

# **FY2007 Intermediate Statement of Investors Meeting**

**November 21, 2007**

**Tsukishima Kikai Co., Ltd.**

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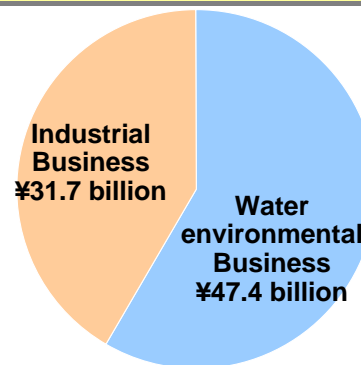
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# **Section 1: General**

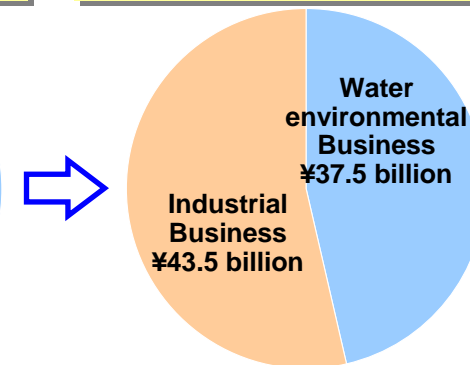
# Corporate data

**Corporate name** TSUKISHIMA KIKAI CO., LTD.  
**President and CEO** Kazuhiko Yamada  
**Founded** Started operations August 1905  
 Formally established May 1917  
**Address** 17-15, Tsukuda 2-chome, Chuo-ku, Tokyo  
**Capital:** ¥ 6,646 million  
**Total shares issued** 45,625,800  
**Shares per unit** 1,000  
**Employees** 2,102 (consolidated)  
 692 (Non-consolidated)  
 (As at September 30, 2007)

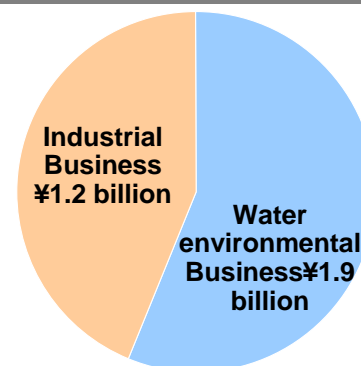
**Consolidated Net Sales for FY2006**  
 ¥79.1 billion



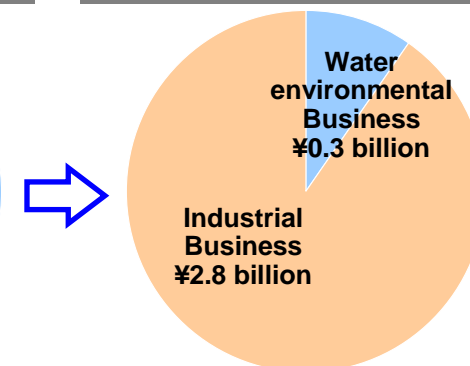
**Consolidated Net Sales for FY2007**  
 ¥81.0 billion (estimated)



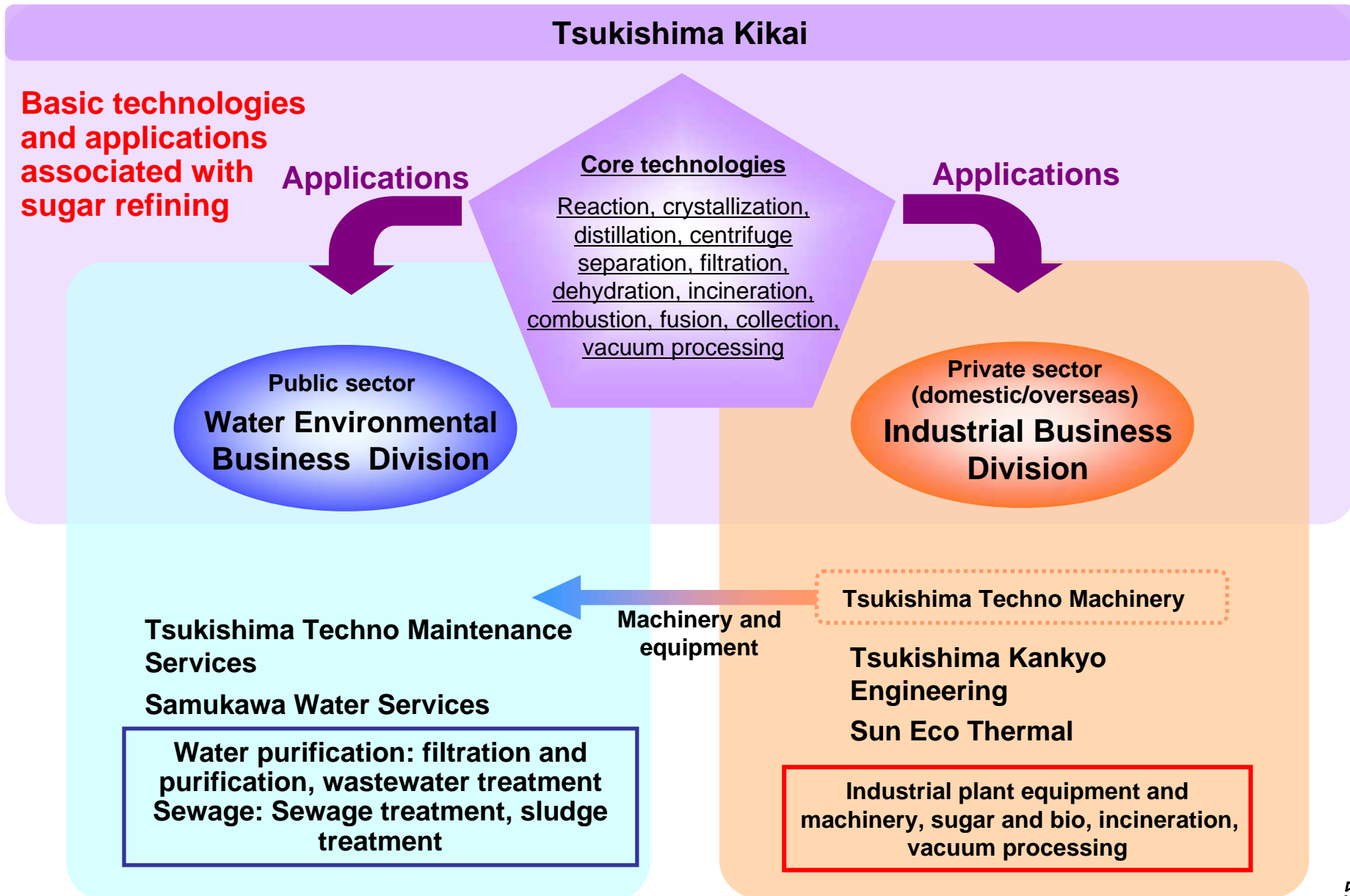
**Consolidated operating income for FY2006**  
 ¥3.1 billion



**Consolidated operating income for FY2007**  
 ¥3.1 billion (estimated)



# Operations of the Tsukishima Group



# Water environmental business (1)

See Appendices p 32-34

See Glossary p 2, 3

## Main Business Field

## Plants and equipment

Water purification and sewage treatment facilities, incineration facilities, machinery such as dewatering machines and dryers  
Operation and maintenance of water purification and sewage treatment equipment and facilities

### ◆ Machinery and equipment sales

- **Tsukishima is TOP brand** in sludge treatment equipment (dewatering/drying/incineration)
- Most processing equipment can be produced internally
- Large market share in the major cities



Tornado Press  
(new design dewatering machine)



Inclined disc dryer  
(dryer)



Filter press  
(dewatering machine)

## Life cycle business

### ◆ New business models based on reliability and advanced technology

- Comprehensive O&M (operation and maintenance), multi-year agreements
- **PFI model (private sector funds, construction and long-term operation)**
- Construction and long-term operation and maintenance of new energy-producing and energy-saving products (**sludge to fuel recycling and pressurized fluidized combustion systems**)



Samukawa Water Services building  
(PFI operations: consolidated from March 07 period onwards)



Sludge recycling into fuel



Pressurized fluidized combustion system

## Contract operation/maintenance

### ◆ Equipment operation and maintenance

- Many contracts in Japan (around 100 sites as at September 30, 2007)
- High performance for maintenance and operation



Control room

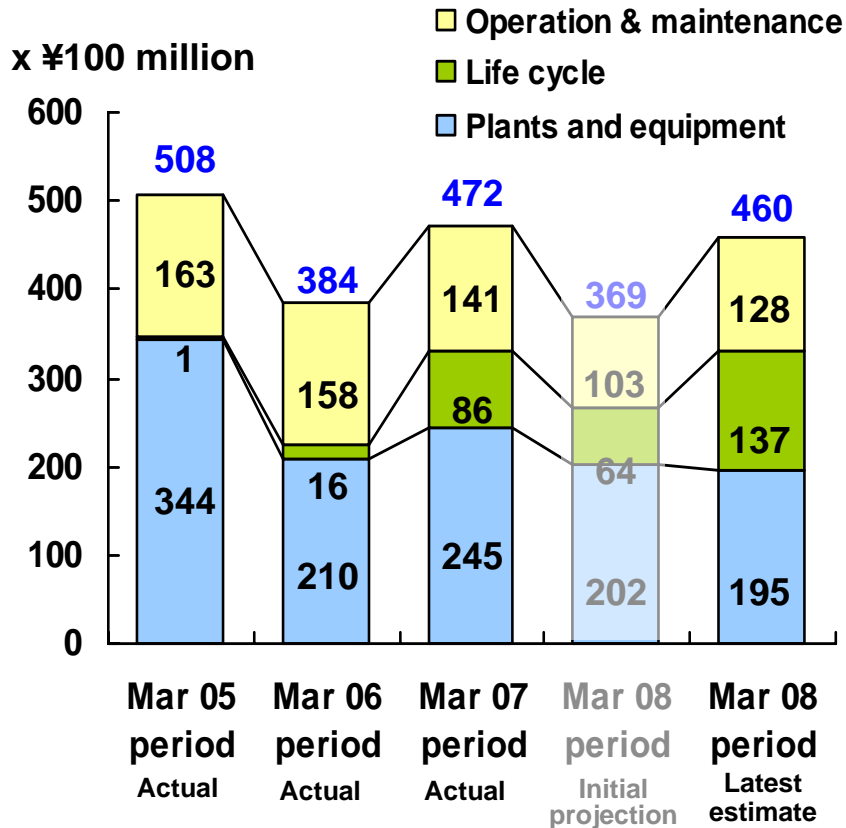


Equipment maintenance

# Water environmental business (2)

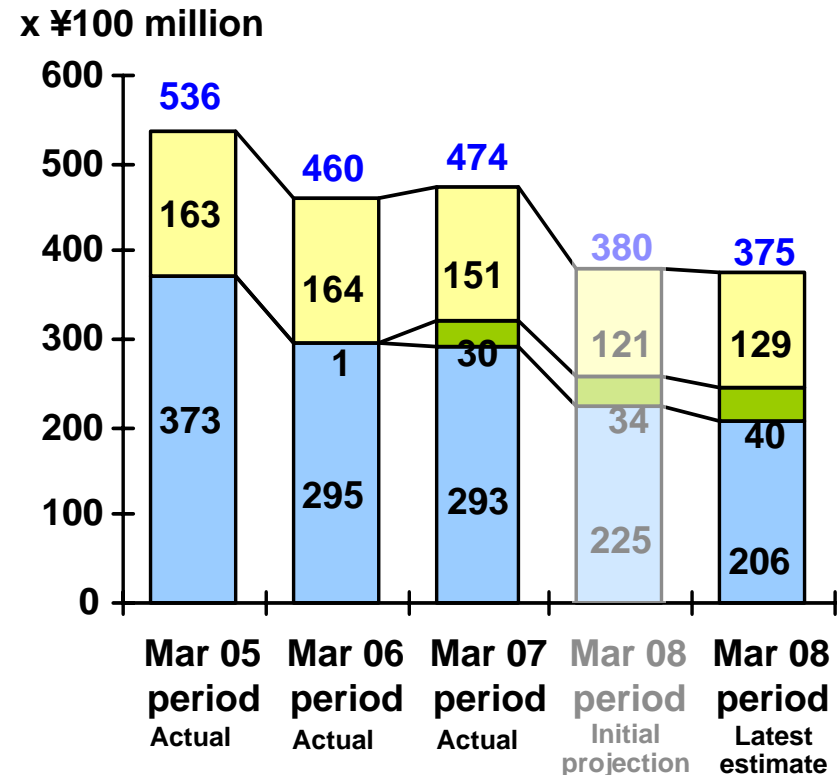
## Value of orders received

- The value of both “plants and equipment” orders and “operation and maintenance” contracts is declining due to a combination of shrinking public budgets, greater competition in the market, and an increased emphasis on project profitability.
- Meanwhile, the new business model of “Life Cycle Business” is growing.



## Sales

- Sales is declining in the “Plants and equipment” and “Operation and maintenance” categories in line with the downturn in orders received
- In the “Life Cycle Business” category, several years worth of orders received are lumped together whereas the associated sales figures are shown annually, creating discrepancy between orders and sales in individual years.



# Industrial solutions (1)

See Appendices p 35

See Glossary p 4 & 5

## Main Business Fields

Chemical and food manufacturing plants, biomass ethanol manufacturing, vacuum equipment, machinery such as dryers, centrifuges and gas tanks, waste treatment systems (liquid/solid/industrial/general waste)

## Industrial plants and equipment

- ◆ Core business of plant and facility development using a variety of proprietary machinery and products
  - 70% share of domestic market in large steam tube dryers (STD) for terephthalic acid production

## Sugar/bio

- ◆ The only domestic supplier of sugar manufacturing plant facilities and a leading presence in the international sugar refining industry
  - Many installation experiences for sugar manufacturer in ASEAN region
  - Biomass ethanol manufacturing plants in Osaka and Thailand
  - Development of non-wood ethanol manufacturing equipment

## Incineration

- ◆ Expanding after business integration with the former Nittetsu Chemical Engineering
  - 70% share of domestic market in waste liquid combustion
  - Experience for largest solid waste treatment systems

## Vacuum equipment

- ◆ The only domestic supplier of Virtual monopoly on large vacuum chambers for liquid crystal panel production
  - Larger liquid crystal panels (10th generation)
  - Film formation equipment for solar cells



Steam Tube Dryer (STD)



BPA plant



Suspension centrifuge (for sugar production)



Biomass ethanol manufacturing plant



Waste liquid combustion facility



Electron beam welder (for large vacuum chamber manufacturing)

# Industrial solutions (2)

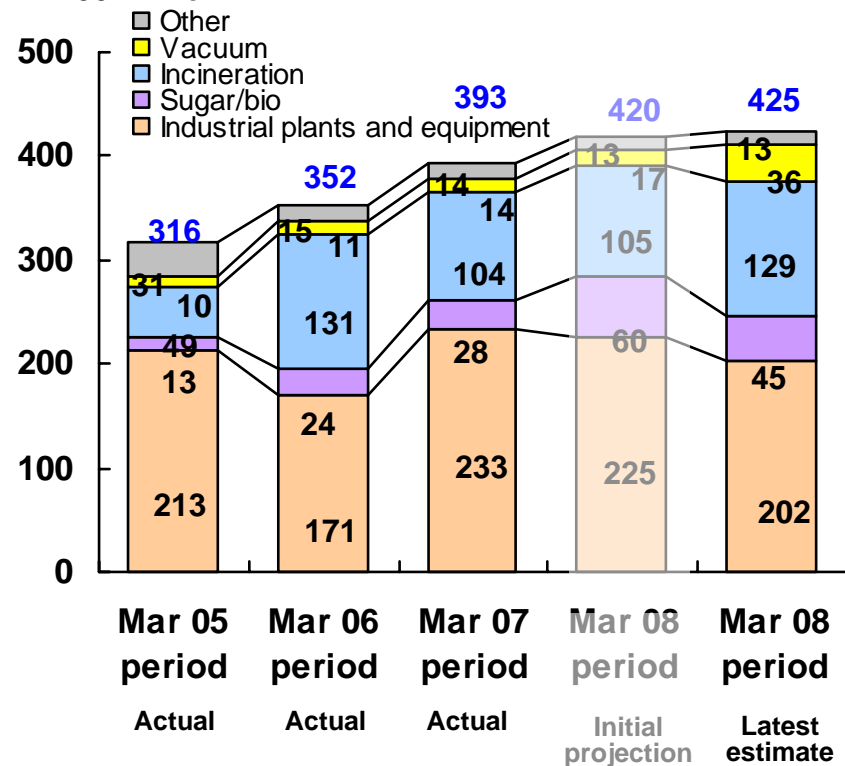
## Value of orders received

- Orders for incineration machinery have risen the scale due to synergy of business integration with the former Nittetsu Chemical Engineering.
- Orders for Sugar and Bio machinery and vacuum systems are expected to increase in FY2007 in annual terms on the back of a number of new projects.

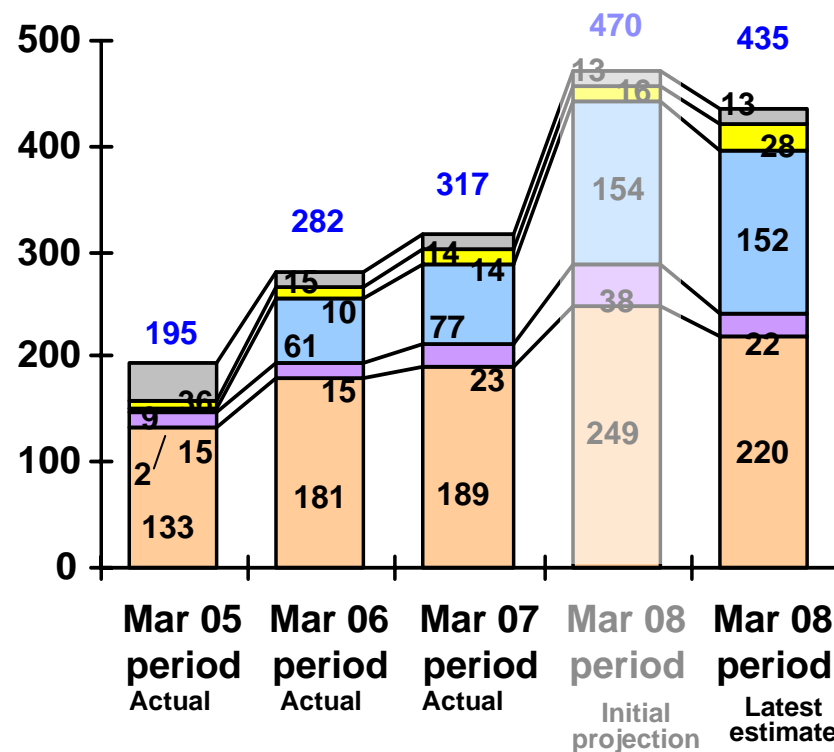
## Sales

- Sales in the incineration category is expected to improve substantially in FY2007 by increasing orders.
- Sales in the Vacuum category is also expected to improve in annual terms with several new projects due in FY2007.

x ¥100 million



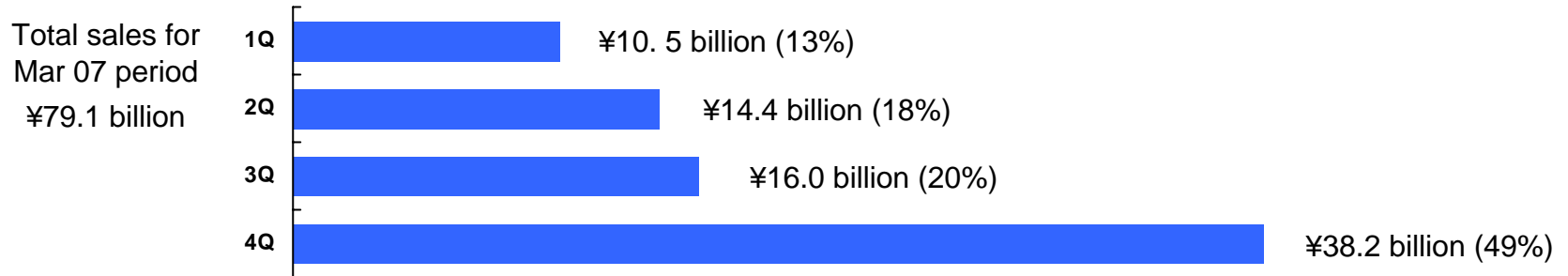
x ¥100 million



**Section 2:  
FY2007 intermediate  
Business Results**

# Overview

## ■ Sales revenue concentrated in fourth quarter



- Because the bulk of sales occurs in the final quarter, the intermediate accounts statement shows a deficit, with fixed expenses in excess of sales. **Recent growth in industrial operations, however, has reduced the size of the deficit.**

- Because the bulk of sales occurs in the final quarter, the value of accounts payable and accounts receivable is lower in first half of the fiscal year, and total assets are less than at the end of the period

- Lead time from receipt of order to delivery is usually 12 to 18 months

The percentage of completion method were widened in the FY2004 to enable better clarification of income and loss positions over the period.

Percentage of completion method

Before change: Construction period of at least one year AND contract value of ¥1.5 billion or more

After change: Construction period of at least one year AND contract value of ¥0.3 billion or more

# March 08 intermediate report — market trends

## Water environmental business

- ✓ **Public sector budget continues to decline, reducing the size of the market and creating greater competition for orders**
- ✓ **There is an increasing tendency towards orders contracted to the private sector, as well as “Life Cycle” orders involving a package of services provided over an extended period**
- ✓ **Local governments are increasingly looking towards solutions that address global warming and provide cost reduction in light of rising concerns over environmental issues**

## Industrial business

- ✓ **Strong demand both in domestic and abroad for industrial plants and equipment in the chemicals and steel industries**
- ✓ **Emerging demand for construction of biomass ethanol manufacturing plants in Japan, driven by rising oil prices and CO<sub>2</sub> emission regulations**
- ✓ **In the vacuum technology field, slow but steady growth in liquid crystal field is augmented by a growing market for film formation equipment for manufacturing of solar cells and electronic and optical devices**

# March 08 intermediate report - consolidated income and loss statement

See Appendices p 3

- Total sales, although below initial projections, was up ¥3.1 billion from the same point in FY2006 due mainly to increased sales from industrial business.
- Both ordinary and operating income were well above initial projections by reducing expenditure, particularly in the area of sales management, and higher dividend income
- The reserve for accrued warranty at the FY2006 was shown as an estimate in extraordinary losses associated with specific construction projects

	Mar 07 (intermediate)	Mar 08 (intermediate)	Change in annual terms	Mar 08 (intermediate) initial projection	(x ¥100 million) Relative to initial projection
Sales	248	279	31	300	(21)
Operating income	(9)	(3)	(6)	(10)	7
Ratio of operating income to sales	(3.8%)	(1.1%)	2.7%	(3.3%)	2.2%
Ordinary income	(9)	0	9	(9)	9
Net income for intermediate period	(6)	(6)	0	(6)	0
Net income per share for intermediate period	(¥13.53)	(¥14.49)	(¥0.96)		

# Orders received, sales revenue and operating income by segment

## Orders received

### Water environmental business

Increases in Life Cycle business were offset by selective ordering, leading to a fall of ¥2.2 billion

### Industrial business

Delayed orders in the first quarter led to the fall of ¥1.3 billion

## Sales revenue

### Water environmental business

Declining orders for plants and equipment led to a drop of ¥3.2 billion

### Industrial business

Revenue rose ¥6.3 billion thanks to higher orders for incineration equipment through to the end of the previous period

## Operating Income

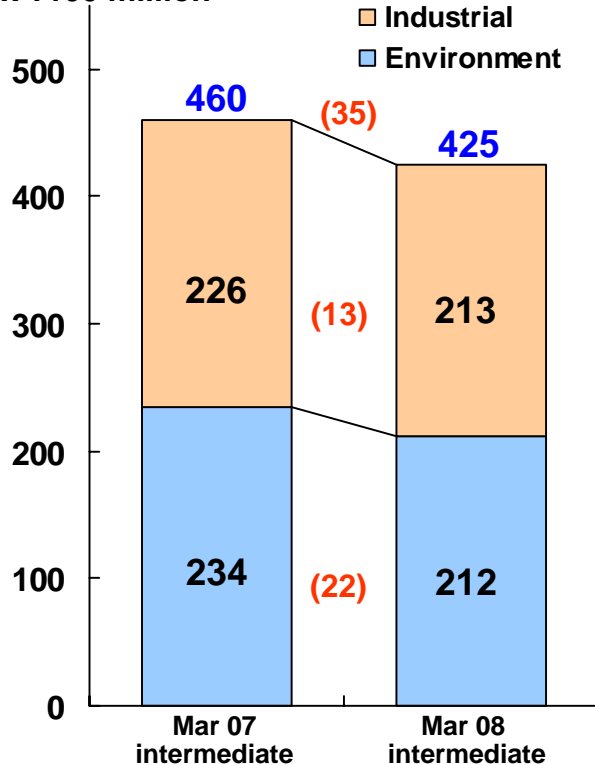
### Water environmental business

operating income fell ¥700 million due to the fall in sales

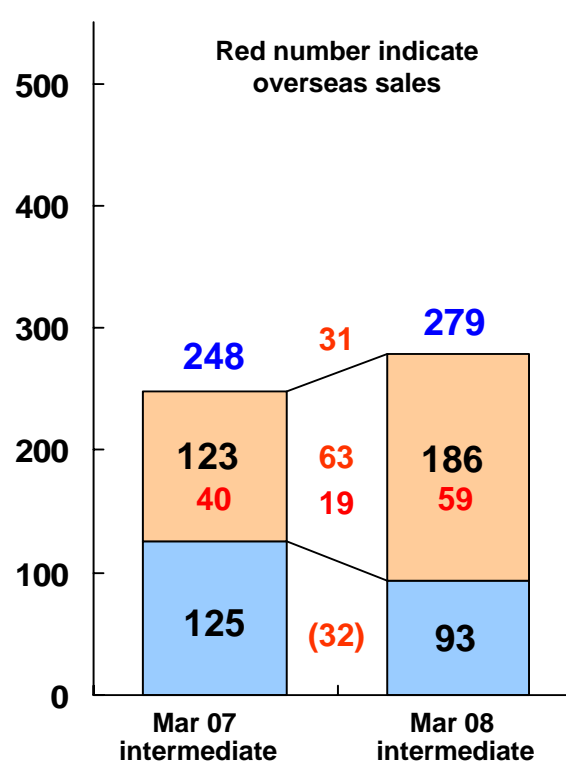
### Industrial business

The intermediate period finished in surplus by a significant increase in sales

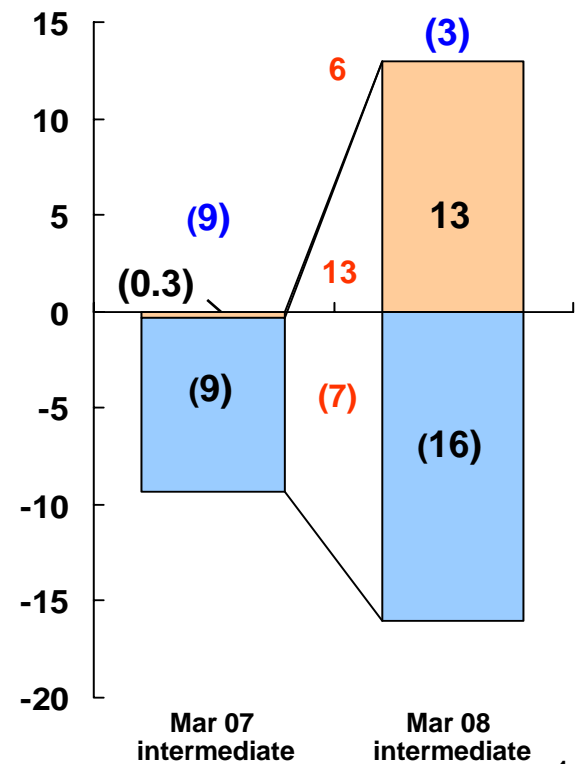
x ¥100 million



x ¥100 million



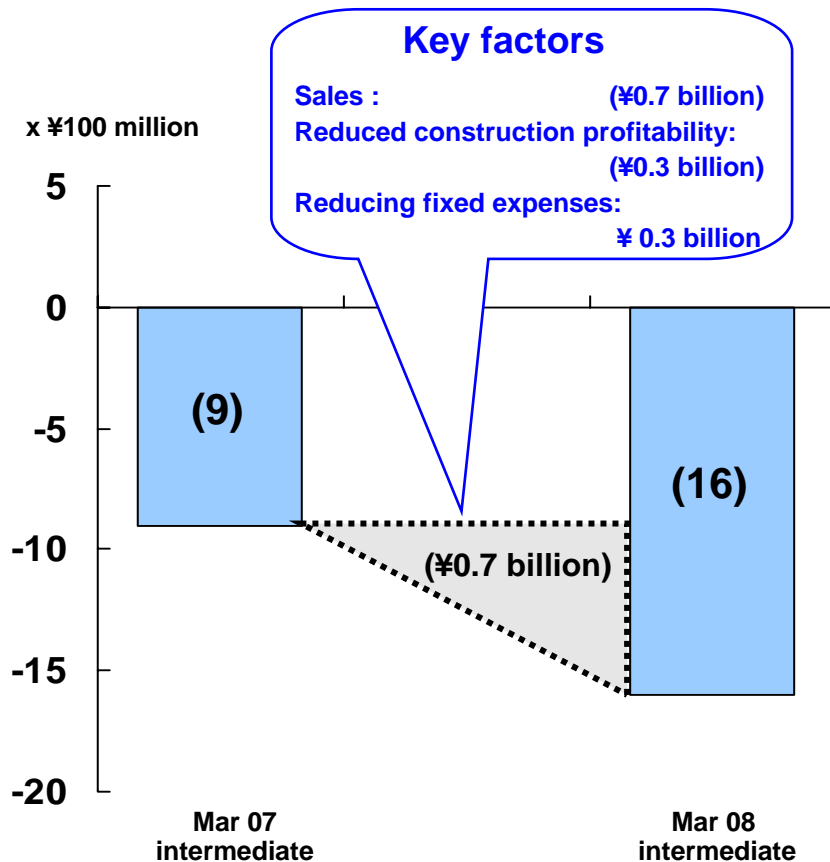
x ¥100 million



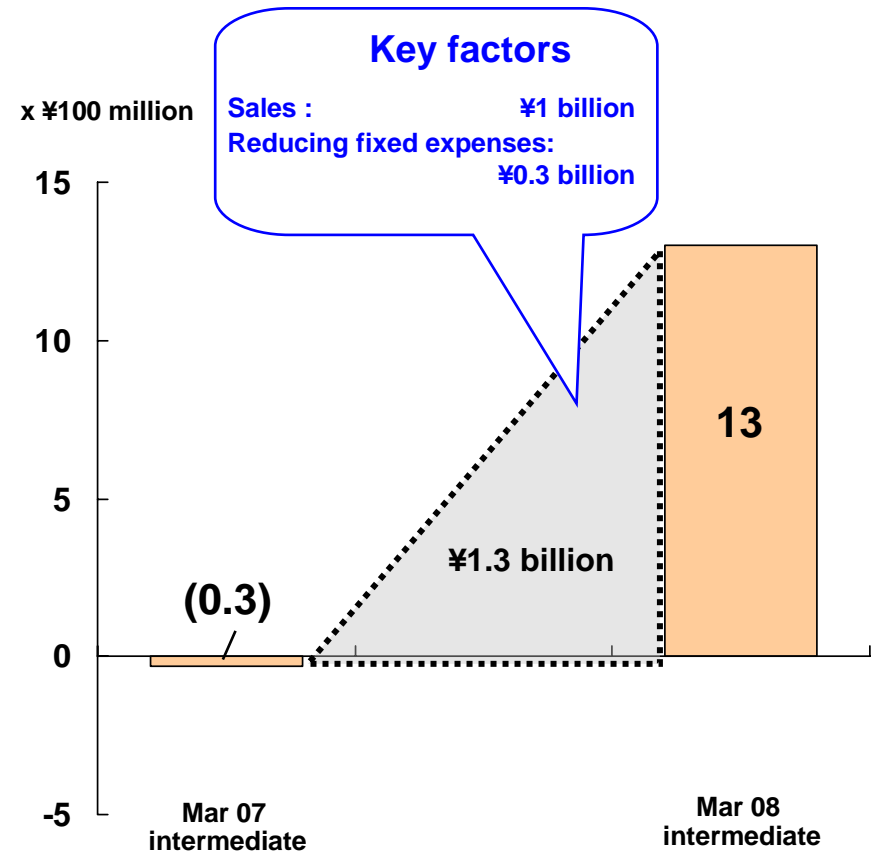
# Analysis of operating income by segment

- Despite reduction of fixed expenses, the combination of a shrinking market and greater competition led to reduced sales for the Water environmental business, while incomes were also affected by the lower profitability of construction
- Industrial business recorded surplus for the intermediate period by combination of increased sales and significantly higher incomes through reduction of fixed expenses

## Water environmental business



## Industrial business



# Extraordinary income/loss

■ For the specific construction projects recorded as extraordinary losses in the previous period (FY2006) — several domestic plant facilities featuring new processes in the Industrial Business segment — Transfers into accrued warranty is shown

(x ¥100 million)	Mar 07 intermediate	Mar 08 intermediate
<b>Extraordinary income</b>	<b>0</b>	<b>5</b>
Gain on sales of investments in securities	0	5
<b>Extraordinary losses</b>	<b>1</b>	<b>17</b>
Specific construction losses	0	0
Transfers into accrued warranty	0	17
Transfers into allowance for doubtful accounts	1	0
Other	0	0

Emphasis on connection with current business activities; ongoing review of stock holdings

Specific construction projects recorded as extraordinary losses in the FY2006 are shown in the current period as estimates of additional costs and damages still in negotiation

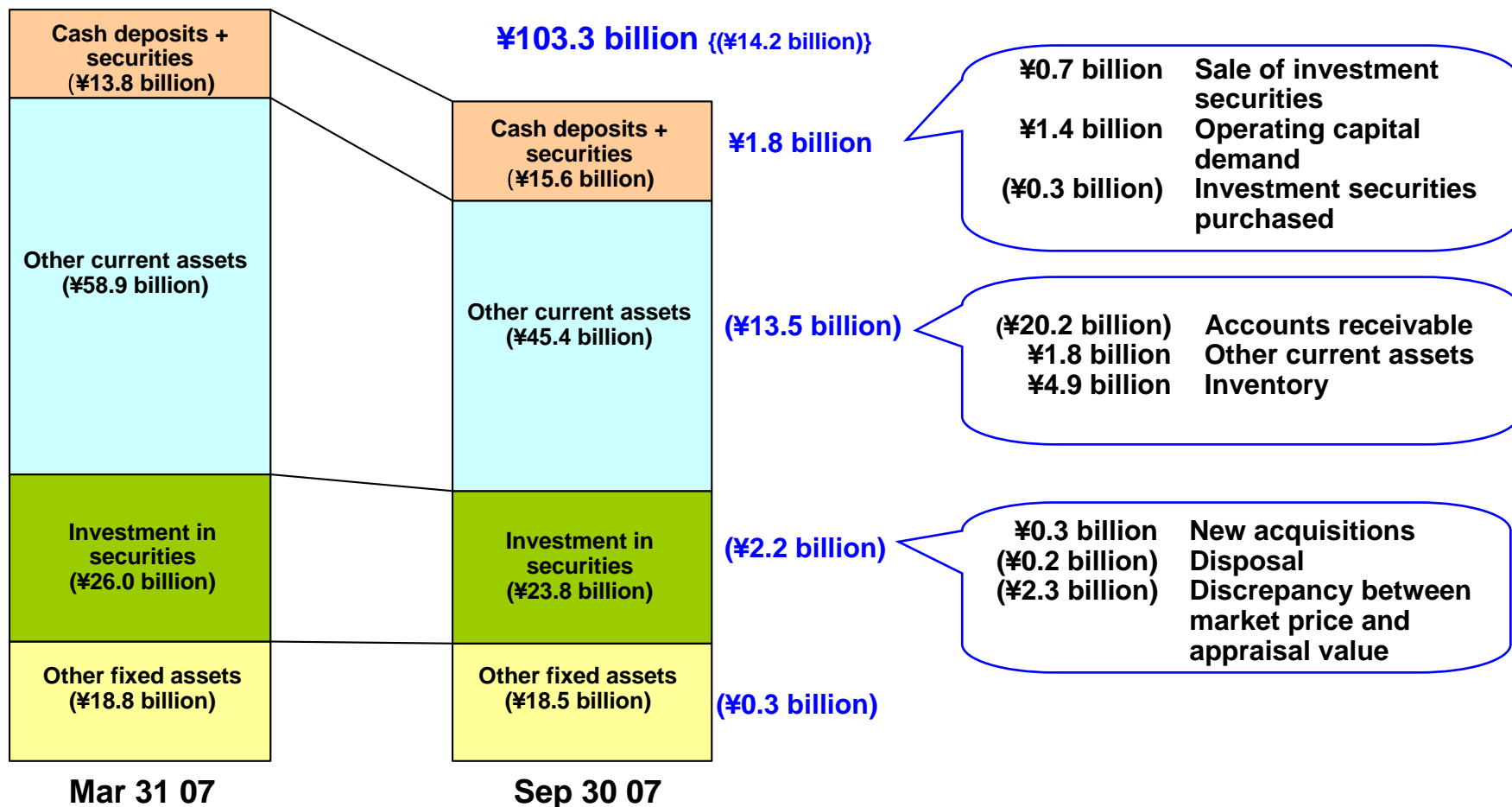
**NB: Extraordinary losses in FY2006**

Specific construction losses: ¥1.3 billion  
 Accrued warranty reserve: ¥1.6 billion

# Consolidated balance sheet (1) Assets

- The reduction in accounts receivable, a key aspect of the intermediate period settlement, has wiped ¥14.2 billion off total asset value since March 31, 2007
- The reduction in investment securities is attributable to discrepancies between the market price and the appraisal value as at September 30, 2007

¥117.5 billion

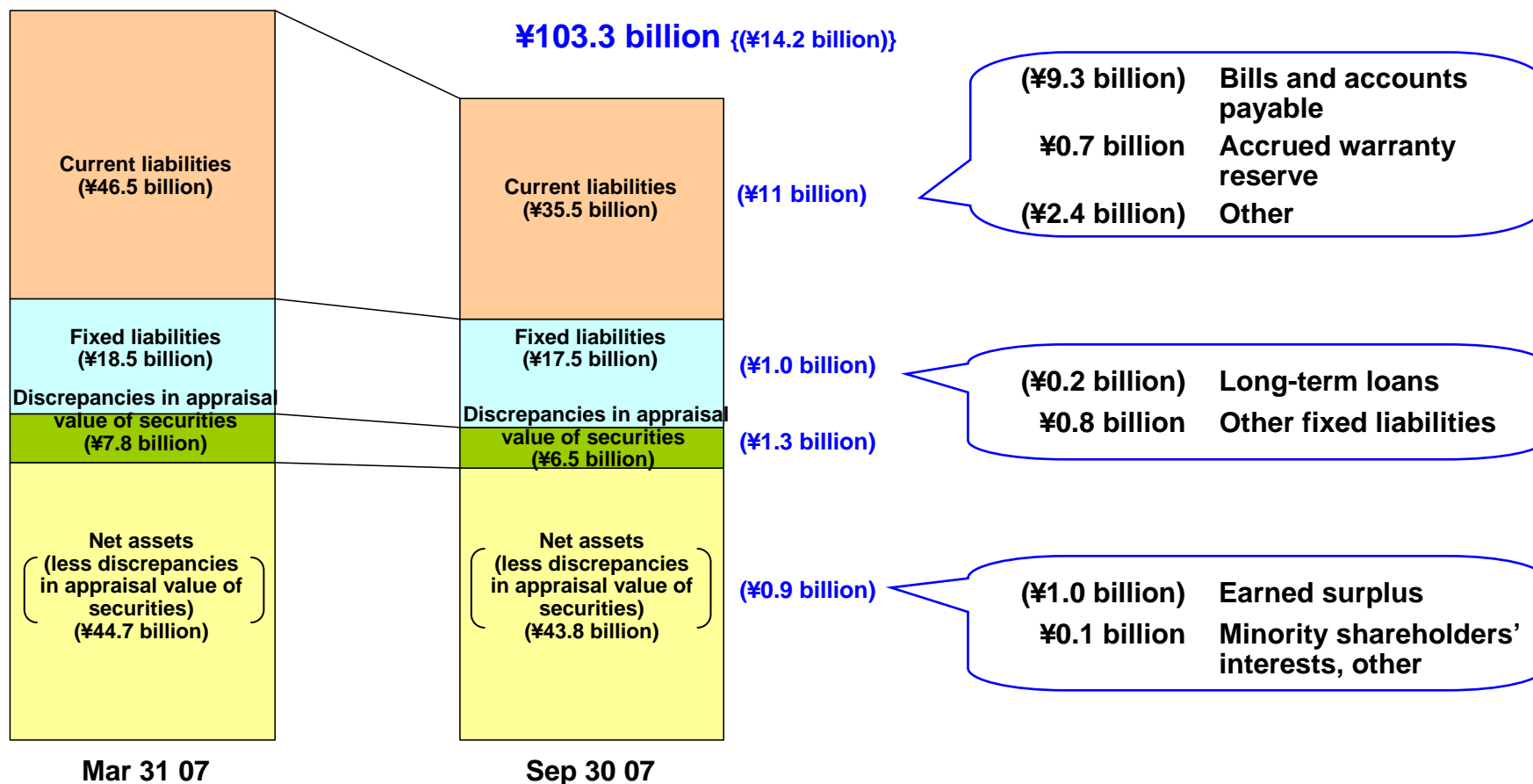


# Consolidated balance sheet (2)

## Liabilities and equity

- Reduction in note and accounts payable (trade) — a defining feature of the Tsukishima intermediate accounts statement—has reduced liabilities
- Reduction in total assets brings the equity ratio to 48.4%, an improvement of 3.9 pts over the March 07 period

¥117.5 billion



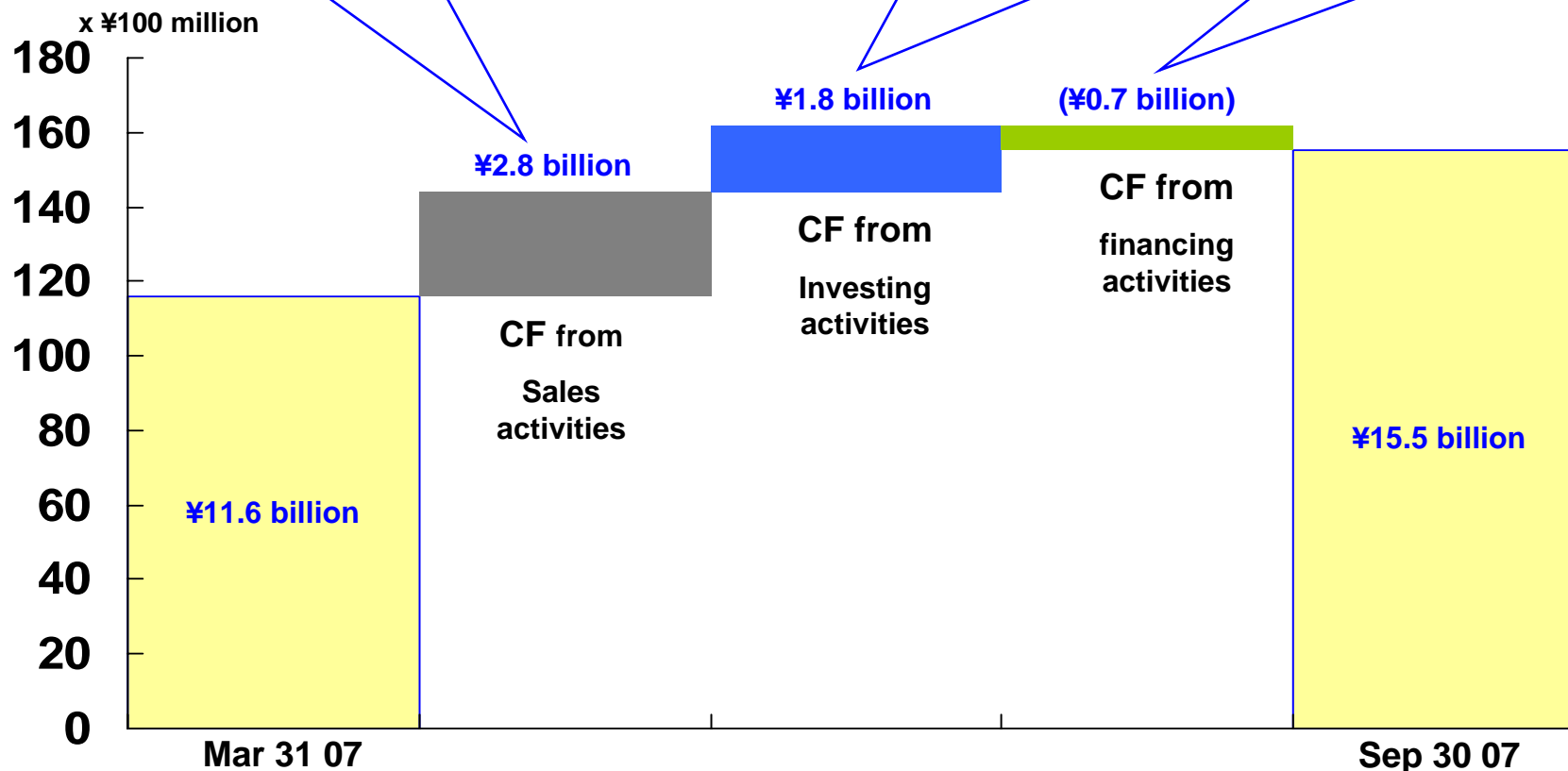
Mar 31 07

Sep 30 07

# Consolidated cash flow results

■ Reduction in accounts receivable and sale of investment securities resulted in a ¥3.9 billion increase in cash and cash equivalents since the end of the March 07 period

- ¥20.2 billion** Reduction in accounts receivable  
**(¥9.3 billion)** Reduction in notes payable  
**(¥4.9 billion)** Increase in inventory  
**(¥3.2 billion)** Pre-tax intermediate net losses etc
- ¥1.6 billion** Sale of securities  
**¥0.7 billion** Sale of investment securities  
**(¥0.3 billion)** Acquisition of investment securities  
**(¥0.2 billion)** Acquisition of tangible and intangible fixed assets
- ¥0.7 billion** Increase in short and long-term loans  
**(¥1.0 billion)** Repayment of short and long-term loans  
**(¥0.4 billion)** Dividend payments etc



# **Section 3**

## **Outlook beyond FY2007**

# Consolidated performance outlook for FY2007

- Sales is expected to increase ¥1.9 billion over the FY2006. This will be slightly below initial projections.
- The impact on incomes of the lower than expected sales will be absorbed by reduced expenditure on sales management, increased dividend payments and extraordinary incomes. As a result, income levels are expected to be consistent with initial projections.

x ¥100 million	Mar 07 actual	Mar 08 latest estimate	Relative to previous period	Mar 08 initial projection	Relative to initial projection
Sales	791	810	+19	850	40
Operating income	31	31	±0	31	±0
<i>Ratio of operating income to revenue</i>	3.9%	3.8%	0.1pt	3.6%	+0.2pt
Ordinary income	30	31	+1	31	±0
Net income	10	18	+8	18	±0

NB: Initial projections contained in financial statements for previous period released May 16, 2007

# Projections for orders received, sales revenue and operating income by segment

See Appendices p 6

See Glossary p 2

## Orders received

### Water environmental business

Several large-scale Life Cycle business projects will boost the value of orders received well above initial projections

### Industrial business

Despite some delays in orders, increased orders for incineration and vacuum systems are expected to boot the total value above initial projections

## Sales

### Water environmental business

A fall in sales from plant and machinery sales will see to come in at slightly below the initial projections

### Industrial business

Delays in orders will see to fall below initial projections

## Operating Income

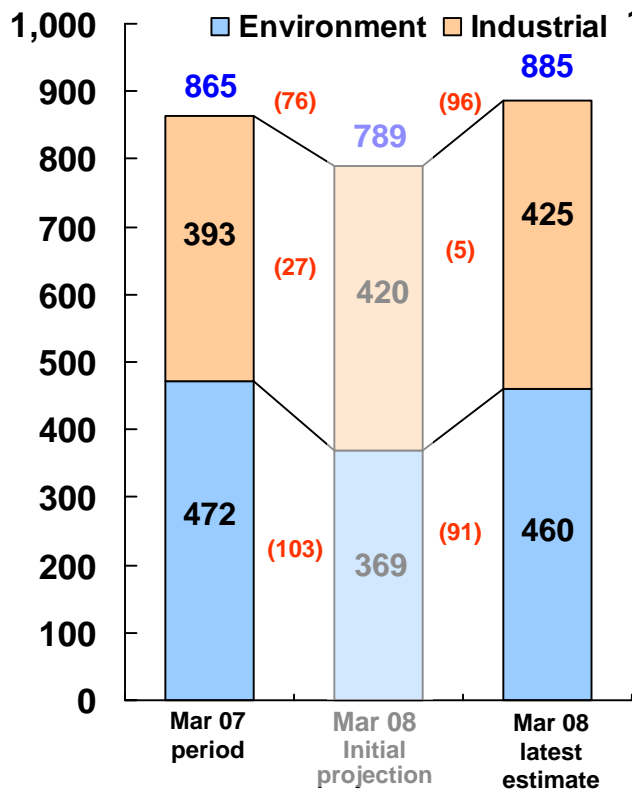
### Water environmental business

Reduction of sales management expenses and other fixed expenses will be offset by falling sales and lower incomes, so the initial projections are still on target

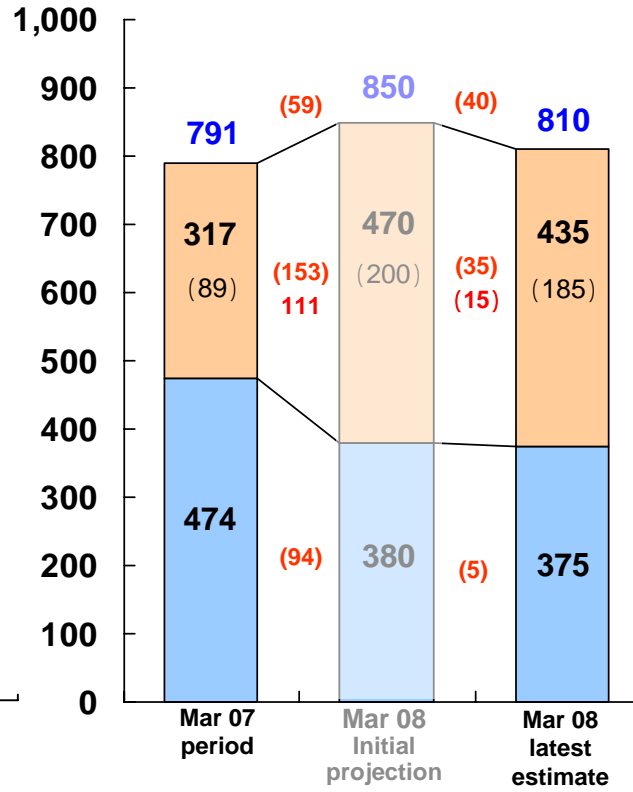
### Industrial business

Lower than expected revenue and income levels will be absorbed by improved profitability on construction projects, so the initial projections are on target

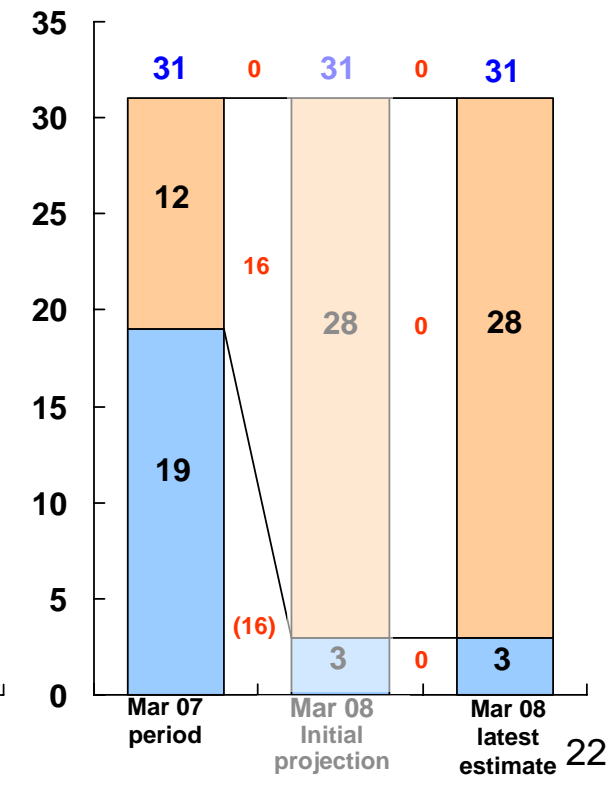
x ¥100 million



x ¥100 million



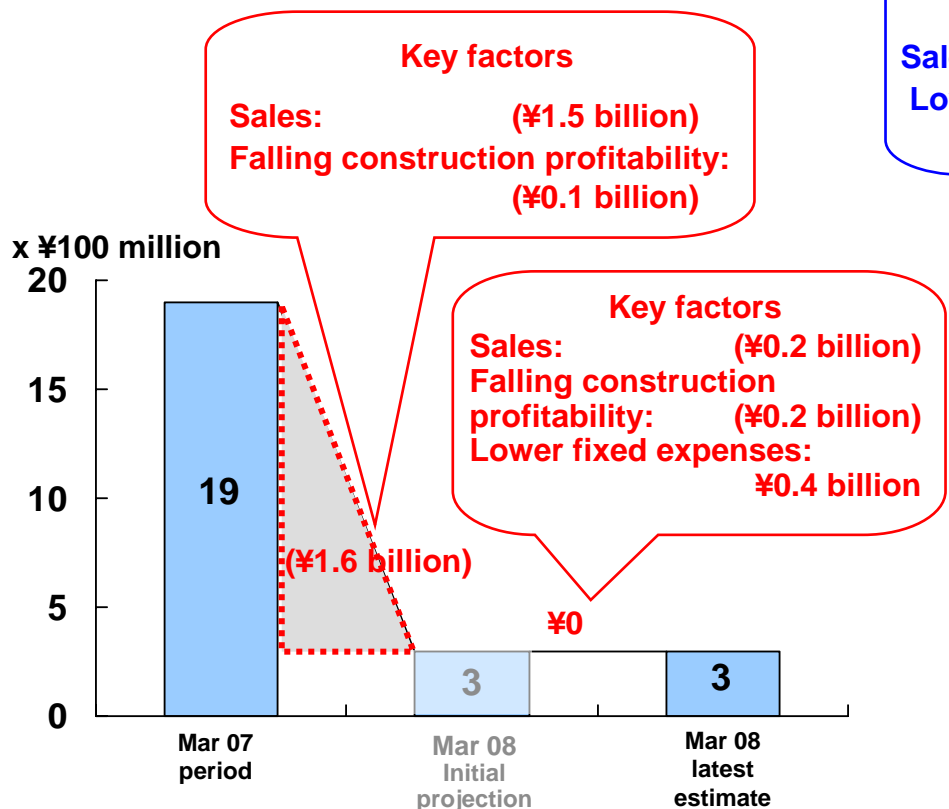
x ¥100 million



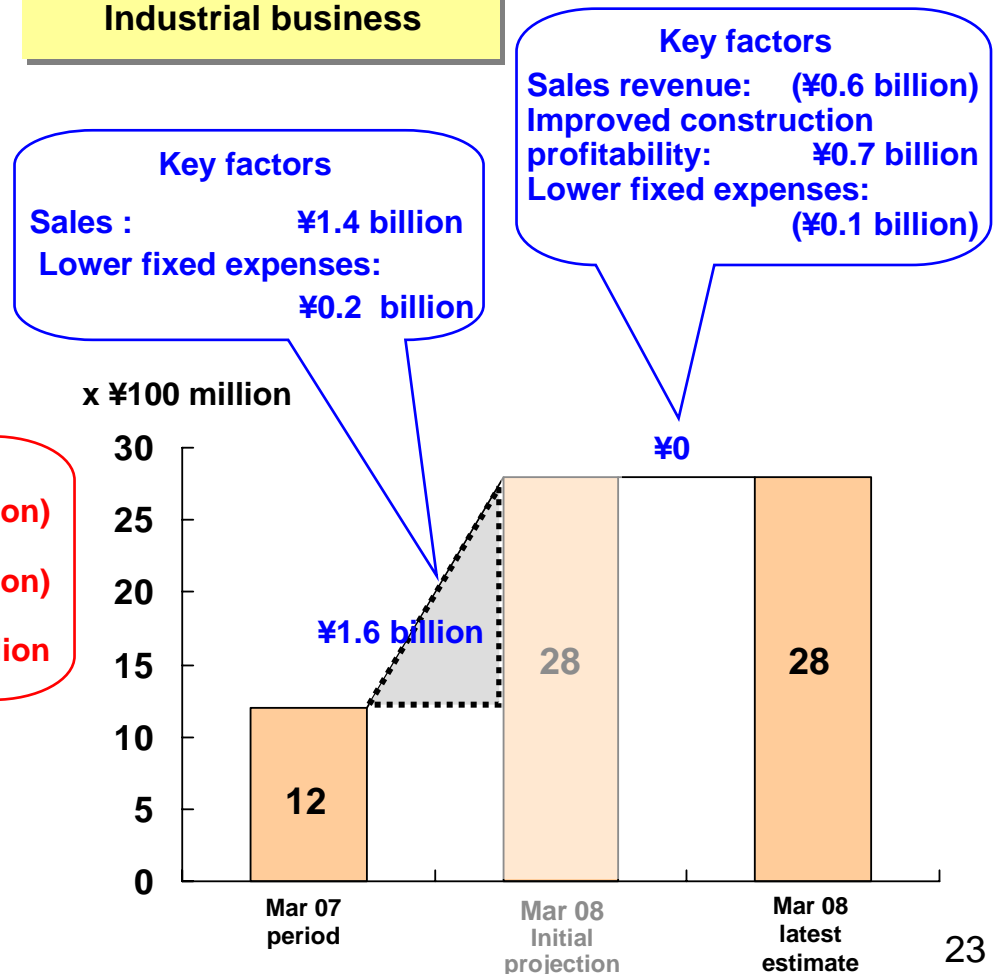
# Analysis of operating income by segment

- In the water environmental business , a ¥400 million income drop relative to initial projections, caused by falling sales and decreasing profitability of construction projects, will be offset by restructuring efficiencies and cuts to sales management and other fixed expenses.
- In the industrial business, sales and income drop will be absorbed by other factors such as improved profitability on construction projects

## Water environmental business



## Industrial business



# Business strategies for March 08 period — Water environmental business

See Appendices p 7

See Glossary p 2

x ¥100 million	Mar 07 period	Mar 08 latest estimates	Change from previous period
<b>Orders received</b>	<b>472</b>	<b>460</b>	<b>12</b>
Plants and equipment	245	195	50
Life Cycle business (Package and long-term contracts)	86 (65)	137 (126)	+51 (+61)
Operation and maintenance	141	128	13
<b>Sales revenue</b>	<b>474</b>	<b>375</b>	<b>99</b>
Plants and equipment	293	206	87
Life Cycle business (Package and long-term contracts)	30 (22)	40 (33)	+10 (+11)
Operation and maintenance	151	129	22
<b>Operating income</b>	<b>19</b>	<b>3</b>	<b>16</b>
<i>Ratio of operating income to revenue</i>	<i>4.0%</i>	<i>0.8%</i>	<i>3.2pt</i>
<b>Balance of orders</b>	<b>364</b>	<b>454</b>	<b>+90</b>

## General strategy

- Transition to ¥40 billion project-based structure designed to respond market circumstance
- Stronger focus on Life Cycle business to generate sales streams for the medium to long term
- Dominant position in niche market for energy creation and energy saving systems



## Structural reform

- ★ Reduce resource consumption within the Group under the ¥40 billion project-based approach
- ★ Stronger focus on Life Cycle business to provide a stable revenue base
- ★ Development of new products to market offering genuine technology differentiation

# Water environmental business : strategy implementation

Impact on incomes (in annual terms)

◆ Reduced resource consumption by the Group	Progress	<ul style="list-style-type: none"> <li>Staff redistribution                      (10% relative to Mar 07 (retirement and transfers to other departments))</li> <li>offices integration                      (Seven offices are integrated ed since Mar 07 (three merged, four closed))</li> </ul>	➔	Mar 08	Mar 09
	Progress	<ul style="list-style-type: none"> <li>Selective ordering      Δ20% since Mar 07</li> </ul>		Fixed expenses (wages/ outsourcing)	Fixed expenses (wages/ outsourcing)
	Progress	<ul style="list-style-type: none"> <li>In-house technology      Δ70% since Mar 07 (eliminate permanent design sub-contractors)</li> </ul>		Cut ¥0.2 billion	Cut ¥0.3 billion

Personnel cuts are being implemented incrementally

◆ Stronger focus on Life Cycle business	Target	<ul style="list-style-type: none"> <li>Promote long-term maintenance contracts</li> </ul>		Progress	<ul style="list-style-type: none"> <li>Target for Mar 08 period: 15 orders (worth ¥11 billion approx.) (average length = 4 years)</li> </ul>
		<ul style="list-style-type: none"> <li>Construction and long-term maintenance of new energy creation/energy saving products</li> </ul>		Progress	<ul style="list-style-type: none"> <li>Orders delayed until Mar 09 period</li> <li>First orders in Mar 09 period</li> </ul>
		<ul style="list-style-type: none"> <li>➔ Sludge to fuel recycling systems</li> </ul>	Target	<ul style="list-style-type: none"> <li>First orders in Mar 08 period</li> </ul>	Progress

◆ New product development		<ul style="list-style-type: none"> <li>➔ Tornado presses</li> </ul>	Target	<ul style="list-style-type: none"> <li>Five orders in Mar 08 period</li> </ul>	Progress	<ul style="list-style-type: none"> <li>Two orders received (to be actioned in Mar 09 period)</li> </ul>
		<ul style="list-style-type: none"> <li>➔ Wood biomass gas conversion systems</li> </ul>	Target	<ul style="list-style-type: none"> <li>Second system ordered in Mar 09 period</li> </ul>	Progress	<ul style="list-style-type: none"> <li>Interest from several local government bodies</li> <li>Looking to generate orders in Mar 09 period</li> </ul>

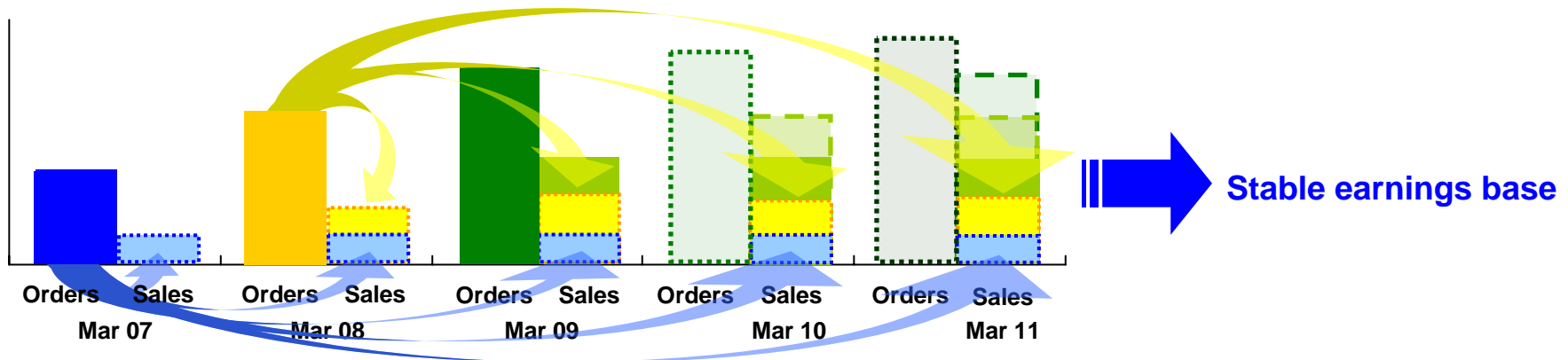
# Water environmental business — Life Cycle approach

## Benefits

- ★ The Life Cycle approach generates many years worth of business in a single order, thereby creating sales revenue and incomes in the medium to long term. A stable number of Life Cycle orders will provide a solid earnings base.
- ★ Medium to long-term contracts can be used to limit competition in fields where reliability and technical support are critical

### ◆ O&M package contracts and long-term contracts

- ★ Anticipated impact of packaged orders on future sales revenue



### ◆ PFI model

- ★ Packaging a long-term maintenance contract together with the initial facility development helps to create a stable earnings base in the future

(Samukawa W.S., Edogawa W.S.)

### ◆ Product differentiation through technological superiority

- ★ New business model based on product differentiation through technological superiority offered together with long-term maintenance contracts

(sludge to fuel recycling systems/pressurized fluidized incineration systems)

# Industrial business — strategy implementation in Mar 08 period

x ¥100 million	Mar 07 period actual	Mar 08 latest estimate	Compared to previous year
<b>Orders received</b>	<b>393</b>	<b>425</b>	<b>+32</b>
<i>(overseas orders)</i>	<i>(157)</i>	<i>(164)</i>	<i>(+7)</i>
Industrial plant and equipment	233	202	31
<i>(STD)</i>	<i>(63)</i>	<i>(74)</i>	<i>(+11)</i>
Sugar/bio	28	45	+17
<i>(biomass ethanol)</i>	<i>(13)</i>	<i>(38)</i>	<i>(+25)</i>
Incineration	104	129	+25
Vacuum	14	36	+22
Other	14	13	1
<b>Sales</b>	<b>317</b>	<b>435</b>	<b>+118</b>
<i>(overseas sales)</i>	<i>(89)</i>	<i>(185)</i>	<i>(+96)</i>
Industrial plant and equipment	189	220	+31
<i>(STD)</i>	<i>(36)</i>	<i>(58)</i>	<i>(+22)</i>
Sugar/bio	23	22	1
<i>(biomass ethanol)</i>	<i>(17)</i>	<i>(7)</i>	<i>(-10)</i>
Incineration	77	152	+75
Vacuum	14	28	+14
Other	14	13	1
Operating income	12	28	+16
<i>Ratio of operating income to revenue</i>	<i>3.8%</i>	<i>6.4%</i>	<i>+2.6pt</i>
<b>Balance of orders</b>	<b>355</b>	<b>345</b>	<b>10</b>

## General strategy

- Establish a solid earnings base predicated on competitive machinery lines in niche markets
- Development to plant facilities featuring proprietary equipment as a key growth area particularly in overseas markets



## Growth strategy

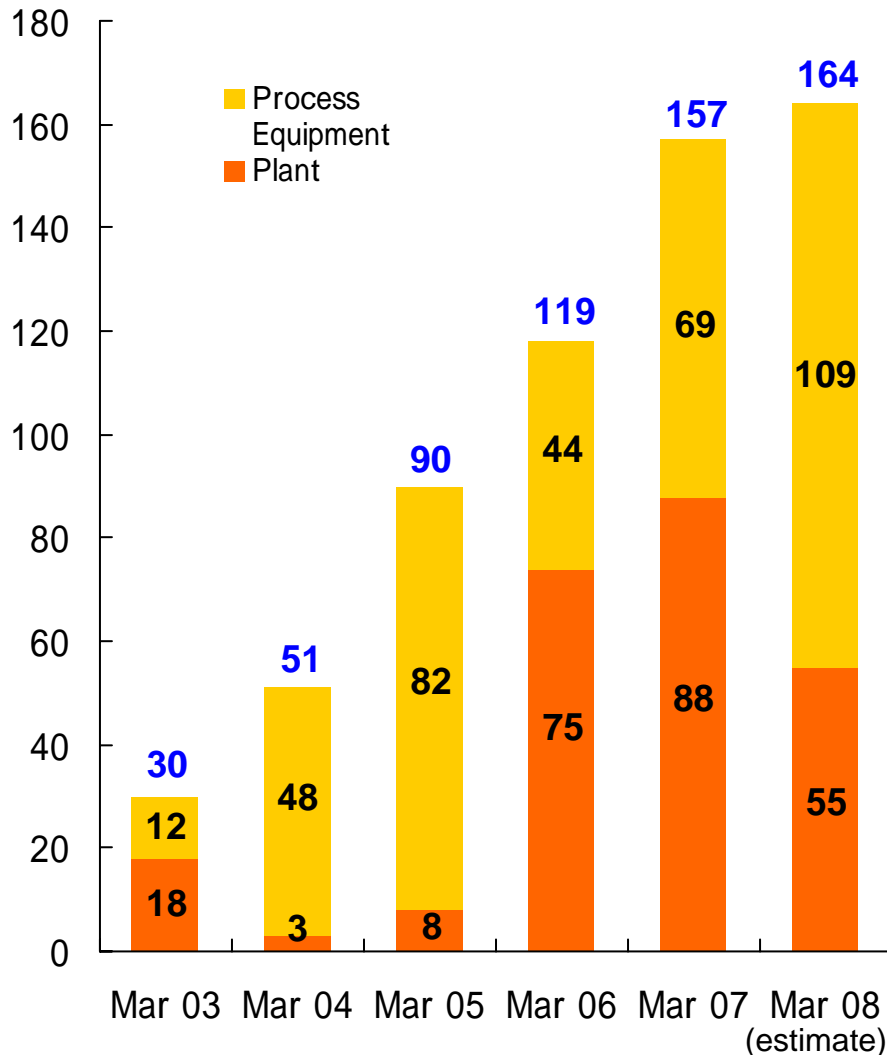
- ★ Key niche markets
  - Incineration
  - Biomass ethanol
  - Vacuum
  - Industrial plants and equipment
- ★ Expansion solutions

# Water environmental business : strategy implementation

◆ Key niche markets	Incineration	<ul style="list-style-type: none"> <li>Build overseas business and maintain/boost earning potential</li> </ul>	Target	<ul style="list-style-type: none"> <li>Stabilize business at around ¥10-15 billion</li> </ul>	Progress	<ul style="list-style-type: none"> <li>¥10 billion scale</li> <li>Driving consolidated income (contribution to incomes: major)</li> </ul>
	Biomass ethanol	<ul style="list-style-type: none"> <li>Establish a leading presence in wood biomass segment</li> <li>Increase involvement in government projects</li> </ul>	Target	<ul style="list-style-type: none"> <li>Maintain Continual projects</li> <li>Non-wood plant orders</li> </ul>	Progress	<ul style="list-style-type: none"> <li>Orders for grain based ethanol manufacturing plants</li> </ul>
	Vacuum	<ul style="list-style-type: none"> <li>Develop vacuum chamber mass-production solutions for large liquid crystal panels</li> <li>Expand industry fields</li> </ul>	Target	<ul style="list-style-type: none"> <li>Increase market dominance in large vacuum chambers</li> <li>Develop into film formation applications</li> </ul>	Progress	<ul style="list-style-type: none"> <li>Orders for solar cell film formation equipment contributing to incomes</li> </ul>
	Industrial plants and equipment	<ul style="list-style-type: none"> <li>Expand application of STD</li> <li>Expand aggressively overseas particularly in chemical plants</li> </ul>	Target	<ul style="list-style-type: none"> <li>STD orders to ¥6 billion</li> <li>Overseas business to ¥20 billion</li> </ul>	Progress	<ul style="list-style-type: none"> <li>STD orders ¥7.4 billion in March 08 period</li> <li>Overseas sales ¥18.5 billion in March 08 period (double the previous year)</li> </ul>
◆ Expansion solutions	<ul style="list-style-type: none"> <li>Additional personnel transferred from Water environmental business (20)</li> </ul>					

# Industrial business (overseas orders)

x ¥100 million



- ★ Continuing sustained growth in industrial business orders from overseas clients
- ★ The majority of orders are for equipment, particularly large steam tube dryers (STD) used in chemical production

## Overseas plant business

- Primarily E (Engineering) and P (Procurement); no C (Construction)
- Scope of orders is generally limited to Tsukishima machinery and associated facilities and peripherals, rather than as the prime contractor responsible for an entire project

# Return to stockholders

- Basic principle is to strive for 40% return to stockholders with consistent dividend payments
- The current plan for the March 08 period is to maintain the dividend of ¥15 per share

	Mar 06 period	Mar 07 period	Mar 08 period
	Actual	Actual	Target
<b>Net income (consolidated) in current period</b>	<b>¥1.7 billion</b>	<b>¥1.0 billion</b>	<b>¥1.8 billion</b>
<b>Return value</b>	<b>¥0.68 billion</b>	<b>¥0.68 billion</b>	<b>¥0.68 billion</b>
Dividend payments	¥0.68 billion	¥0.68 billion	¥0.68 billion
(Annual dividend payment per share)	¥15	¥15	¥15
(Intermediate period dividend payment per share)	¥7	¥7	¥7
Treasury stock purchases	0	0	0
<b>Return to stockholders (consolidated)</b>	<b>42.6%</b>	<b>67.7%</b>	<b>37.8%</b>

# Outlook for March 09 period (as at November 21, 2007)

## Water environmental business

- Represents key social infrastructure; Tsukishima also boasts “stock” equivalent to 20% market share in dewatering machines, dryers and incinerators
- Stable earnings base generated by stronger focus on Life Cycle business
- Product differentiation in new products predicated on Tsukishima’s own production plants (manufacturing technology) in addition to design technology (sludge to fuel recycling systems, pressurized fluidized combustion systems etc)
- Streamlining initiatives during March 08 period expected to reduce fixed expenses by ¥300 million

## Industrial business

- A stable business climate expected to remain in the short term, with orders continuing strongly
- New businesses, particularly biomass ethanol and vacuum technology, will boost earnings in the March 09 period
- Establishing a dominant position in the niche market of incineration systems (waste liquid combustion and large solid waste processing) to drive consolidated earnings

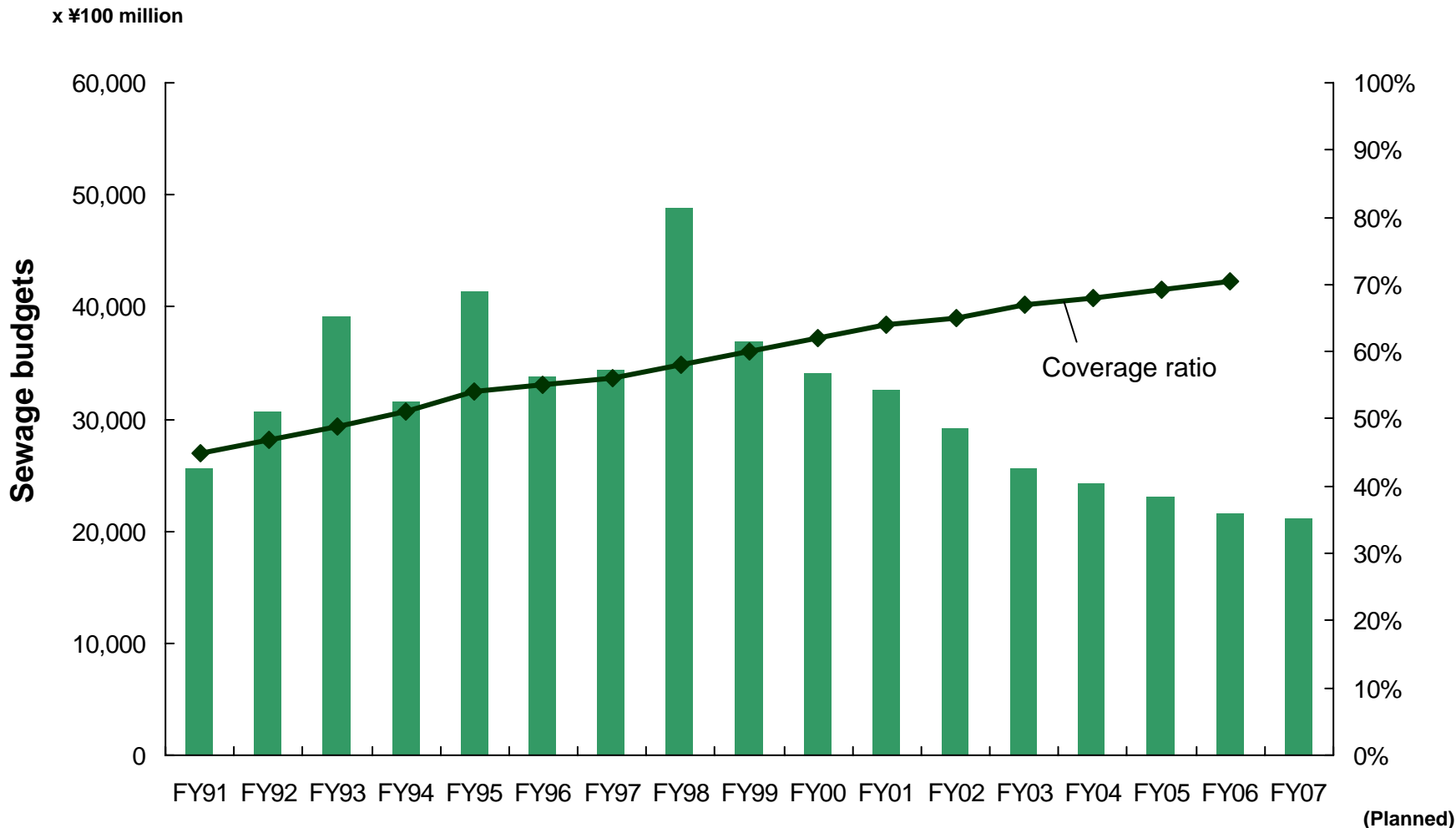
x ¥100 million	Mar 07(actual)	Mar 08 (latest estimates)	Mar 09 (outlook)	Mar 09 NEXT 100
<b>Sales revenue</b>	<b>791</b>	<b>810</b>	<b>800</b>	<b>875</b>
Water environmental business	474	375	380	438
Industrial business	317	435	420	437
<b>Operating income</b>	<b>31</b>	<b>31</b>	<b>35 - 40</b>	<b>40</b>
Water environmental business	19	3	6 - 8	17
Industrial business	12	28	29 - 32	23

(released March 06)

# Appendices

# Water environmental business (sewage)

- ◆ Sewage budgets are shrinking in inverse proportion to coverage ratios
- ◆ Tsukishima boasts considerable experience and expertise in sludge treatment at processing plants



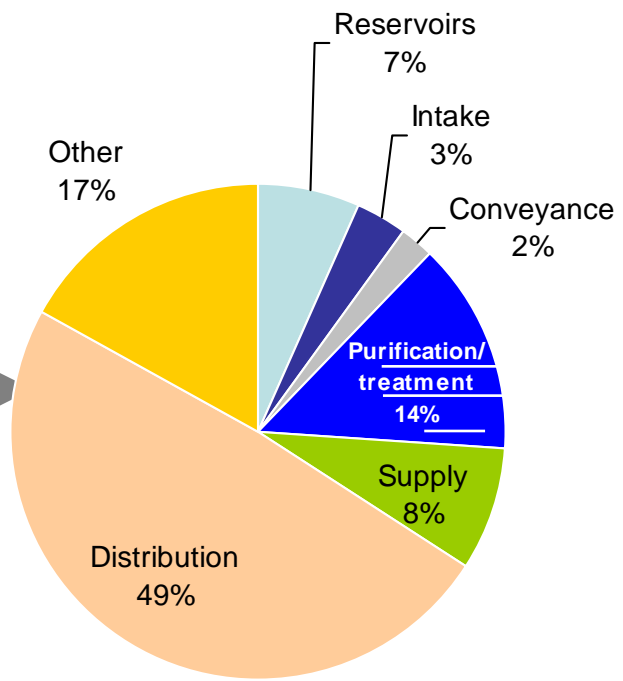
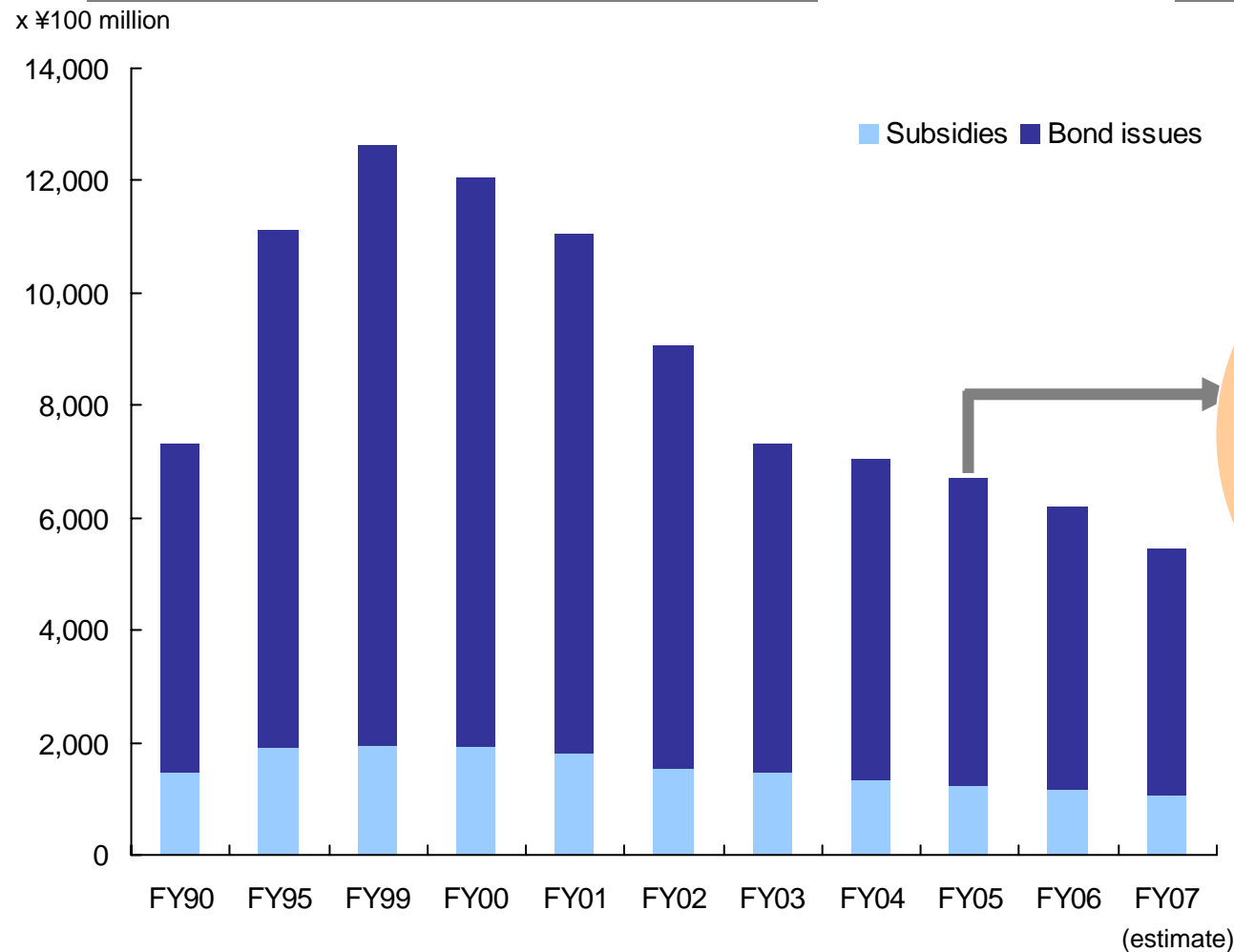
Source: Ministry of Land, Infrastructure, Transport and Tourism; Japan Sewage Works Association

# Water environmental business (water supplies)

- ◆ As part of government cost-cutting measures, expenditure on public works projects is declining from a peak in 1999
- ◆ Tsukishima Kikai boasts considerable experience and expertise in wastewater treatment at water purification facilities

**Water supplies — subsidies and bond issues**


**Expenditure by facility type (FY2005)**



Source: Japan Water Works Association, Water Supply Statistics

# Water environmental business (by equipment/facility type)

Based on in-house research

Plants and equipment		Market share	Main competitors
Dewatering machines	<p>"Main product" Tornado press (new design dewatering machine)</p> 	17%	Hitachi Plant Technologies, Ishigaki, Takuma, Tomoe Engineering, Mitsubishi Kakoki, Sumitomo Heavy Industries
Dryers	<p>"Main product" Inclined disc dryer</p> 	19%	Kawasaki Heavy Industries, Kubota
Incinerators	<p>"Main product" Fluidized incinerator</p> 	19%	Ebara Environmental Engineering, Kobelco Eco-Solutions, Kubota, Sanki Engineering, JFE Engineering, NGK Insulators (joint venture between Fuji Denki Systems and NGK Insulators)
Melting furnaces	<p>"Main product" Cokes bed incinerator Melting furnace</p> 	55%	
Life Cycle business		(Tsukishima in Japan)	
<p>Major achievements Samukawa Water Services (PFI facility)</p> 	<p>PFI: 2 of 4 (wastewater treatment at purification facility)</p>	<p>NGK Insulators, Sanki Engineering, Maezawa Industries, Meiden Environmental Services</p>	
Existing contracts			
<p>Equipment operation and maintenance</p> 	<p>contract to: 45 water purification facilities 48 sewage facilities 4 other facilities (as at Sep 07)</p>	<p>Nihon Hels, Ebara Engineering Services, Tesco, Kubota Environmental Services, Meiden Environmental Services, Kyushu Water Utilities Corporation, Japan Maintenance Engineering, Veolia (France)</p>	

# Industrial business (by equipment/facility type)

Based on in-house research

STD		Market share (Market value)	Competitors
<p>“Main product” Steam Tube Dryer (STD)</p> 		<p>70% ¥12 billion</p>	<p>Mitsui Engineering and Shipbuilding, Louisville (US)  (PTA dryers)</p>
Sugar production plants			
<p>“Main product” Suspension centrifuge (for sugar production)</p> 	<p>In Japan, the only domestic supplier; overseas, one of a handful of firms delivering sugar plants</p>	<p>Hakko Engineering, Shindenchu Kikai BMA (Germany), Fifs Cail (France)</p>	
Biomass ethanol			
<p>“Main product” Biomass ethanol manufacturing plant</p> 	<p>Two orders: Osaka PJ and Thai PJ</p>	<p>JGC, Mitsui Engineering and Shipbuilding  (cellulose ethanol systems)</p>	
Large vacuum chambers			
<p>“Main product” Electron beam welding (large vacuum chamber manufacturing)</p> 	<p>Market dominance</p>	<p>Mitsubishi Heavy Industries  (large EBW aluminum chambers)</p>	
Incineration			
<p>Waste liquid combustion</p> <p>“Main product” Waste liquid incineration system</p> 	<p>70% of domestic market (Domestic: ¥3 billion Overseas: ¥15 billion)</p>	<p>Asahi Kasei Engineering, Volcano John Jink (US), Callidus Technologies (US)</p>	
<p>Solid industrial waste</p> <p>“Main product” Melting kiln</p> 	<p>30% (Domestic: ¥15 billion)</p>	<p>Hitachi Zosen, Sumitomo Heavy Industry (leading heavy industry manufacturers/shipbuilding firms) Takuma, Ebara (leading environmental solution engineering firms)</p>	

# Note

1. Numerical projections and estimates, future outlook descriptions and associated statements and declarations in this document and the accompanying presentation are based on judgments and assumptions made in accordance with the best information available to Tsukishima Kikai at the present point in time. Actual outcomes may differ from such predictions due to uncertainties inherent in underlying judgments and assumptions, operational and management developments, and changes in internal and external conditions. Tsukishima Kikai makes no warranties whatsoever in relation to future predictions shown herein.
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