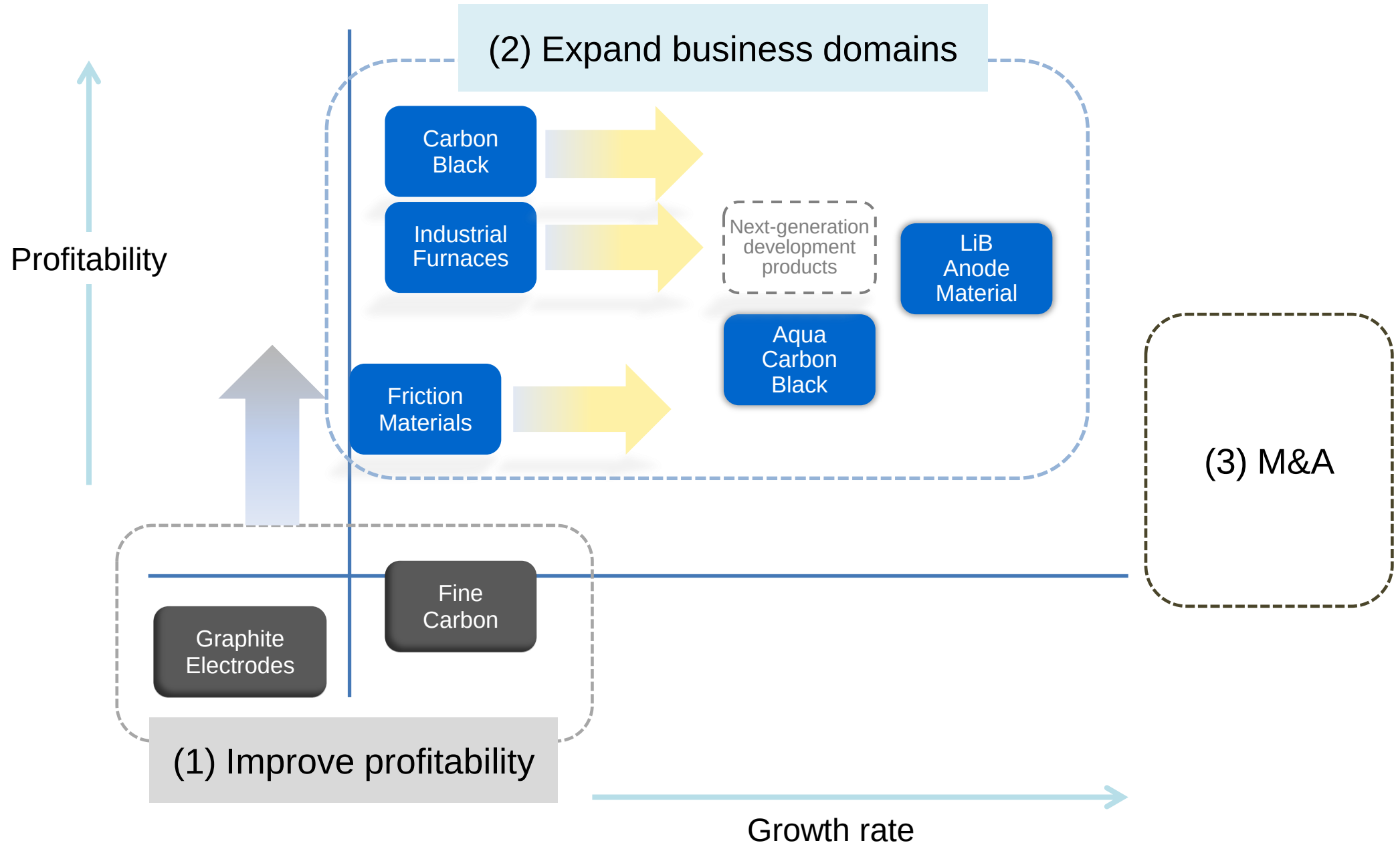
Item	Measures	Results
(1) Energizing human capital	Implement human resources exchanges between business segments	Engaged in exchanges for a large number of GM positions at the business division level
	Recruit human resources from outside the company	Extended offers to seven people in total General Affairs/Public Relations, Accounting, Production Control, Engineering, anode material
(2) Reinstating the right to claim “Tokai, an expert in technologies”	Expand the Technology Division	- Pursued synergy between businesses through the Synergy Exploration Committee - Began work on improving productivity by injecting external human resources
(3) Strengthening the corporate division	- Reinforce functions of the Board of Directors and the Management Committee - Strengthen governance	- Reconfigured the decision-making process - Established the Nomination Committee and Remuneration Committee - Established the Risk Management & Compliance Committee
(4) Other	Engage in internal PR to change mindsets internally	Distributed messages from the president internally

T-2018 Overview

Positioning of the three-year management plan



Phase 2: Direction of Growth Strategy



Phase 2: Growth Strategy

Measures suitable for the external environment and potential market for each business segment

(1) Improve profitability

Reduce costs further through greater streamlining and improvements in efficiency amid the current structural slump

- **Graphite Electrodes Business**
Reduce manufacturing costs and SG&A expenses more
- **Fine Carbon Business**
Complete execution of structural reform plan

(2) Expand business domains

- **Carbon Black Business**
Expand market sales of high value-added products
- **Tokai Konetsu Kogyo Co., Ltd.**
Expand sales of industrial furnaces
Expand sales of heating elements
- **Friction Materials Business**
Expand sales
- **New business growth**
LiB anode material, aqueous carbon black, next generation

(3) M&A

- Existing business domains
- Expand business segments to include electronic components and automotive-related products

(1) Improve Profitability: Graphite Electrodes Business

Reduce costs further to prepare for industry restructuring

Business Environment

- The condition of global oversupply persists
- A move toward industry restructuring has begun
- Sales prices are showing signs of bottoming out

Business Strengths After Phase 1

- Reducing costs lowered the break-even point
- Far surpassed the target for inventory reduction
- Steady progress made on technological development



Phase 2: Improve Profitability

- Improve profitability by reducing manufacturing costs and SG&A expenses further
- Improve the quality of graphite electrode products and bring them to market to help customers improve productivity

(1) Improve Profitability: Fine Carbon Business

Switch to the offensive by expanding to growth areas

Business Environment

- The market for semiconductors is firm, and solar cells are also rebounding
- While the balance of CIP supply and demand is improving, overcapacity is still a problem
- Materials prices seem to have bottomed out, but are not rising

Business Strengths After Phase 1

- Tightening production controls led to a major reduction in inventory
- An appropriate level of production capacity was achieved
- Reducing costs cuts improved profitability



Phase 2: Improve Profitability

- Improve productivity at the Tanoura Plant (a fine carbon manufacturing plant) and Tokai Fine Carbon Co., Ltd. (the main processing plant)
- Roll out organic electroluminescent products: CIP material for producing laminated smartphone cover glass and carbon fiber-reinforced carbon (C/C) composite products for manufacturing facilities
- Proactively roll out components and materials for semiconductor manufacturing equipment: CVD silicon carbide (SiC)-coated carbon components and materials, and solid SiC components and materials
- Secure stable revenue from existing uses of graphite materials, and cautiously but proactively roll these out in growth markets and for use in new areas

(2) Expand Business Domains: Carbon Black Business

Roll out to growth areas and expand business domains

Business Environment

- There is a heightened need for high strength rubber due to lighter weight vehicles
- Demand for carbon black is expanding in the Asian market
- There is a need for improving the performance of carbon black

Business Strengths After Phase 1

- Costs were reduced by achieving the appropriate level of production capacity at plants in Japan and overseas
- Proper inventory control improved capital efficiency
- Progress was made on a technical alliance with Cancarb Limited of Canada



Phase 2: Growth Strategy

- Break into the tire and non-tire markets by advancing development of high strength carbon black and large grain carbon black
- Utilize the Thai manufacturing plant, which is the largest in the group, to actively expand to Thailand, India, and other markets in Southeast Asia
- Expand plant capacity and sales of aqueous carbon black for roll out to ink market for inkjet printers

(2) Expand Business Domains: Industrial Furnaces and Related Products Business

Use technical capabilities to proactively expand to growth markets

Business Environment

- Electronic industry growth stemming from higher performance smartphones and an increase in demand for installation in vehicles
- Continued growth of the LiB industry and robust capital investment
- Infrastructure investment in China and elsewhere will be strong in the future as well

Business Strengths After Phase 1

- Improved competitiveness and earning power by improving the organizational efficiency of industrial furnaces
- Restored earnings power of plant in China
- Gained new customers by introducing products that are differentiated by their heating elements



Phase 2: Growth Strategy

- Use Tokai Carbon's track record and technical capabilities to expand sales of heat treating furnaces to the LiB and electronic components and materials markets
- Develop products with special features to expand sales of heating elements to the liquid crystal glass, LiB, and other growth markets
- Increase production capacity to capture infrastructure demand in China and elsewhere, and expand the resistor business
- Include M&A among the strategic options for expanding the scale of the Industrial Furnaces business

(2) Expand Business Domains: Friction Materials Business

Unearth undeveloped markets and improve competitiveness

Business Environment

- Gradual rebound in the agricultural and construction machinery industry
- Intensified competition with overseas competitors

Business Strengths After Phase 1

- Improved capital efficiency through proper inventory control
- Established a structure and initiatives to improve the defect rate and the automation rate
- Targeting establishment of a product production system for new products
- Identified undeveloped markets

Phase 2: Growth Strategy

- Improve competitiveness by improving the defect rate and automation rate
- Enter the assembly market
- Expand sales to new markets in Japan and overseas

(2) Expand Business Domains: LiB Anode Material Business

Expand business by actively expanding sales of materials used in environmentally friendly cars in growth markets

Business environment

- Global tightening of regulations on fuel economy and CO₂ emissions
- Widespread proliferation of environmentally friendly cars, primarily in Europe and China
- Expansion of demand for high-quality, high-performance LiB anode material for environmentally friendly cars

Business Strengths After Phase 1

- Utilized capabilities in heat treatment technology
- Shared information with Mitsubishi Chemical Corporation
- Established a structure to ensure strong quality control



Phase 2: Growth Strategy

- Increase capacity and sales to keep pace with the expansion of the market for environmentally friendly cars
- Develop new high-performance anode materials

Mid-Term Policy: T-2018 and Beyond

Increase corporate value through strategic moves to strengthen the business base and achieve growth

Basic Policy

Expand business scale to expand profitability
(target of ¥150 billion in net sales)

Investment Policy

Strategic investment budget: Approx. ¥50 billion
Strategic M&A, also including areas peripheral to existing businesses
Sights on reconfiguration of the business portfolio

Shareholder Return Policy

The return of profits to shareholders is also an important management issue



A consistent, continuous return with a target payout ratio of around 30%



T-2018 Supplemental Materials

T-2018: Key Indicators

	(Million yen)			
	2015	2016	2017 (Forecast)	2018 (Target)
Sales	104,864	88,580	89,000	110,000
Operating Income	4,088	1,131	5,200	9,000
Profit Attributable to the Owners of the Parent Company	2,484	(8,295)	7,000	-
ROS	3.9%	1.3%	5.8%	8% or higher
ROE	2.0%	(8.4%)	6.4%	5% (reference value)
ROIC	2.1%	0.7%	4.2%	6% or higher
Depreciation and Amortization	9,242	7,796	6,774	-
Investment	5,301	6,013	5,219	-
Inventory	34,253	20,734	-	-
Fixed Assets	96,106	81,178	-	-



For Reference: Company Overview, etc.

Five Business Segments



Tokai Carbon Co., Ltd.



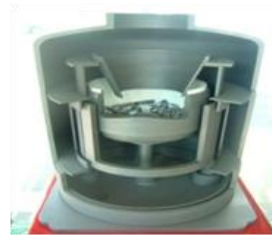
Carbon Black

Many of the black products we see around us contain carbon black. It is mainly used as a reinforcing agent for auto tires and other industrial rubber products, and is also used as a coloring agent.



Graphite Electrodes

Graphite electrodes are used in electric furnaces used to melt scrap (ferrous scrap) and produce steel. They melt scrap to a liquid state at high temperatures of 1,000°C or more.



Fine Carbon

Fine carbon is used in the manufacturing processes for solar cells and semiconductors. It is also used when creating molds for automotive parts. It can be processed into different shapes to serve the purpose.



Friction Materials

Friction materials are components of brakes and clutches on a variety of transportation vehicles, including industrial machinery, construction machinery, motorcycles, trucks, buses, and railways.



Industrial Furnaces & Related Products

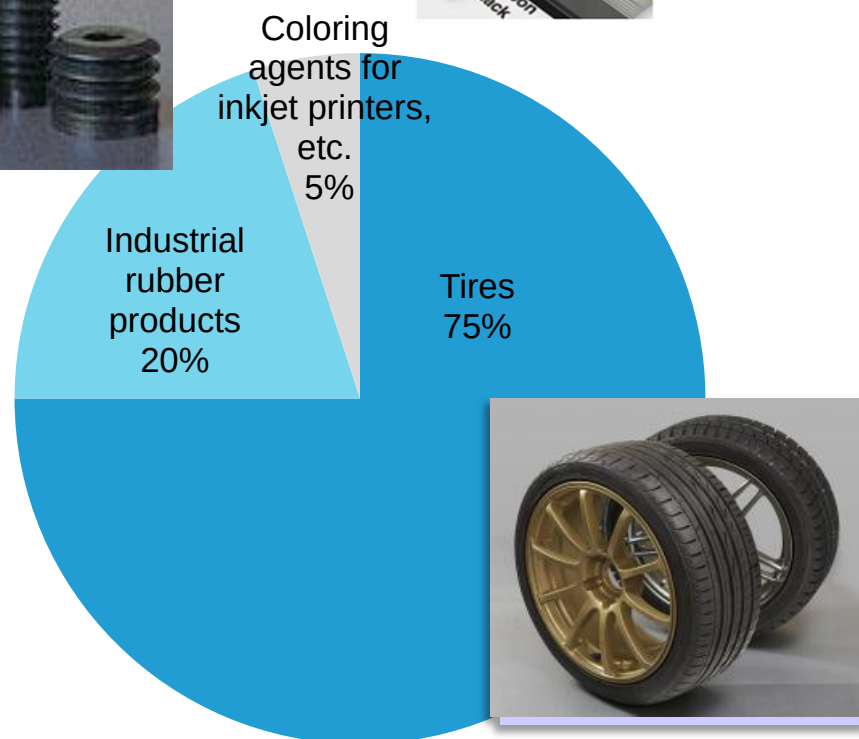
Industrial furnaces and related products are used in heat treating ceramic, electronic components, metal, glass, and other materials. Tokai Konetsu Kogyo Co., Ltd., a wholly owned subsidiary of Tokai Carbon, manufactures and sells these products.

Carbon Black Business

Used as a reinforcing agent for rubber, a coloring agent for printing inks, paints and plastics, as an a conductive filler for plastics, etc.

Sales Composition by Purpose of Use

Carbon Black (Aqua-Black®), another product developed by Tokai Carbon, was also commercialized for use in inkjet printers



Group Production Capacity (Thousands of tons)

Country	Production Capacity	No. of Plants	Product
Japan	216 → 202	3	Furnace black
Thailand	180	1	Furnace black
China	110 → 70	1	Furnace black
Canada	45	1	Thermal black

Global Top 10 Production Capacity (2016, Thousands of tons)

(Tokai Carbon estimates)

Company Name	HQ Location	Production Capacity
Cabot	U.S.	2,100
Birla Carbon	India	2,000
Orion Engineered Carbons	Germany	1,285
Black Cat	China	1,100
China Synthetic Rubber Corp.	Taiwan	810
Tokai Carbon Co., Ltd.	Japan	551
OMSK	Russia	500
Longxing	China	495
Phillips Carbon Black	India	472
Sid Richardson Carbon	U.S.	445

* The production capacity listed for Tokai Carbon Co., Ltd. is the capacity before reducing capacity in China by 40,000 tons and in Japan by 14,000 tons..

Graphite Electrodes Business

Graphite Electrodes melt by discharging a high-current electric arc, and are used as electrical conductors in the ferrous recycling process.

Arc furnace used in steel production



2-3 kg of graphite electrodes are used to produce one ton of steel.



Graphite Electrodes

■ Production Capacity of Top Global Players (2016, Thousands of tons)

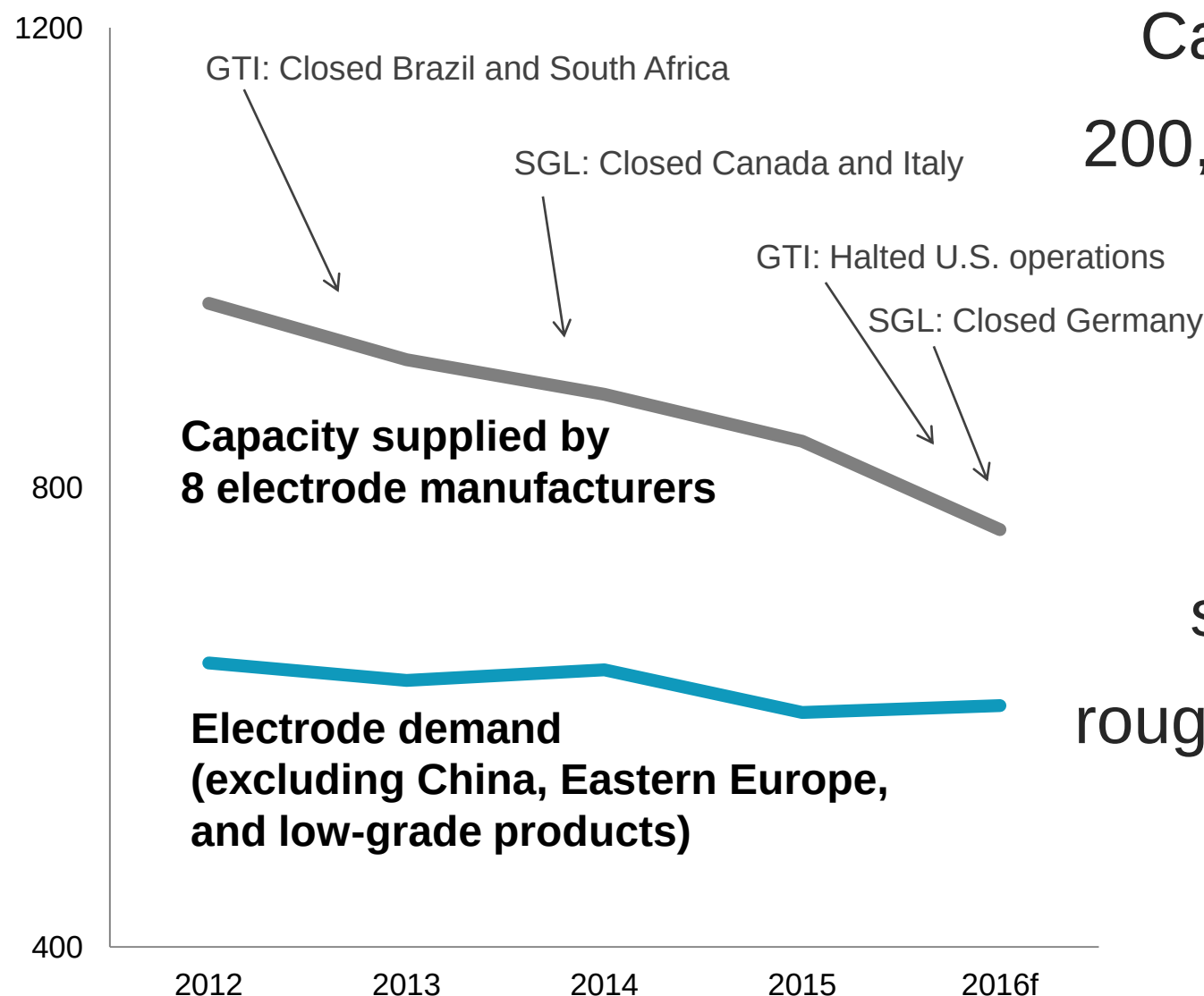
Company Name	HQ Location	No. of Plants	Production Capacity
Grafftech International	U.S.	4	191
SGL Carbon (Division spun off into a company)	Germany	7	150
Showa Denko K.K.	Japan	3	139
Graphite India Ltd.	India	4	98
HEG	India	1	80
Tokai Carbon Co., Ltd.	Japan	3	64
Nippon Carbon Co., Ltd.	Japan	1	30
SEC	Japan	1	30
Total for 8 Companies			782

(Tokai Carbon estimates)

Initiatives aimed at Industry Reorganization of the Electrode Business

Trend in Electrode Manufacturer Production Capacity
(Thousands of tons)

Capacity reduced by over
200,000 tons in several years



Still a gap between
supply and demand of
roughly 100,000-150,000 tons

Fine Carbon Business

Isotropic graphite, a representative fine carbon product, is used in a wide range of areas, including semiconductors, solar cells, LEDs, and electrodischarge machining, and the number of uses is increasing.

- Process components and materials for solar cells, semiconductor, and LED segments



CZ furnace components and materials for semiconductors and solar cells



LED susceptor (CVD-coated product)



Solid SiC products (CVD products)



Carbon composite materials

- Wide range of graphite components and materials, and uses



Optical fiber heater



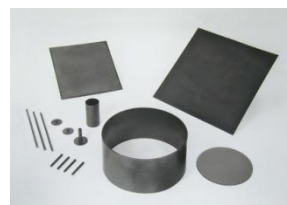
Continuous casting mold



Mold by electric discharge machining



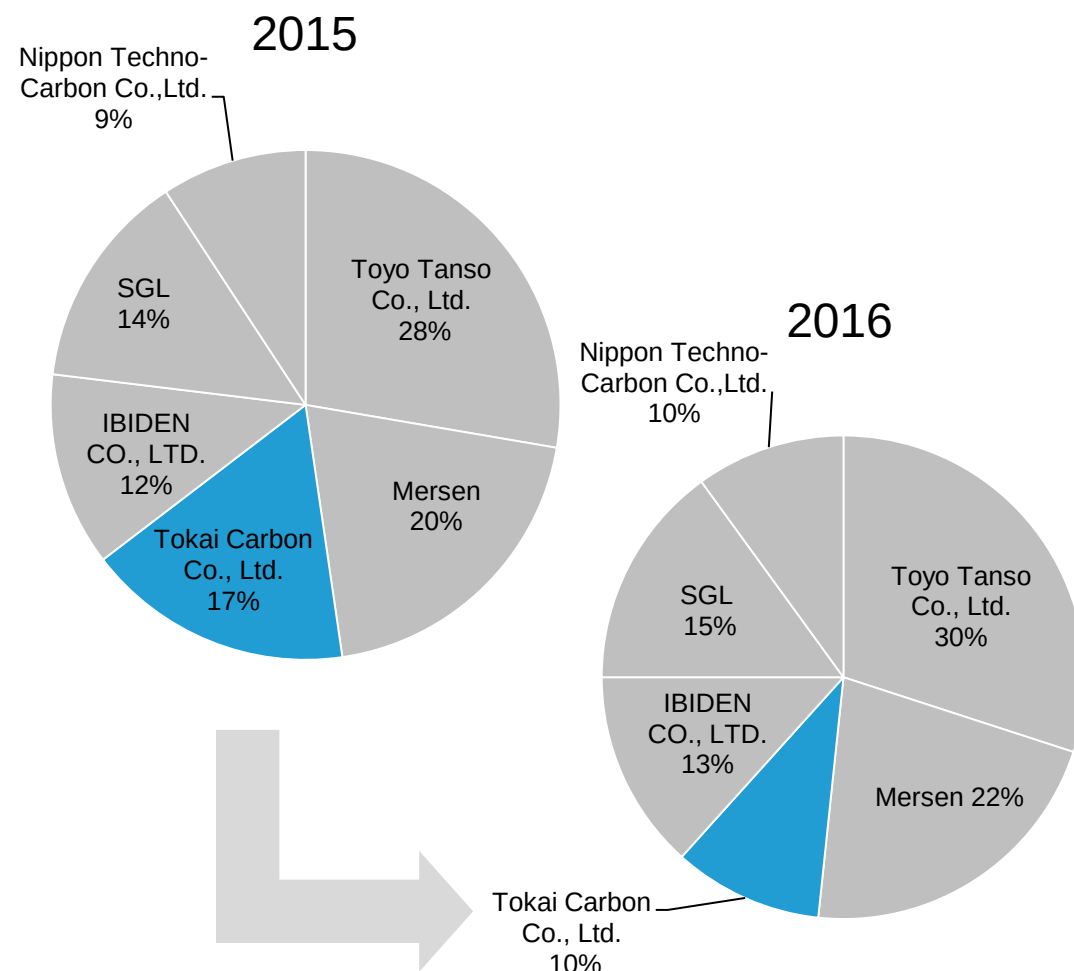
Carbon brushes



Glassy carbon

- Global production capacity for isotropic graphite

(Excluding Chinese manufacturers, Tokai Carbon estimates)



Tokai Carbon reduced production capacity by 45% in 2016 as part of the business reconstruction (from 11,000 to 6,000 tons).

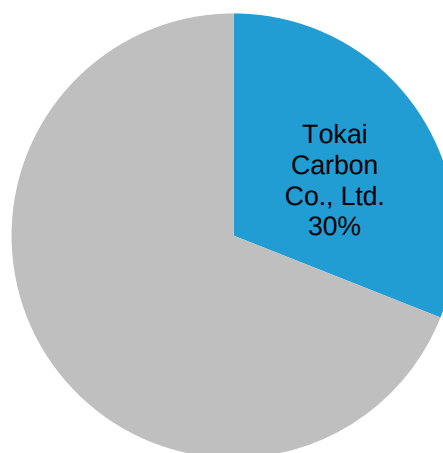
Friction Materials Business

Friction materials are functional products that transmit power and control (important safety components)

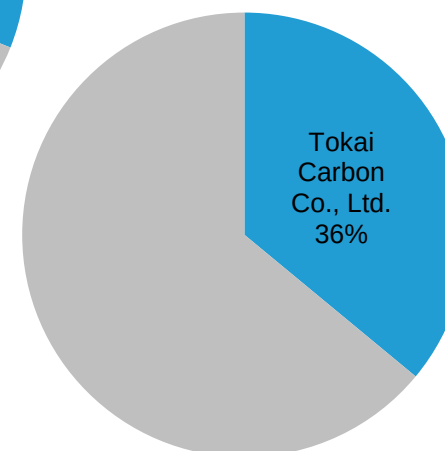
- Tokai Carbon satisfies demand from major construction and agricultural machinery manufacturers as a general friction materials manufacturer

- Share in Japan (Tokai Carbon estimates)

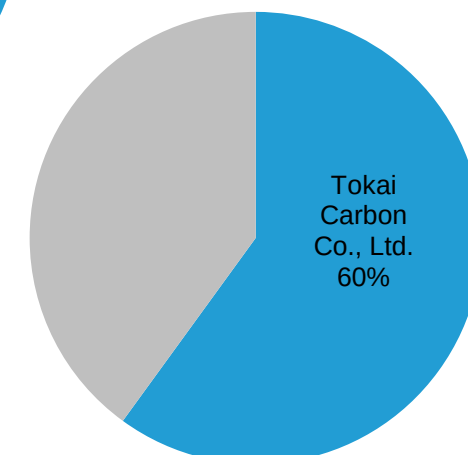
For construction machinery



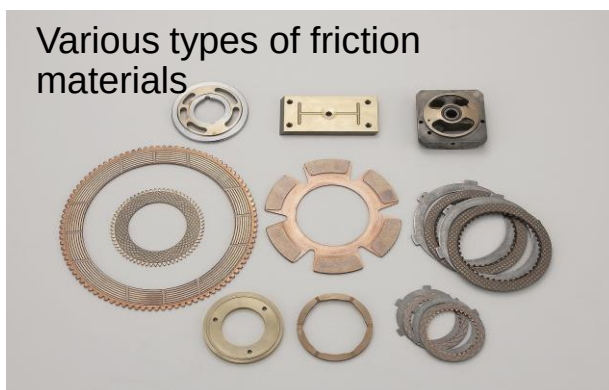
For agricultural machinery



For large motorcycles



Various types of friction materials



Brake pads



Main customers:

Mitsubishi Fuso Truck & Bus Corporation, Kubota Corporation, Komatsu Ltd., Hitachi Construction Machinery Japan Co., Ltd., Nissin Kogyo Co., Ltd., Hitachi Automotive Systems, Ltd., et al.

Industrial Furnaces and Related Products Business

Tokai Konetsu Kogyo Co., Ltd., a wholly owned subsidiary of Tokai Carbon, manufactures industrial furnaces and EREMA heating elements used in commercial electric or gas furnaces for sintering, melting and heat treatment.

■ Main Products

Industrial Furnaces

Equipment used to process (by debinding, heating, sintering, etc.) ceramics, electronic components, secondary battery materials, glass, powder materials, and other products requiring a specific humidity and atmospheric conditions

EREMA Heating Elements

The first energy-saving, non-polluting, high-temperature, high-quality ceramic heaters launched on the market in Japan. Used in electric furnaces, etc. for sintering, melting, and heat treating.



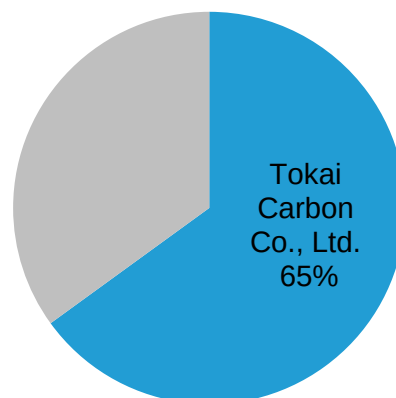
■ EREMA is the world's top brand of SiC heating elements

Japan



Sendai Plant
Base plant responsible for production of ceramic heating elements, etc.

Japanese market

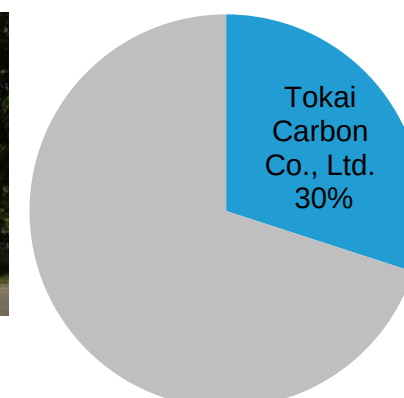


China



Shanghai Tokai Konetsu Co., Ltd.
(Established in 1997)

Global market



Research and Development

Newly commercialized by Tokai Carbon Co., Ltd.

- Development for future businesses

R&D Strategy Division

Fosters development and production structure

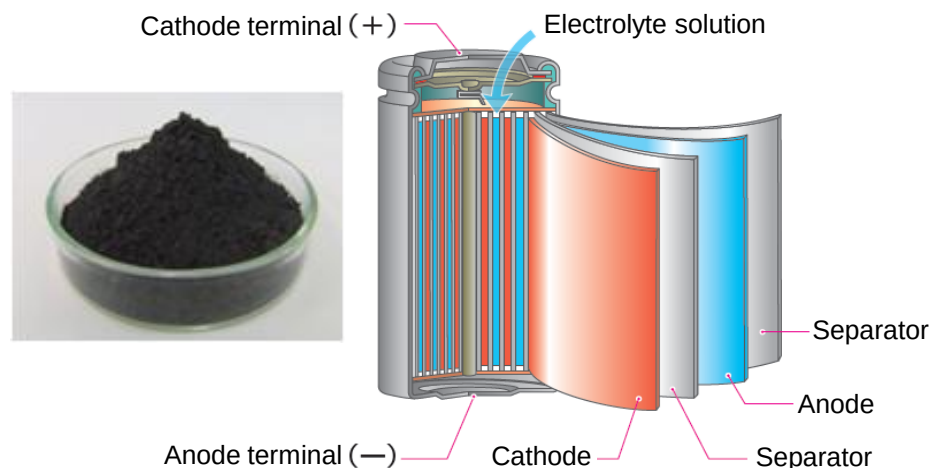


- Development for existing businesses

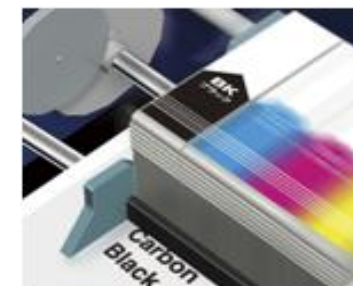
Business divisions (CB, Graphite Electrodes, FC, Friction Materials)

Handles production, equipment, quality, applications, and customers

1. Anode material for secondary lithium-ion batteries
For consumer use, installation in vehicles



2. Aqua carbon black (Aqua-Black®)
Coloring agent for black ink for inkjet printers
For consumer, office use



Notes on Forward-Looking Statements

This document contains forward-looking statements relating to such items as the Company's earnings forecasts and plans. These forward-looking statements are based upon information available to the Company as of the date of release of this document and upon reasonable assumptions made by the Company relating to uncertain factors that impact future performance as of the date of release of this document.

The actual results may differ significantly due to various factors going forward. Factors impacting the operating performance include, but are not limited to, economic conditions, raw material prices, demand for products, and foreign exchange rates.

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