



Mitsui Chemicals

**The 2008**

**Mid-term Business Plan**

**Jan. 18, 2008**

**Mitsui Chemicals, Inc.**



Mitsui Chemicals

# “Chemistry, Innovation, Dreams”

~The Mitsui Chemicals Group is constantly pursuing innovation and materializing dreams with the wonder of chemistry~

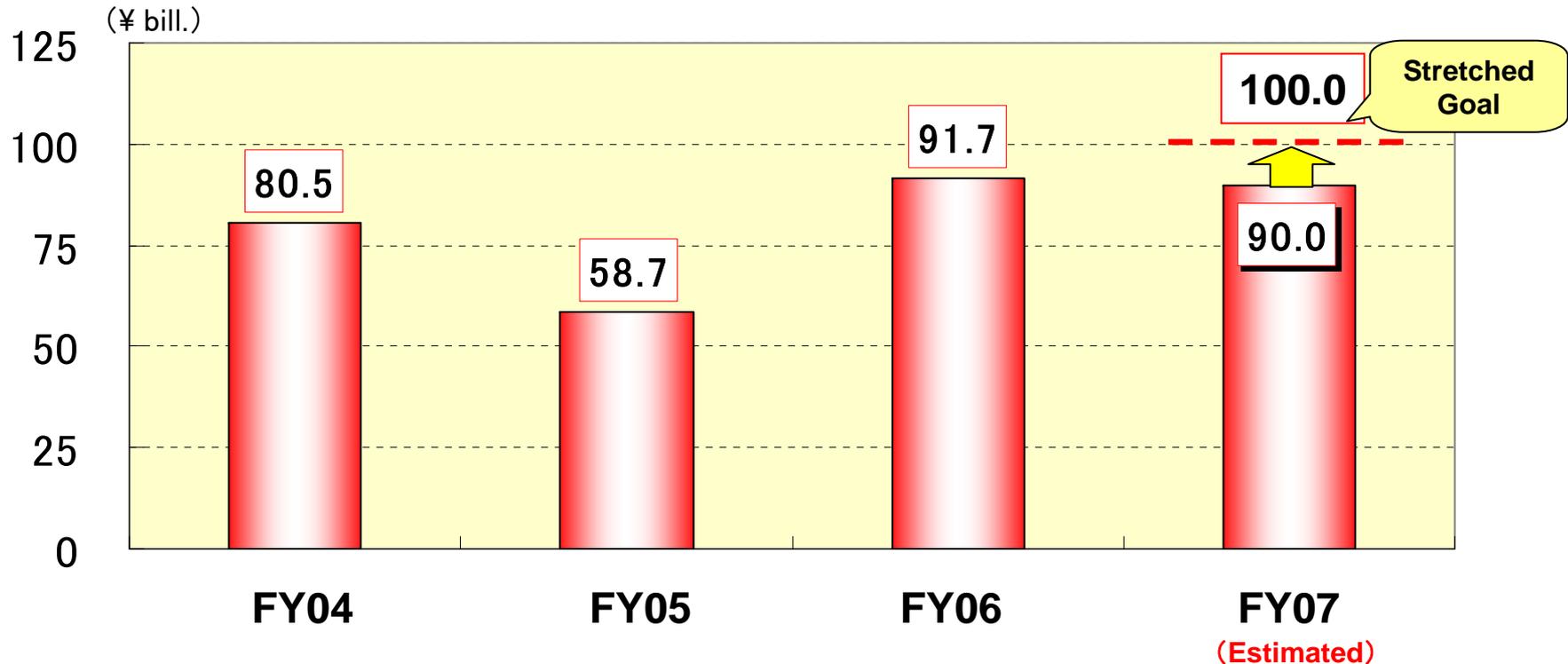
**January 18, 2008**

**President & CEO Kenji Fujiyoshi**

# Operating Incomes During the 04MTP (FY04-FY07)

(Accumulated Operating Income)  
04MTP (Plan)      ¥320 billion  
Results (Estimate) ¥320.9 billion

➔ Met the target of the  
04MTP



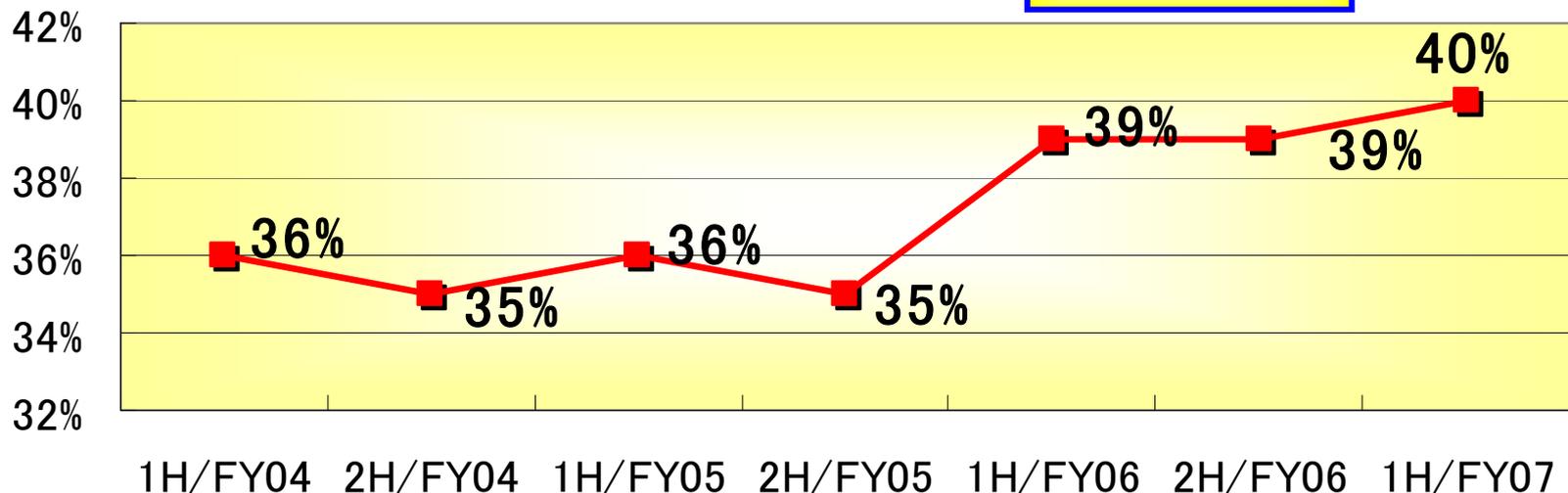
# 1<sup>st</sup> H of FY07 Targets and Results

## • Sales and Operating Income

(Y bill.)	1H of FY07		
	Budget	Result	Incr. (Decr.)
Net Sales	890.0	881.6	(8.4)
Operating Income	38.0	42.7	4.7

**Record High**

## ▪ Overseas Sales



# Business Topics

## [Performance Materials and Advanced Chemicals]

- ◆ **Completion of multipurpose semi-commercial plant**  
**<Iwakuni-Ohtake/Jan. 2007>**
- ◆ **Completion of high-functional film center**  
**<Nagoya/Mar. 2007 >**
- ◆ **Decision to increase production capacity of MDI**  
**<Kumho Mitsui Chemicals (Korea)/Apr. 2007 >**  
**(To be completed in June 2009)**
- ◆ **Sankyo Agro joined the MCI Group**  
**<Apr. 2007>**  
**(Oct. : Mitsui Chemicals Crop Life was integrated)**
- ◆ **Acquisition of toner resin business from Sekisui**  
**<Apr. 2007>**



Multipurpose semi-commercial plant



High-functional Film Center



Sankyo Agro Co. Ltd.

# Business Topics

## [Performance Materials and Advanced Chemicals②]

### ◆ Dissolution of JV with GE and Nagase & Co.

<Aug. 2007> (GE Plastics Japan Ltd. and GEM PC Ltd.)

### ◆ Increase of production capacity of NF3

Start of commercial production

<Shimonoseki/Aug. 2007>

(+400t/yr 1,300t/yr →1,700t/yr)



3EPT Plant (Ichihara Works)

### ◆ Completion of 3EPT plant

<Ichihara/Oct. 2007>

(+75kt/yr 45kt/yr →120kt/yr)

### ◆ Increase of production capacity of nonwoven fabrics

Start of commercial operation

<MHM (Thailand)/Dec. 2007>

(+16kt/yr 14kt/yr→30kt/yr)



Mitsui Hygiene Materials (Thailand)

# Business Topics [Basic Chemicals]

- ◆ Increase of production capacity of PP compounds  
Start of commercial operation

<May 2007> (ACP, GSC, MCZ +63kt/yr 237kt/yr→300kt/yr)



Advanced Composites (the U.S.A)



Grand Siam Composites (Thailand)



Mitsui Advanced Composites (Zhongshan) Co., Ltd. (China)

- ◆ Increase of production capacity of phenol  
Start of commercial operation

<MPS (Singapore)/Aug. 2007>  
(+50kt/yr 250kt/yr→300kt/yr)

- ◆ Establishment of Mitsui Prime Advanced Composites India PVT Ltd.

<Sep. 2007 >



Mitsui Phenols Singapore (Singapore)

# Core Businesses of Performance Materials

## ◆ Elastomers

- Production Capacity

TAFMER™ : **NO.2 in the world, No.1 in Asia**

ADMER™ : **No.1 in the world**

- Expansion of 3EPT Plant

<Ichihara/Oct. 2007> (+75kt/r)



MELS (Singapore)

## ◆ Urethane

- Production Capacity

**No.2 in Asia (492kt/yr)**

- Increase of production capacity of MDI to be completed.

<Kumho Mitsui Chemicals (Korea)/Jun. 2009>  
(+65kt/yr)



Urethane materials used (Automobile) 8

# Core Businesses of Advanced Chemicals

## ◆ Monomers for Optical High-index Plastic Lens

- Market Share **No.1 in the world**
- World's highest level refractive index based on highly competitive technology



## ◆ Agrochemicals

- Insecticide **“STARKLE™”**

Halogen-free systemic insecticide which has inventive chemical structure



# Core Businesses of Basic Chemicals

## ◆ Phenol

- Production Capacity  
**No.2 in the world** (920kt/yr)
- Increase of MPS/Phenol  
Start of commercial operation  
<Aug. 2007> (+50kt/yr)



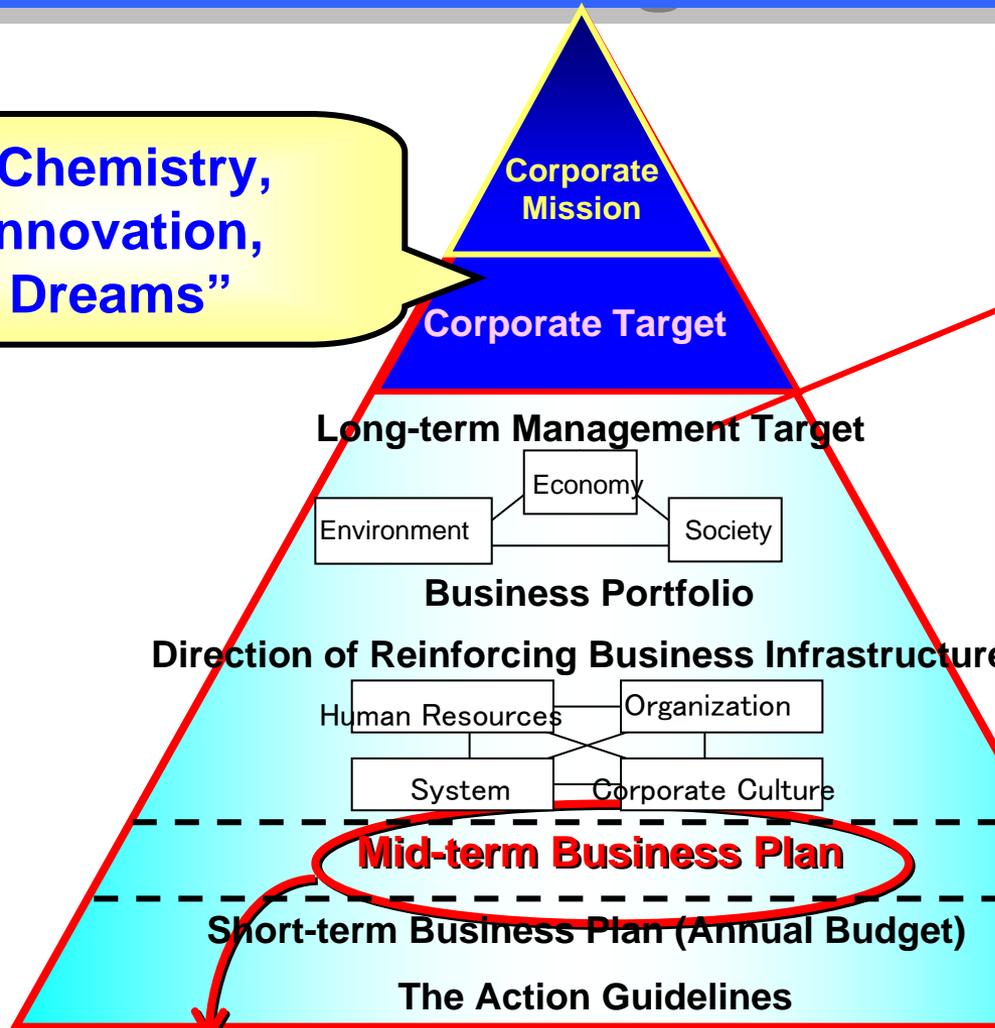
Phenol Plant (Osaka Works)

## ◆ PP Automotive Materials

- Production Capacity **No.2 in the world** (600kt/yr)
- Increase of production capacity  
<May 2007> (ACP, GSC, MCZ +63kt/yr)
- Establishment of a New Company in India, ACI  
<Sep. 2007>

# Grand Design\* and the 08 MTP

“Chemistry, Innovation, Dreams”



**The 2008 Mid-term Business Plan**  
**Business plan for the first 4 years until 2015**  
**to realize the Grand Design**

## Long-term Management Target (targeting around 2015)

### Financial Goals [Growth]

- Operating Income:  $\geq$  ¥ 150bil.
- ROA:  $\geq$  10%  
 (Return on Asset)

### Environmental Goals [Harmony]

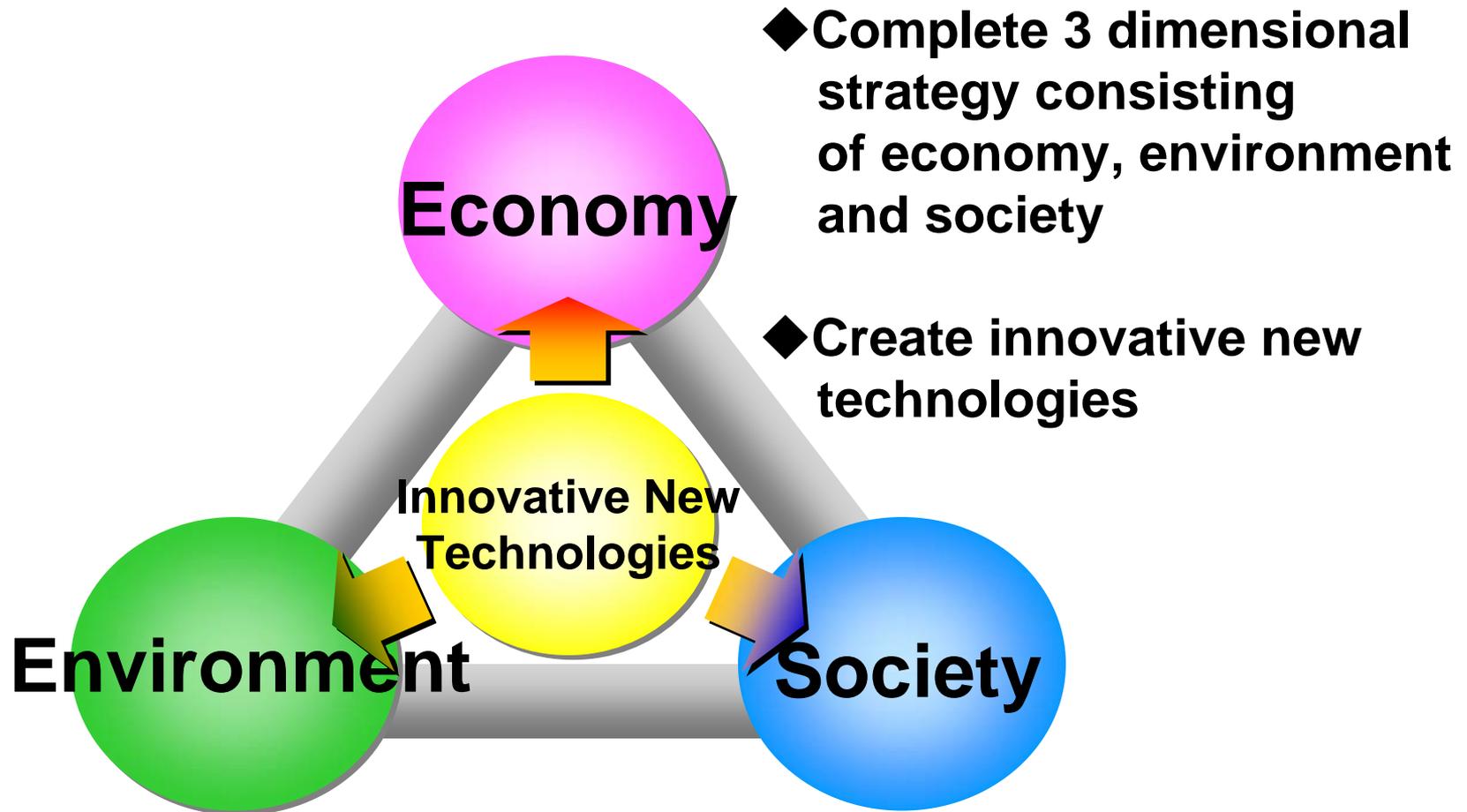
- Index of GHG Basic Unit:  $\leq$  90  
 (1990 as 100)
- Industrial Wastes “Minimization” \* 1
- Development of Technologies to Utilize Non-Fossil Resources

\* 1 Final disposal amount/  
 The amount of industrial waste produced  $\leq$  1%

\*Grand Design is the basic framework of the MCI Group management which sets goals with an eye on further growth in the next 10 to 15 years.

# Basic Concept of the 08 MTP

## “The Challenge to Create Innovative Values”



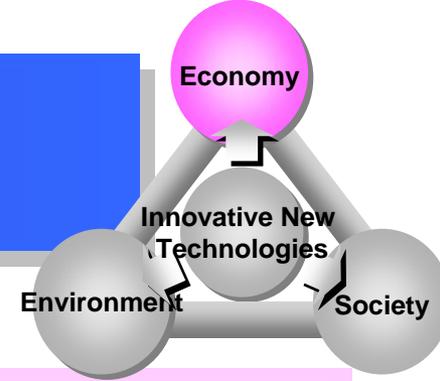
# Performance Base for the 08 MTP

The following table shows premises to establish our 2008 Mid-term Business Plan. All the data are based on our forecasts for the next 4 years of the 08MTP.

Economic Growth	Asia	5.8% (Japan 1.7%, China 9.4%, India 9.0%)
	The U.S.	3.0%
	Europe	2.0%
Market Trend	Automotive	<ul style="list-style-type: none"> <li>- Production: Japan Unchanged, Europe &amp; the U.S. +1.5%, Asia +4.0%</li> <li>- Technically polarized: Growth to be seen in low environmental impact and compact light-weight, low priced automobiles.</li> </ul>
	Flat-panel TV	<ul style="list-style-type: none"> <li>- Growth to be sluggish in flat-panel TV.</li> <li>- Organic Electro-Luminescence to be grow.</li> </ul>
Other Relevant Data	Exchange Rate	Y115 /\$ (Y150/EUR)
	Crude Oil	\$65 /BBL
	Naphtha	\$595 /T
	Domestic Naphtha	Y50,000 /KL

# Economy

## Mission and Basic Strategy



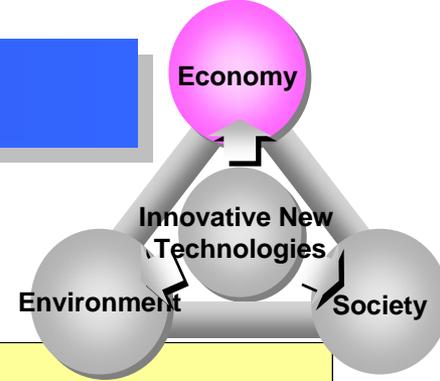
### <Mission>

**Grow & Expand to Achieve Long-term Management Target**

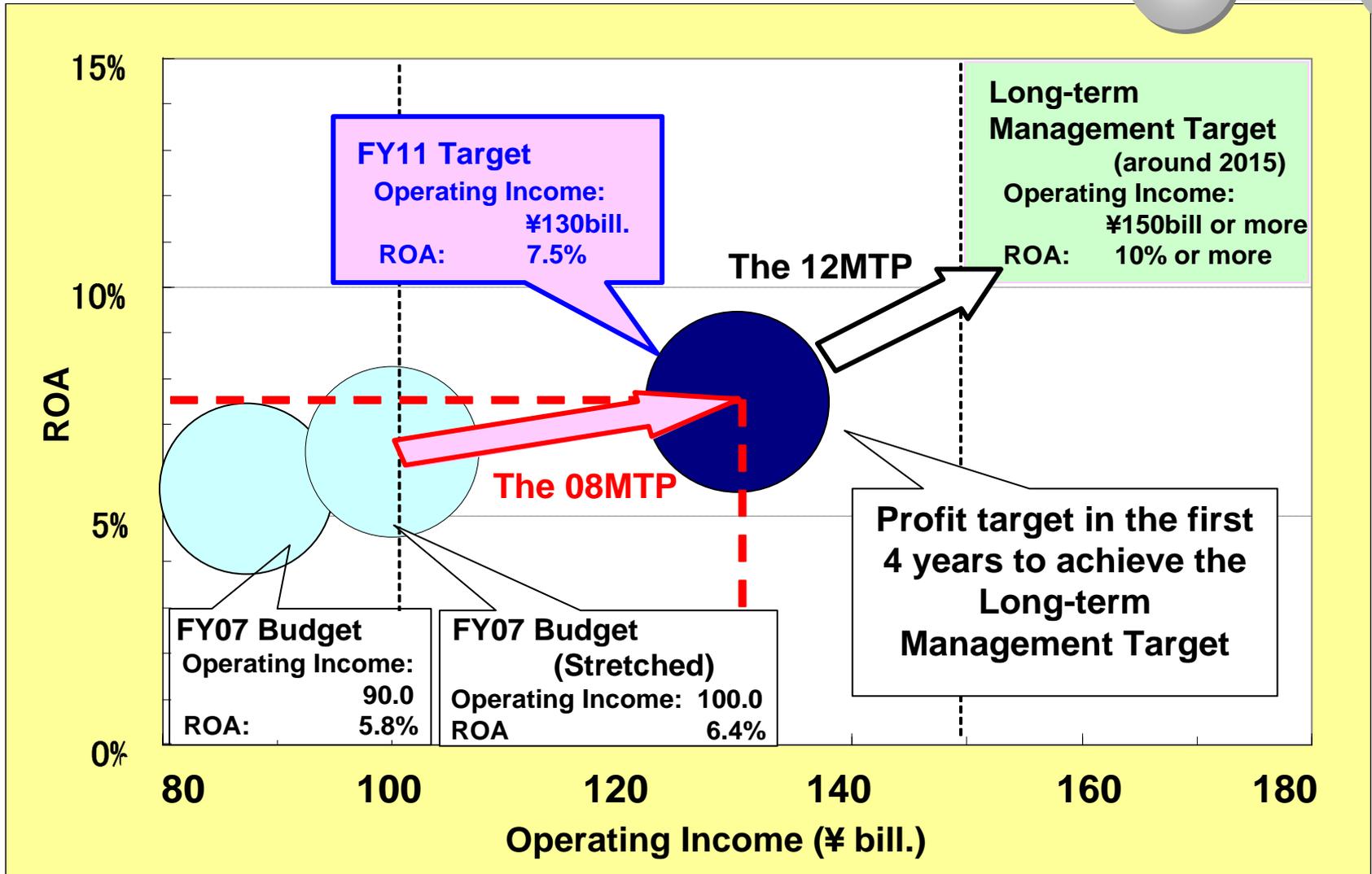
### <Basic Strategy>

- Proactive management resource investment including M&A
  - Gear up growth & expansion to achieve Long-term Financial Goals
  - Accelerate realization of targeted business portfolio
  - Create new innovative technologies

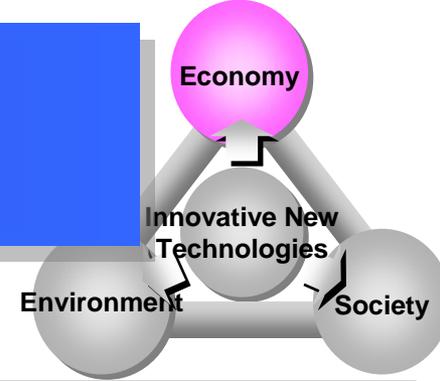
# Economy Management Target



The MCI Group will aggressively invest our management resources to expand operating income, targeting achievement of our Long-term Management Target.



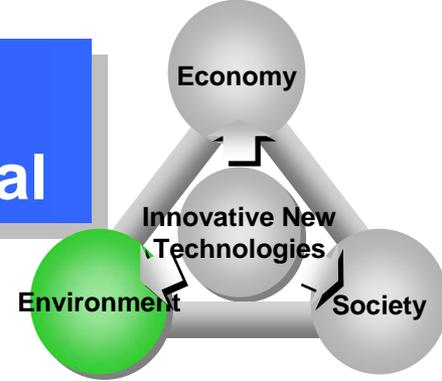
# Economy Mission & Basic Strategy of Business Sectors



	Performance Materials	Advanced Chemicals	Basic Chemicals
Mission	Establish high-profitability as a growth driver.	Pursue business scale to establish the third pillar.	Strengthen profitability.
Basic Strategy	Expand functional polymers and restructure business portfolio.	Expand business scale by focusing on M&A.	Strengthen competitiveness against threat by capacity expansion in the Middle East.
Approaches	Aggressively invest management resources in functional polymers.	Expand agrochemicals, vision care and catalysis businesses.	Introduce competitive technologies to manufacture high-value-added products. Win in growing Asian market.

# Environment

## Targets for GHG Basic Unit, Land-filled Disposal



### 1. GHG (greenhouse gas) Basic Unit

#### <Management Target (2011)>

GHG Basic Unit **85 or less** (1990 as 100)  
(Index of Energy Basic Unit 80 or less)

<Basic Strategy>(1) Invest in energy-saving measures  
(2) Develop innovative process contributing to significant reduction of GHG

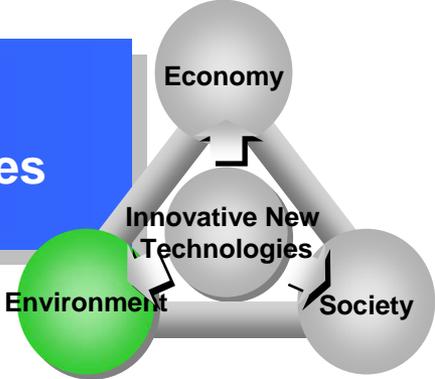
### 2. Land-filled Industrial Wastes “Minimization”

#### <Management Target (2011)>

Japan: **1% or less at every site (minimization)**  
Overseas: **5% or less on average**

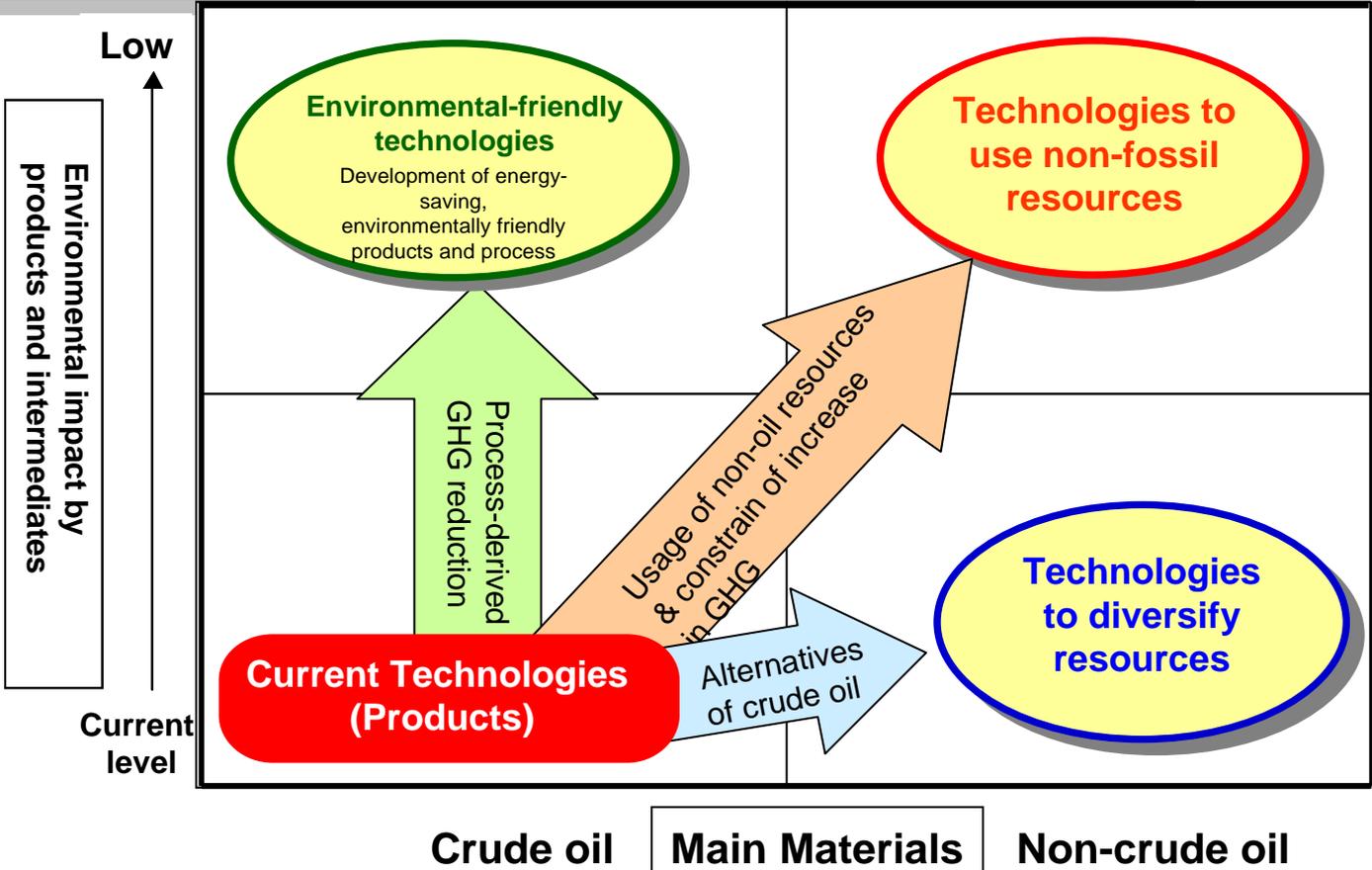
# Environment

## Development of Technologies Utilizing Non-fossil Resources



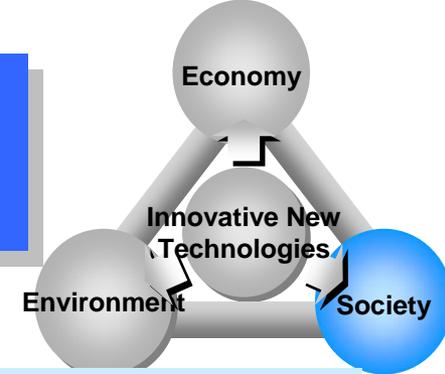
### <Basic Strategy>

- (1) Development of transformational technology
- (2) Utilization of inedible resources



# Society

## Occupational Safety & Compliance



- ◆ Achieve world-top class safety level (2011)
  - Frequency Rate of Occupational Injury (lost-time) **0.15 or less**
  - Ditto (lost-time + non-lost time + light wound) **1.8 or less**
- ◆ Eradicate violation against laws and regulations

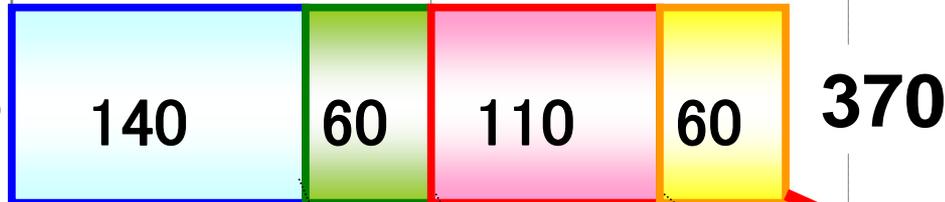
- (1) Promote motivation group-widely
- (2) Establish best-suit framework to realize optimal labor safety

# Management Resource Investment Plan

## Investment By Organization

(¥ bill.)

04  
MTP



1.8 times greater

08  
MTP



Performance  
Materials

Advanced  
Chemicals

Basic  
Chemicals

Corporate  
Administration  
Divisions, etc.

0

200

400

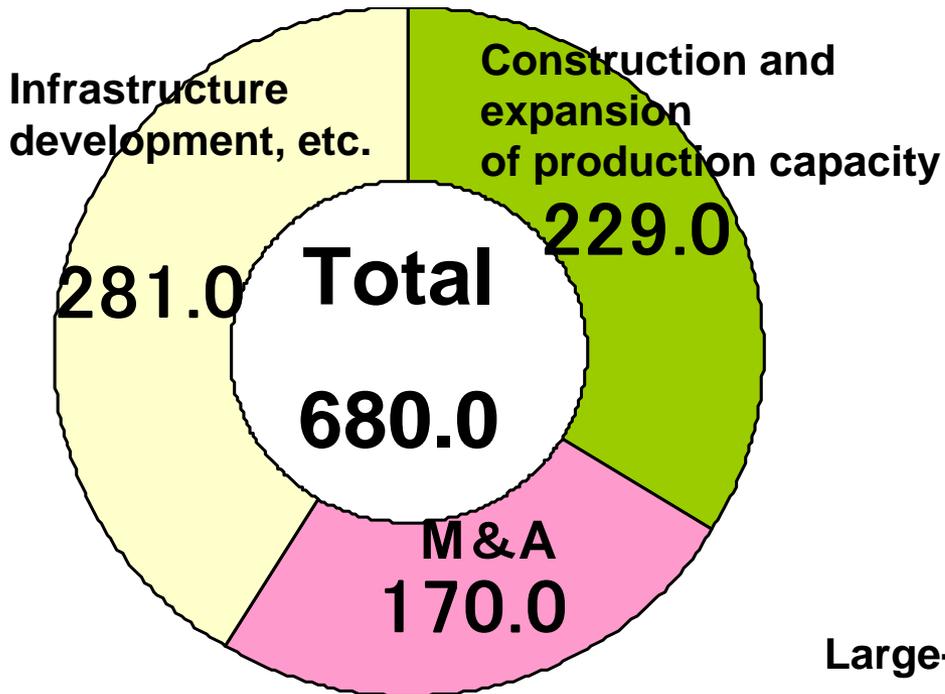
600

800

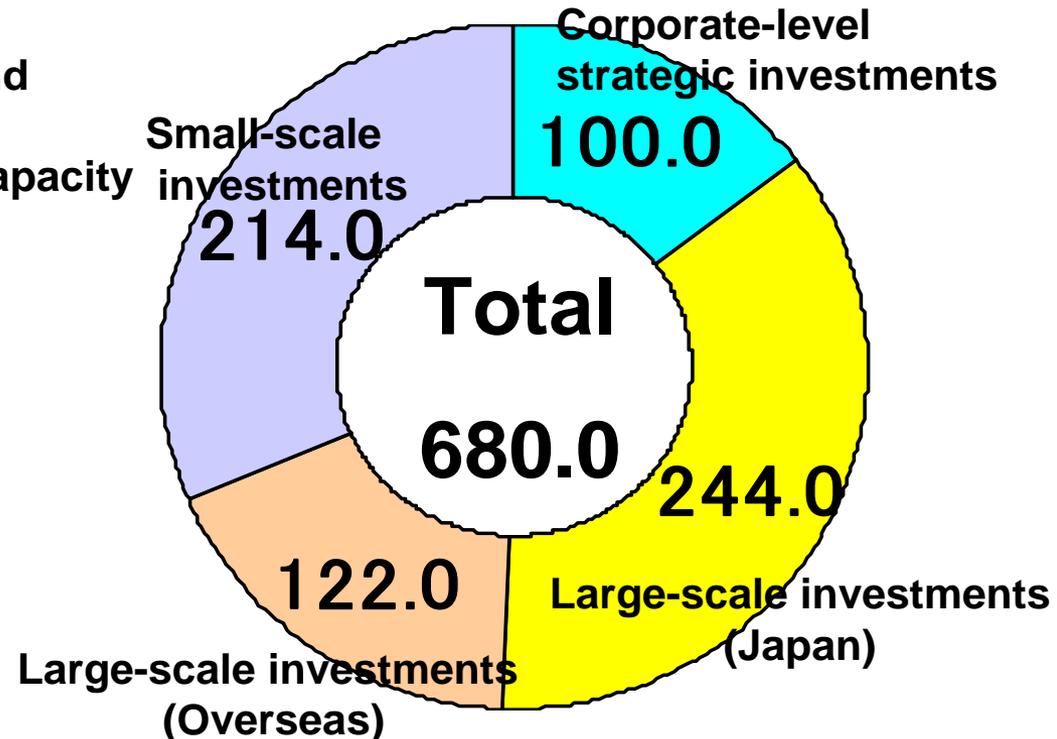
# Management Resource Investment Plan

## Investment by Objectives & Scale

### Objectives

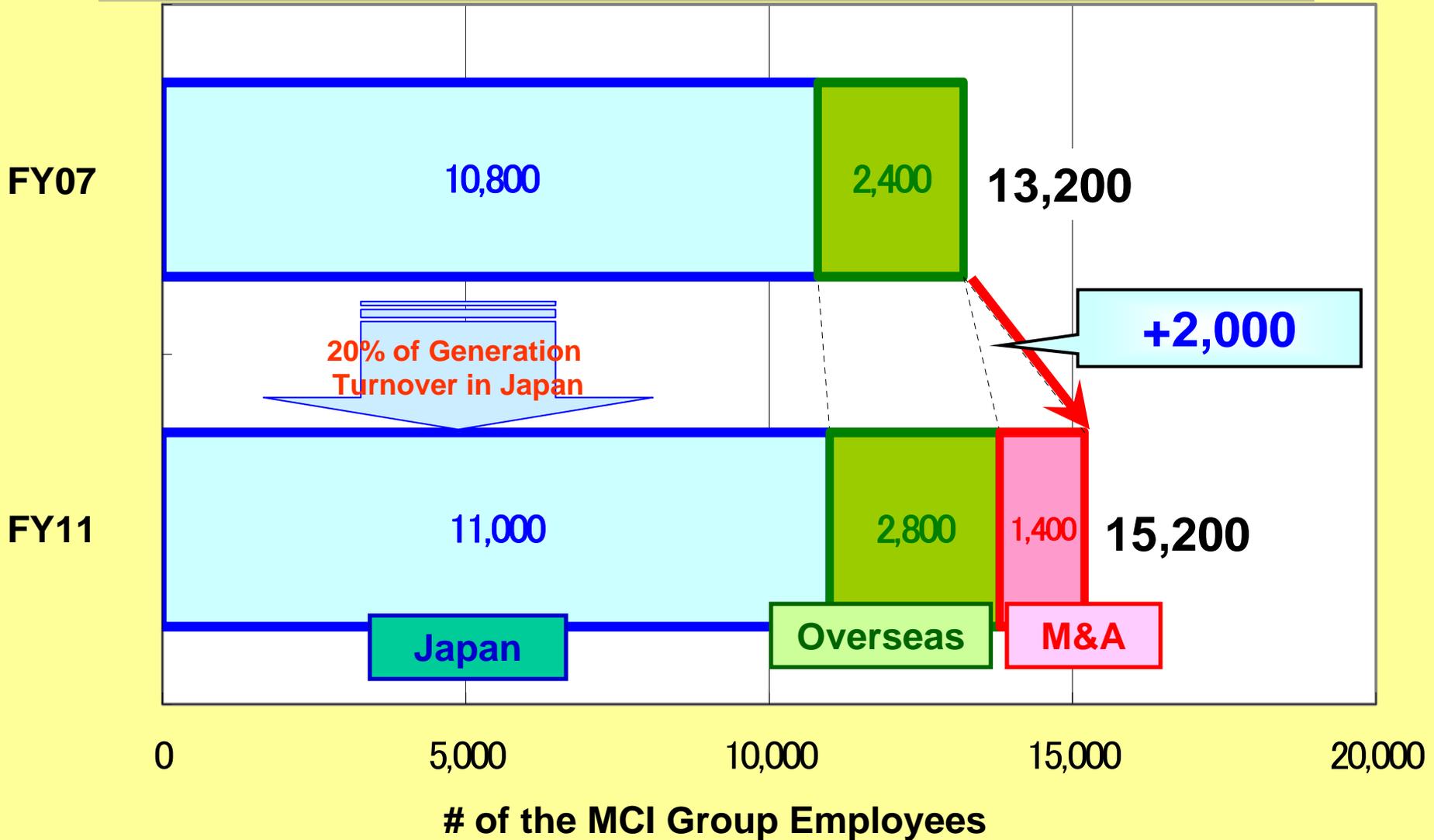


### Investment Scale (¥bill.)

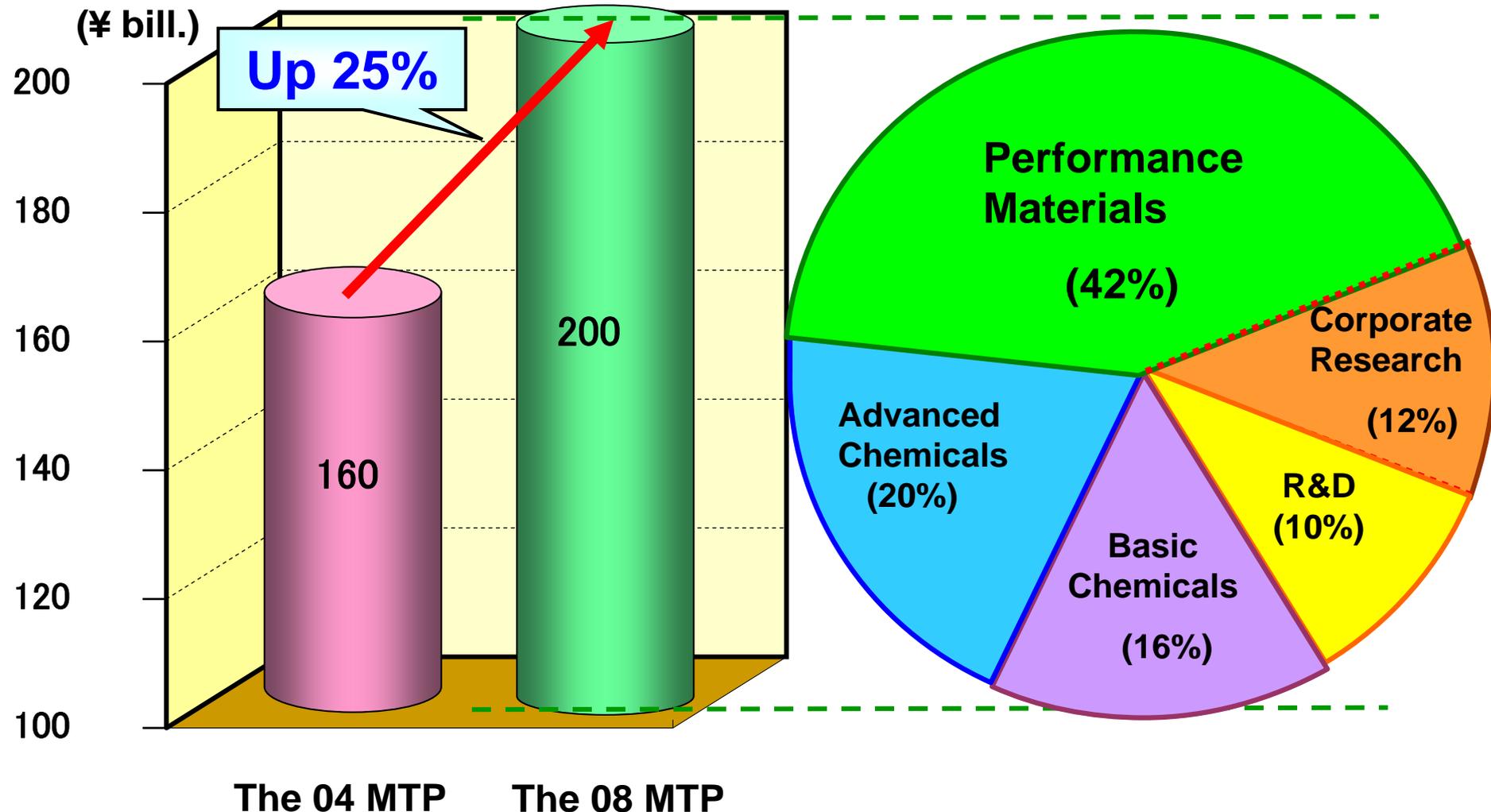


# Management Resource Investment Plan

## Human Resources



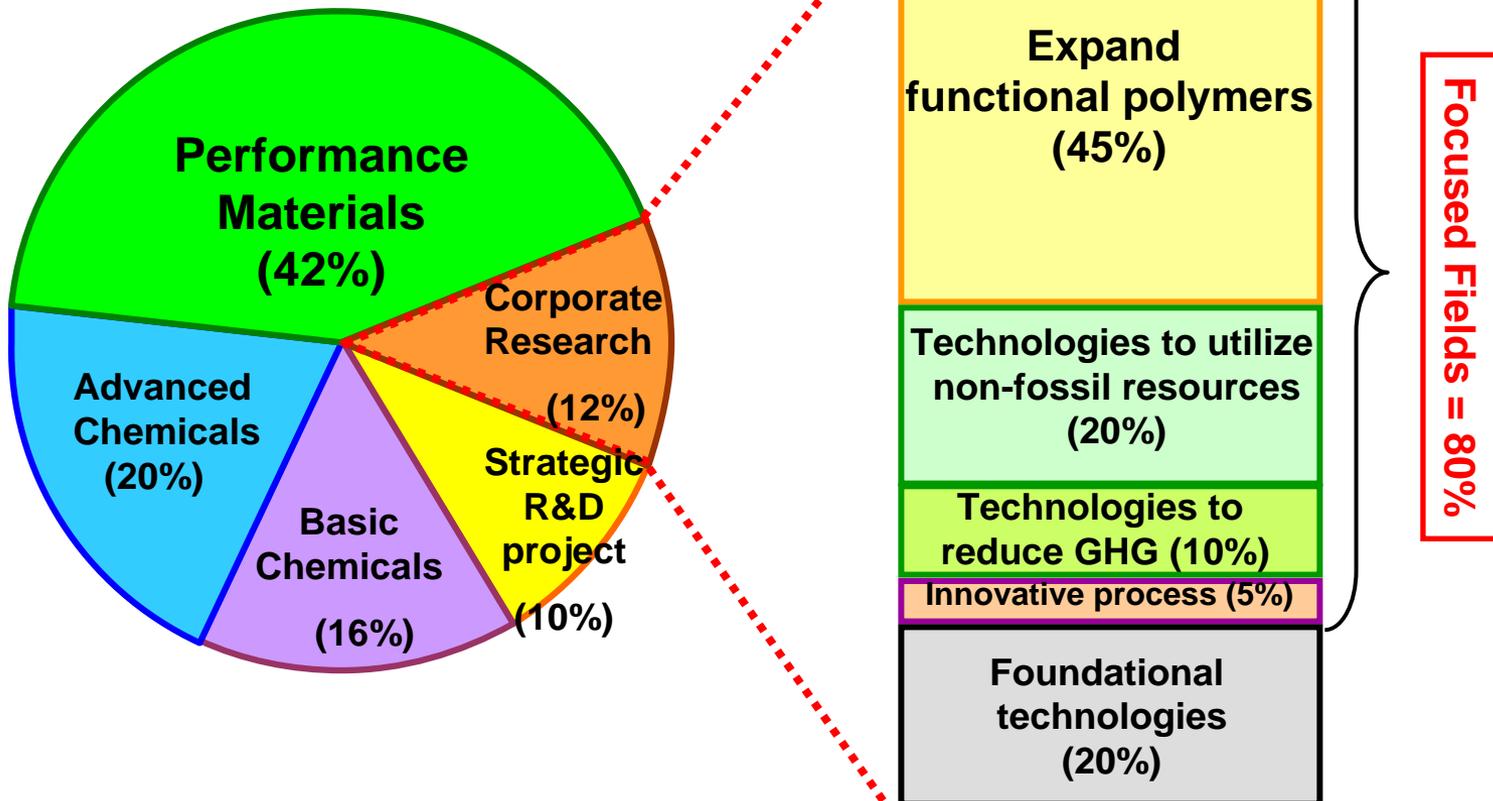
The MCI Group will focus on investment in Strategic R&D Project to accelerate our growth and expansion and create innovative new technologies.



# Management Resource Investment Plan

## Focus on Corporate Research

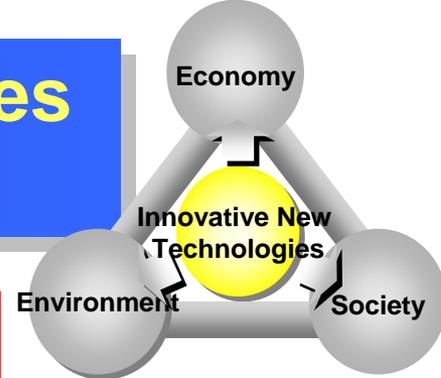
Breakdown of Investment in Corporate Research (2011)



Accelerate development of innovative new technologies by focusing 80% investment in main four fields.

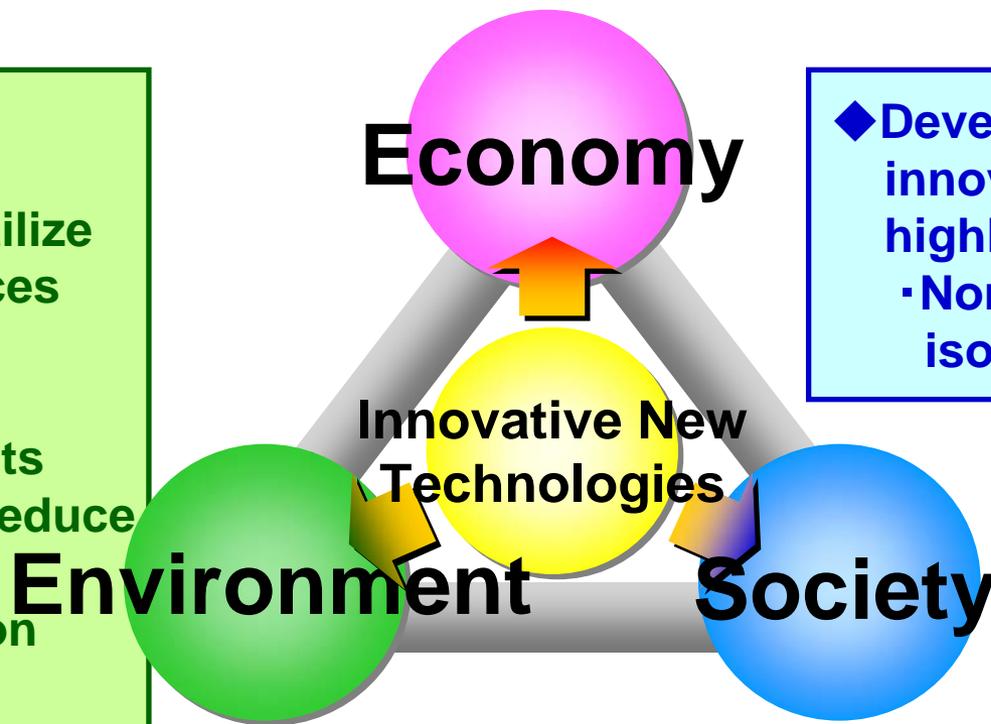
# Creation of Innovative New Technologies

## Direction



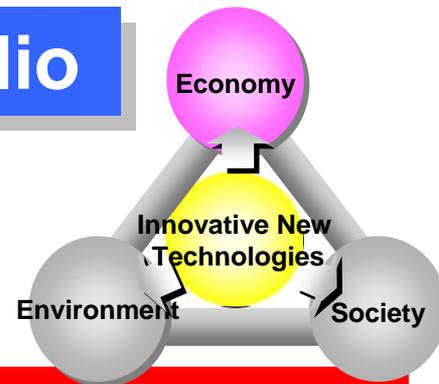
- ◆ Strengthening of functional polymers portfolio
- ◆ Development of innovative process for olefin and aroma products

- ◆ Development of technologies to utilize non-fossil resources
  - Plant-derived polyurethane
  - Bio-olefin products
- ◆ Technologies to reduce greenhouse gas
  - CO<sub>2</sub> immobilization



- ◆ Development of innovative, highly safety process
  - Non-phosgene isocyanate process

# Strengthen Functional Polymers Portfolio



Expand “functions” and “application”



Nanocrystalline  
structured  
Elastomer

Ultrahigh  
molecular weight  
Ethylene polymer



Low-resilience  
Polyurethane



Thio urethane  
polymer to optical  
high-index plastic  
lens



Performance  
Olefin  
Polymers

- Pursue utmost structural excellence
- Compound structures
- Introduction of new structures

Ethylene/Cyclic olefin  
Copolymeric transparent resin



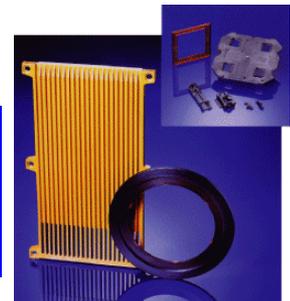
High heat  
resistance  
Semiaromatic  
polyamide



Urethane  
Polymers

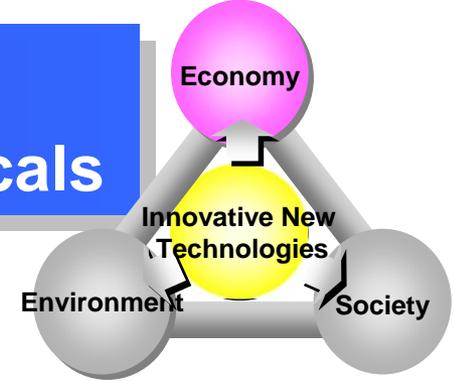
Polyamide-  
polyimide

Ultra heat  
resistance  
Thermoplastic  
Polyimide



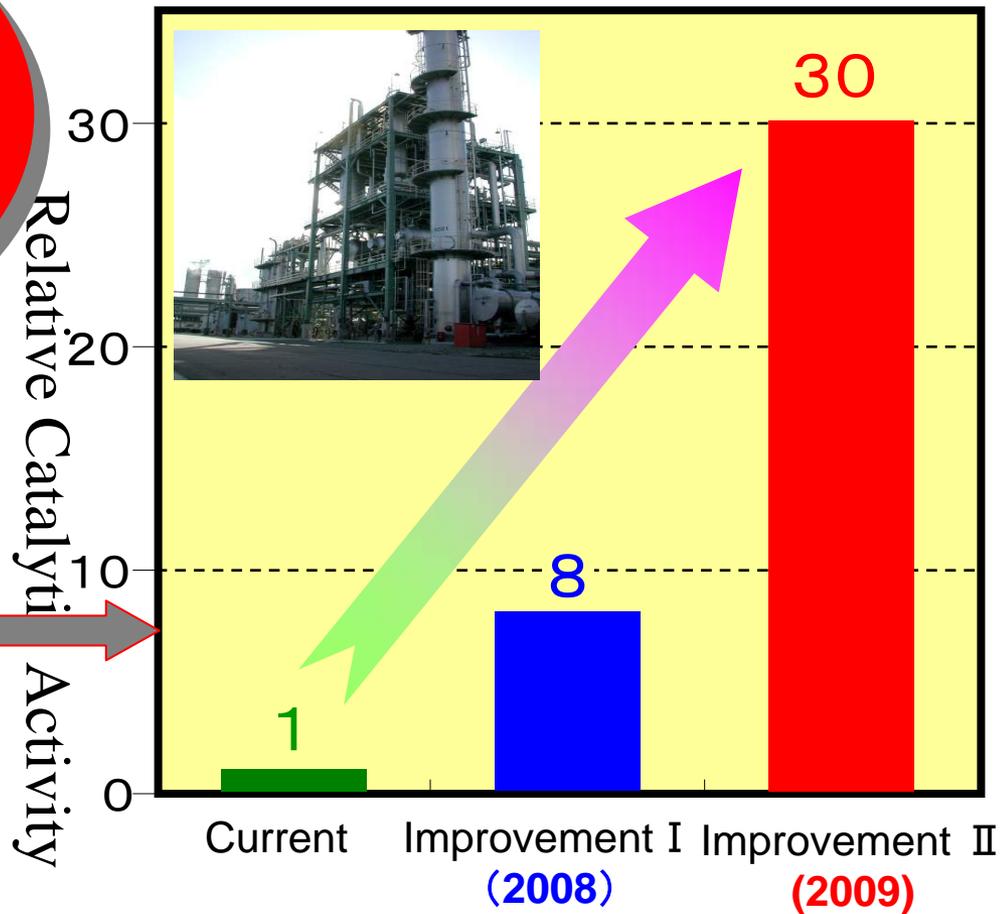
# Innovative New Technologies

## Strengthen Competitiveness of Basic Chemicals



The Olefins Conversion Technology (OCT) process for increasing propylene production from an ethylene plant.

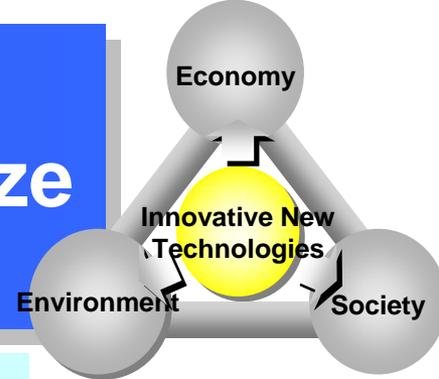
- To introduce new catalysts\*
- Others
  - Phenol, BPA, PTA,
  - Olefins, Aromas ...etc.



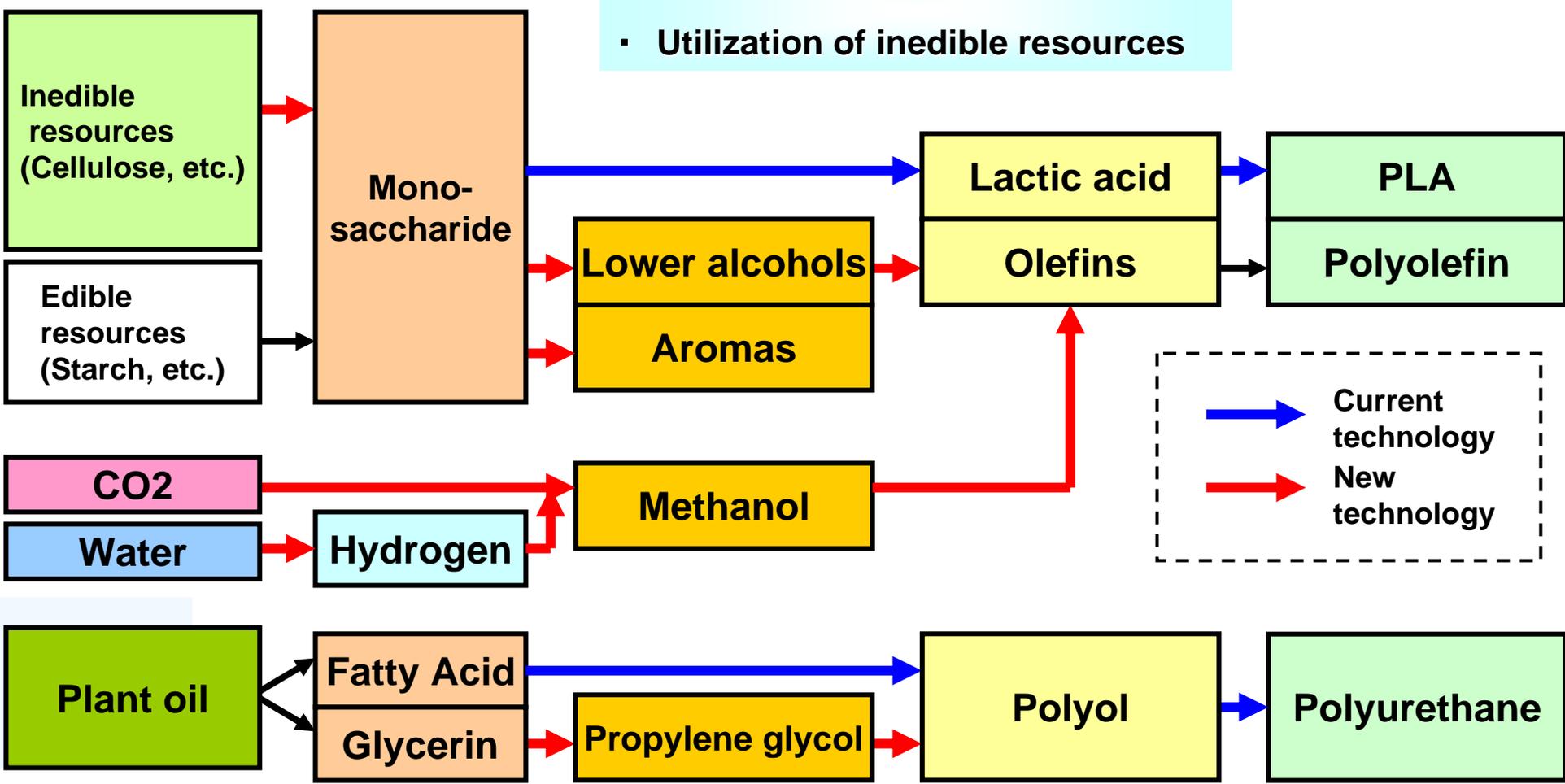
\*High-active metathesis catalysts

# Innovative New Technologies

## Development of Technologies to Utilize Non-fossil resources

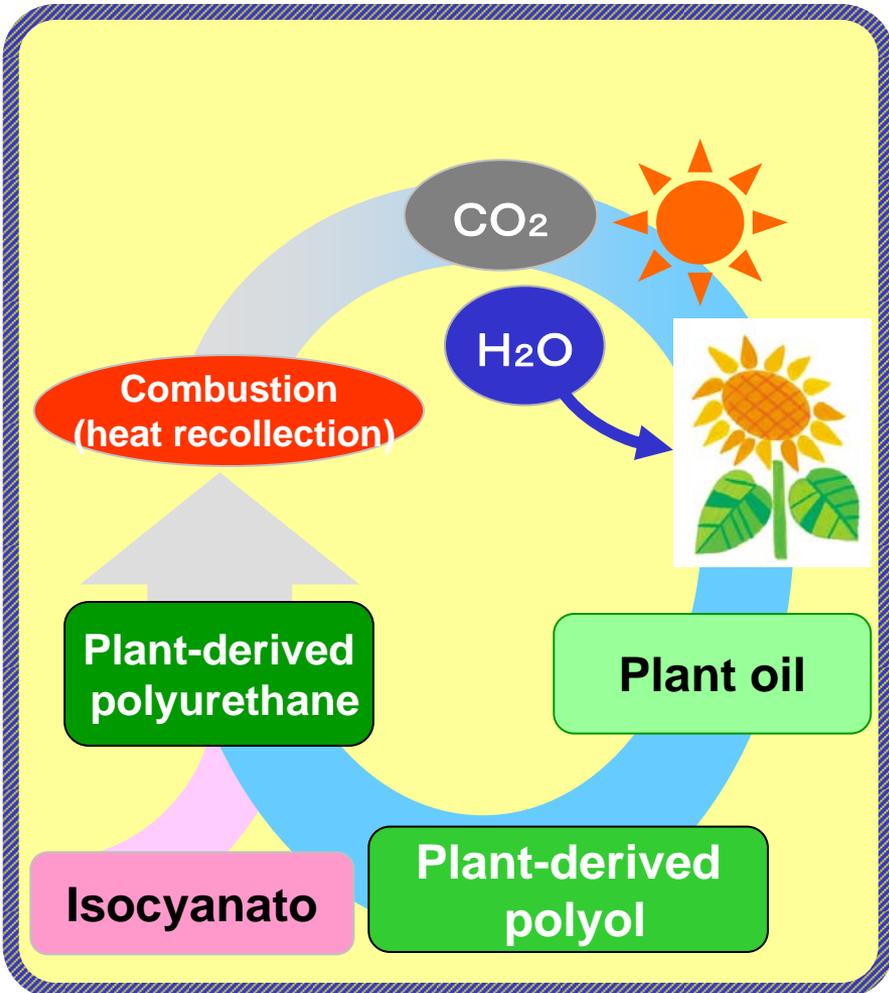
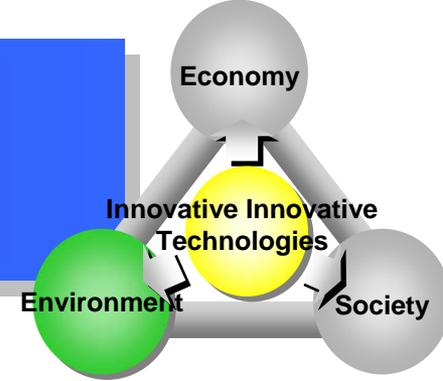


- Transformation of resources
- Utilization of inedible resources



# Innovative New Technologies

## Bio-based Polyurethane



### 【Application】

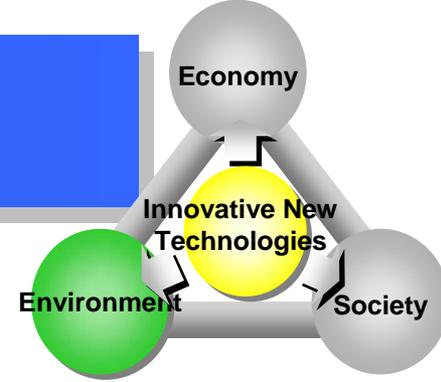
**(Bio-based content: 10-70wt%)**

- ① Low-resilience pillow
- ② Automotive seats



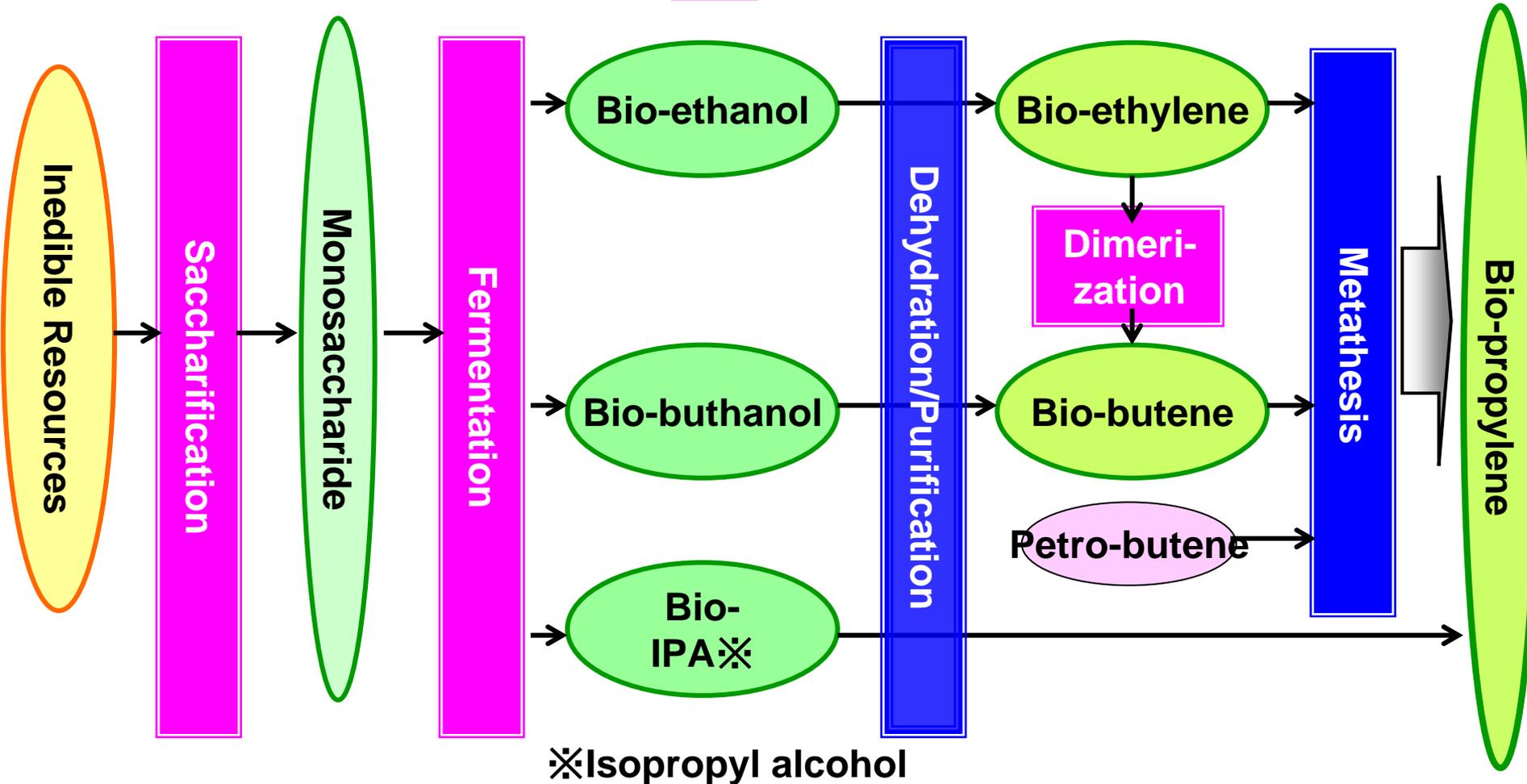
Automotive seat

# Innovative New Technologies Development of Bio-Olefins



Current technology

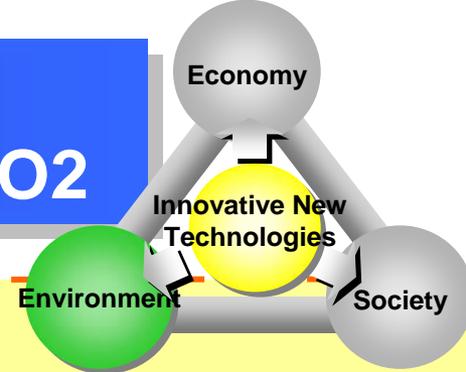
New technology



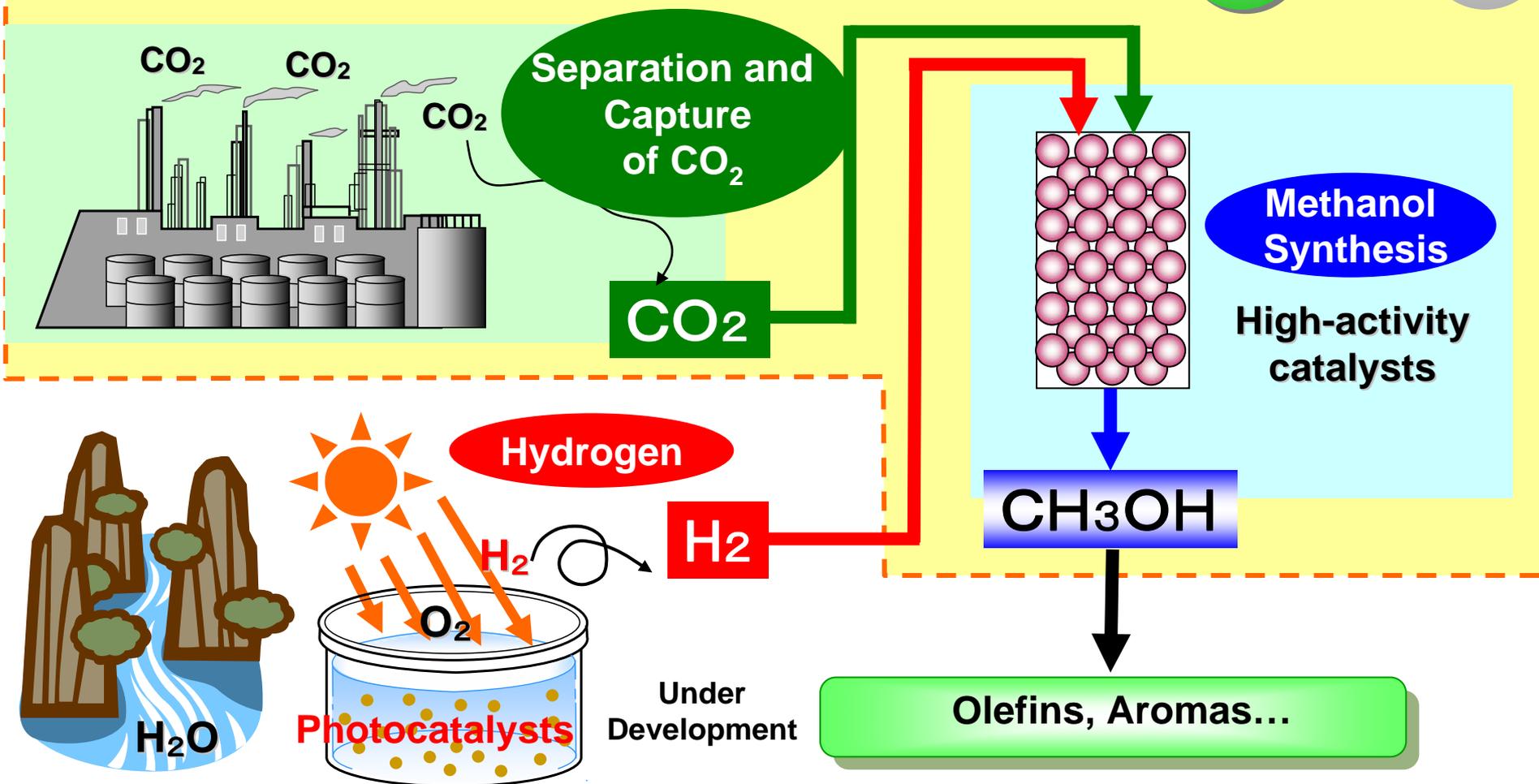
✕Isopropyl alcohol

# Innovative New Technologies

## Concept of Chemical Immobilization of CO<sub>2</sub>

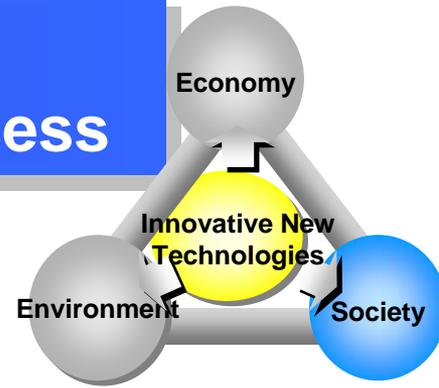


Facility to Realize Industrialization



# Innovative New Technologies

## Development of Innovative, Highly Safety Process



### Innovative, Highly Safety Process

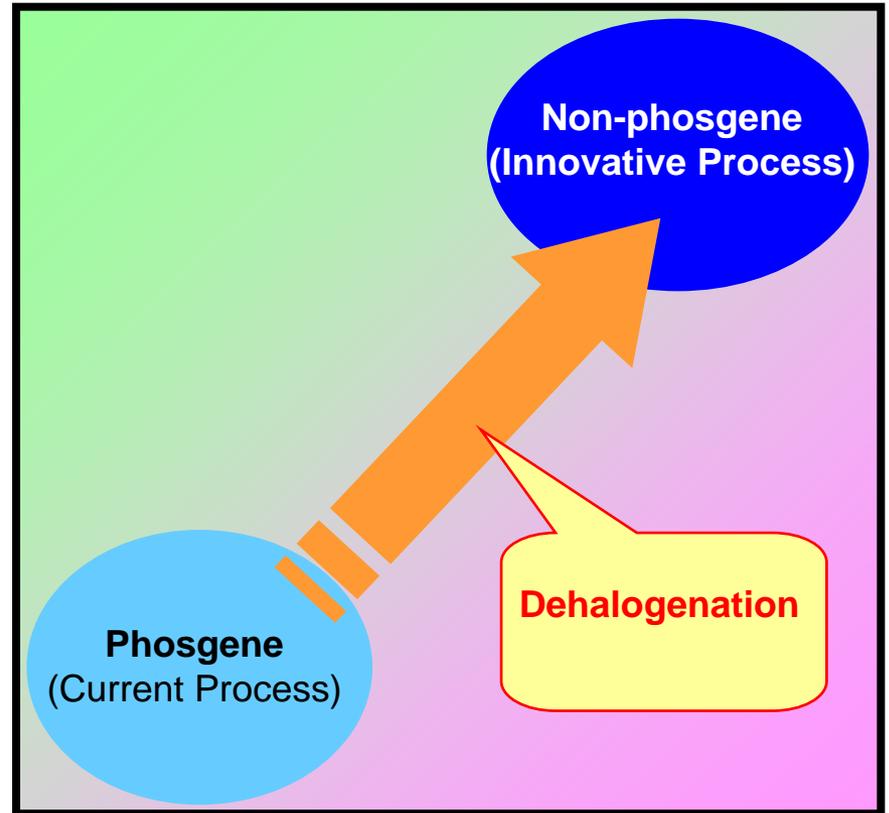
Target

Strengthen Competitiveness by Securing Higher Safety

➤ Non-phosgene isocyanate process, etc.

Higher

Safety

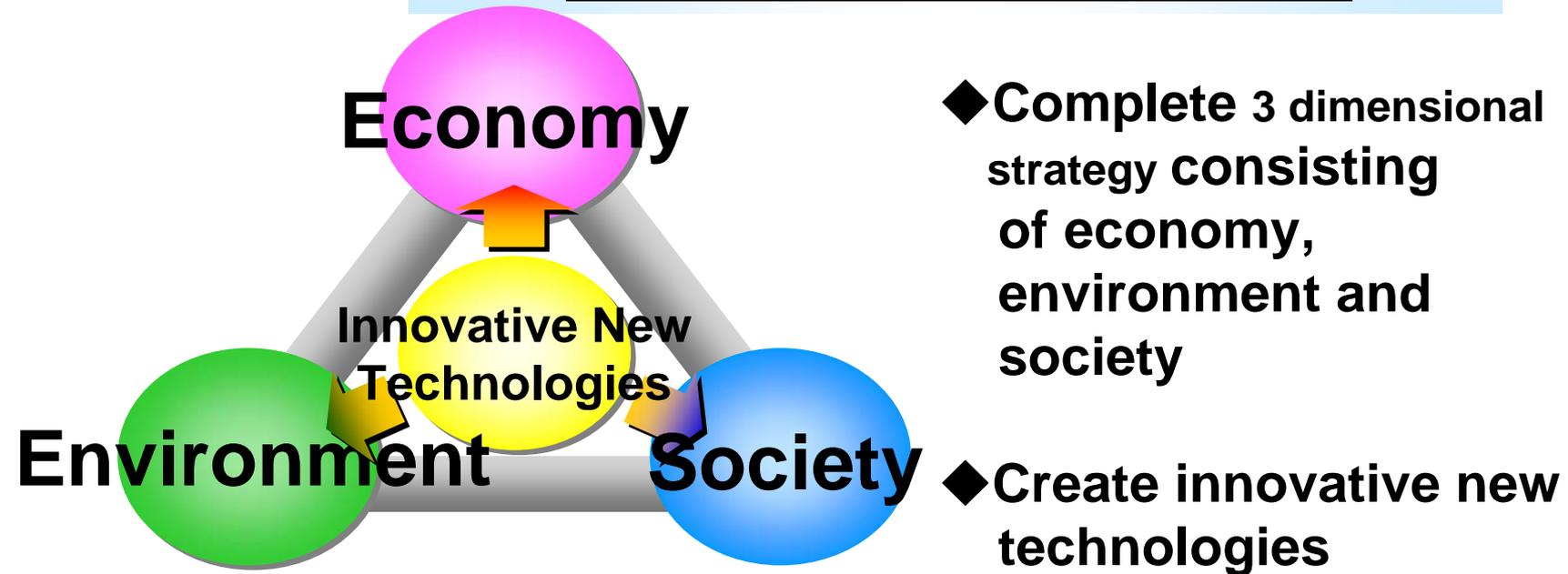


Difficulty of Development

More Difficult

# Overview of the 08 MTP

## “The Challenge to Create Innovative Values”



**The MCI Group will Challenge to Create “Innovative Values” To Achieve the Goals of the 08 MTP!!**

**This summary contains forward-looking statements about future plans, strategies, belief and performance of the Mitsui Chemicals Group as a whole and its individual consolidated companies. These forward-looking statements are not historical facts. They are expectations, estimates, forecasts and projections based on information currently available to the Mitsui Chemicals Group and are subject to a number of risks, uncertainties and assumptions, which, without limitation, include economic trends, fluctuations in foreign currency exchange rates, fluctuations in the price of raw materials, competition in markets where the Company is active, personal consumption, market demand, the tax system and other legislation. As such, actual results may differ materially from those projected and the Mitsui Chemicals Group cannot guarantee that these forward-looking statements are accurate or will be achieved.**



Mitsui Chemicals

## **“Chemistry, Innovation, Dreams”**

**~The Mitsui Chemicals Group is constantly pursuing innovation and materializing dreams with the wonder of chemistry~**

**(The End)**