

A night-time photograph of a large industrial facility, likely a petrochemical plant. The scene is dominated by tall, illuminated distillation columns and a complex network of pipes and structural steel. In the foreground and middle ground, several large, spherical storage tanks are visible, some with labels like 'L.P.G. AT-804A' and 'BOST-TANK'. The entire facility is brightly lit with artificial lights, creating a high-contrast scene against the dark blue night sky. The lighting produces a starburst effect in several areas.

# INVESTOR RELATIONS 2017 1Q

*beyond*  
the best

KUMHO PETROCHEMICAL

Investor Relations 2017

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- 1Q, 2017 Overview
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- 2Q, 2017 Outlook
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# 1Q, 2017 Overview

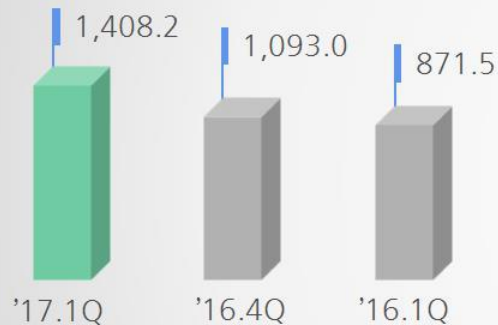
## Sales & Operating Income

- ❖ Sales increased by 28.8% since the last quarter and rose by 61.6% over the previous year to KRW 1,408.2bn.
- ❖ Operating income increased by 200.0% since the last quarter and increased by 41.9% over the previous year to KRW 65.7bn.

(Unit: KRW bn)

### Sales

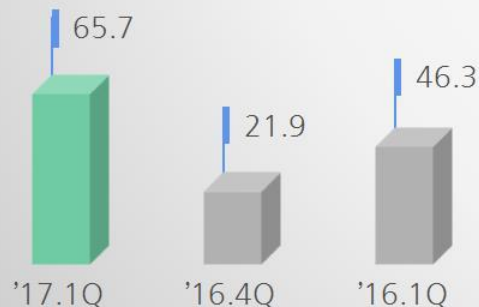
(Unit: KRW bn)



	1Q,'17	4Q,'16	1Q,'16	Rate of change	
				QoQ	YoY
S a l e s	1,408.2	1,093.0	871.5	28.8%	61.6%
[Synthetic Rubbers]	636.2	445.2	347.0	42.9%	83.3%
[Synthetic Resins]	303.5	259.6	256.6	16.9%	18.3%
[ O t h e r s ]	468.5	388.2	267.9	20.7%	74.9%
P h e n o l Derivatives	309.2	235.2	160.0	31.5%	93.3%
S p e c i a l t y Chemicals	33.6	33.8	29.4	-0.6%	14.3%
E n e r g y	47.8	46.6	24.6	2.6%	94.3%
O t h e r s	77.9	72.6	53.9	7.3%	44.5%
Operating Income	65.7	21.9	46.3	200.0%	41.9%
[ % ]	4.7%	2.0%	5.3%	2.7%p	-0.6%p
Income before Income Taxes	88.4	-26.9	50.9	Deficit to surplus	73.7%
N e t I n c o m e	69.0	-27.8	38.2	Deficit to surplus	80.6%
Gain/Loss on Valuation of Equity Method Investments	18.4	3.9	9.9	371.8%	85.9%

### Operating Income

(Unit: KRW bn)



✓ Net Income is based on Controlling Interests.

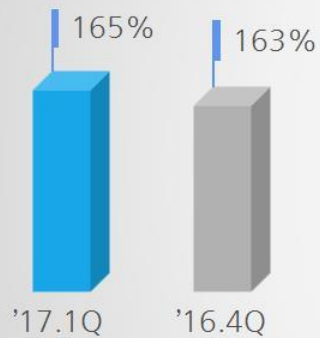
# 1Q, 2017 Overview

## Financial Structure

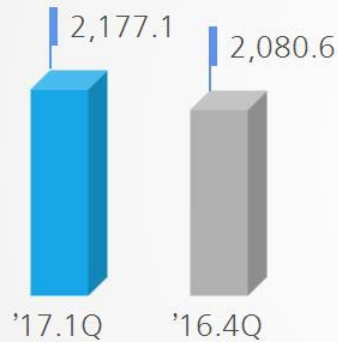
- ❖ Total asset turnover ratio and interest coverage ratio increased through improved performance of major businesses.
- ❖ Financial structure stably maintained in accordance with continuous liquidity management despite an increase in burden in the working capital.

(Unit: KRW bn)

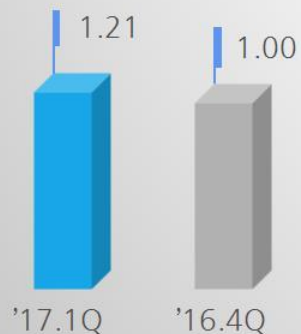
Debt to Equity Ratio (%)



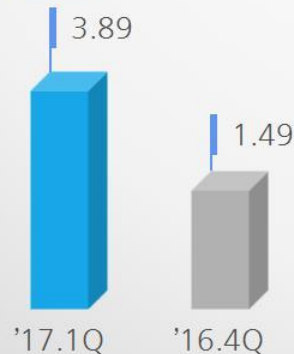
Borrowings (KRW bn)



Total Assets Turnover Ratio



Interest Coverage Ratio



	Unit	1Q,'17	4Q,'16	1Q,'16	Rate of change	
					QoQ	YoY
Assets	KRW bn	4,760.7	4,546.1	4,280.5	4.7%	11.2%
Liabilities	KRW bn	2,961.3	2,818.2	2,597.5	5.1%	14.0%
Shareholders' Equity	KRW bn	1,799.4	1,727.9	1,683.0	4.1%	6.9%
Controlling Interests		1,689.8	1,619.7	1,580.1	4.3%	6.9%
Non-controlling Interests		109.6	108.2	102.9	1.3%	6.5%
Debt to Equity Ratio	%	165	163	154	2%p	11%p
Borrowings	KRW bn	2,177.1	2,080.6	1,989.3	4.6%	9.4%
Won-denominated		1,566.9	1,547.6	1,573.0	1.2%	-0.4%
Foreign currency-denominated		610.2	533.0	416.3	14.5%	46.6%
Total Assets Turnover Ratio		1.21	1.00	0.82	21.0%	47.6%
Interest Coverage Ratio		3.98	1.49	3.89	167.1%	2.3%

# Business Review

## Synthetic Rubbers

45.2%  
of Total sales

Synthetic  
Rubbers

Synthetic  
Resins

Others



- ❖ Sales increased by 42.9% over the previous quarter to KRW 636.2bn.
- ❖ An improvement in profitability caused by a hike in selling price due to a sharp increase in raw material (BD) price.

### • A hike in BD (Butadiene) price

- Reached strong BD price after a sharp increase as a result of expectations for an improvement in demand and a tight supply from scheduled maintenances.
- Fall back in BD price at the end of quarter due to an increase in inventory and a wait-and-see attitude which resulted in the decrease in the trading volume.

#### ➤ BD Price changes by region

(Unit: USD/ton)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
Asia	1,596	1,468	1,978	2,935	3,030	2,170
N. America	1,139	1,146	1,251	1,885	2,651	2,529
Europe	1,019	1,008	1,203	1,931	2,325	2,126

※ Source: ICIS/PLATTS 2016, 2017

### • Improvement in profitability of synthetic rubber

- Increase in sales revenue and improvement in profitability due to prolonging of strong raw material prices which resulted in an increase in selling price, despite a temporary reduction of the BR-BD spread caused by a hike in BD price at the beginning of the year
- Expanded sales volume in accordance with the increase in tire prices and stable operating rates of tire makers in the region

(Unit: USD/ton)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
SBR	1,617	1,662	1,849	2,394	2,697	2,501
BR	1,863	1,856	2,144	2,756	3,238	2,960

※ Source: ICIS 2016, 2017



# Business Review

## Synthetic Resins

21.5%  
of Total sales

Synthetic  
Rubbers

Synthetic  
Resins

Others

- ❖ Sales increased by 16.9% over the previous quarter to KRW 303.5bn.
- ❖ Slight improvement in profitability due to passing the strong raw material (SM/BD) cost to the selling prices.

### • Strong raw material (SM) price

- Strong SM price resulted from both a decrease in supply caused by scheduled shutdowns and a reduction in arbitrage as a result of unexpected troubles.
- Downward pressure on the price at the end of quarter resulted from ample inventory

#### ➤ SM Price changes

(Unit: USD/ton, CFR China)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
SM	1,031	1,176	1,226	1,326	1,478	1,261

※ Source: ICIS 2016, 2017

### • Slight growth in profitability of synthetic resin

- Growth in sales revenue and improvement in profitability by passing the strong raw material (SM/BD) cost to the selling prices.

(Unit: USD/ton)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
PS	1,170	1,231	1,316	1,374	1,500	1,385
ABS	1,440	1,545	1,643	1,810	1,958	1,828

※ Source: PLATTS 2016, 2017

## Business Review

### Others

33.3%

Of Total sales

Synthetic  
Rubbers

Synthetic  
Resins

Others

- ❖ Sales increased by 20.7% over the previous quarter to KRW 468.5bn.
- ❖ Phenol derivatives : Profitability recovered due to strong raw material prices and a decrease in supply caused by adjustments of operating rate.
- ❖ Energy : Growth in sales revenue due to favorable utilization rates of demand-side and a strong electricity price (SMP).

#### • Phenol derivatives

- Strong raw material (BZ) price resulted by strong oil prices and solid demand (SM).
- Expansion of sales revenue and recovery of profitability due to strong raw material prices and a decrease in supply caused by adjustments in the operating rate

##### ➤ BZ Price changes

(Unit: USD/ton, FOB Korea)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
BZ	635	686	819	931	1,010	835

※ Source: PLATTS 2016, 2017

#### • Energy

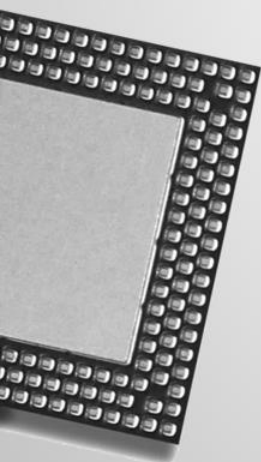
- Growth in sales volume and revenue due to favorable utilization rates from the demand-side.
- Maintained profitability resulted from a continuous strong electricity price (SMP) despite a rise in cost.

##### ➤ SMP Price changes

(Unit: KRW/KW)

	Oct.'16	Nov.'16	Dec.'16	Jan.'17	Feb.'17	Mar.'17
SMP	73	75	87	86	91	92

※ Source: Korea Power Exchange



## | 2Q, 2017 Outlook

BD

- Supply is anticipated to be stable due to ample inventory of downstream makers despite annual maintenances.
- Price is likely to be volatile depending on demand under the situation where the market is lull as a result of a downward trend of BD price.

Synthetic  
Rubbers

- Wait-and-see attitude in the demand is expected due to an ample inventory of rubbers within the region and a sufficient inventory of tire makers.
- Limited increase in SR price is expected because NR price could be under the downward pressure after the wintering season.

SM

- The supply-demand balance is anticipated to be stable, caused by re-operations of makers after unexpected troubles and an increase in supply, despite scheduled maintenances of SM makers within the region.
- SM price is forecasted to be weak and stable due to ample inventory within the area, even in the peak season of the downstream makers.

Synthetic  
Resins

- Actual demand could fluctuate depending on the raw material prices, in spite of the expectation for the demand growth in the traditional peak season.
- Limited increase in selling price is forecasted according to the expectation for the weak and stable price of raw material (SM).



## Appendices

### Income Statement

(Unit: KRW bn)

	1Q,'17	4Q,'16	1Q,'16	Rate of change			
				QoQ		YoY	
				Amount	Rate of change	Amount	Rate of change
Sales	1,408.2	1,093.0	871.5	315.2	28.8%	536.7	61.6%
Operating Income	65.7	21.9	46.3	43.8	200.0%	19.4	41.9%
<i>(Operating Margin)</i>	<i>4.7%</i>	<i>2.0%</i>	<i>5.3%</i>	<i>2.7%p</i>	-	<i>-0.6%p</i>	-
Net Interest Expense	-11.1	31.4	8.4	-42.5	-	-19.5	-
Gain/Loss on Valuation of Equity Method Investments	18.4	3.9	9.9	14.5	371.8%	8.5	85.9%
Income before Income Taxes	88.4	-26.9	50.9	115.3	Deficit to surplus	37.5	73.7%
<i>(Ordinary Income Margin)</i>	<i>6.3%</i>	<i>-2.5%</i>	<i>5.8%</i>	<i>8.8%p</i>	-	<i>0.5%p</i>	-
Net Income	69.0	-27.8	38.2	96.8	Deficit to surplus	30.8	80.6%
<i>(Net Income Margin)</i>	<i>4.9%</i>	<i>-2.5%</i>	<i>4.4%</i>	<i>7.4%p</i>	-	<i>0.5%p</i>	-

✓ Net Income is based on Controlling Interests.

## Appendices

### Balance Sheet

(Unit: KRW bn)

	1Q,'17	4Q,'16	1Q,'16	Rate of change	
				QoQ	YoY
Current Assets	1,479.2	1,255.3	1,006.6	223.9	472.6
- Cash and Cash Equivalents	118.0	197.0	102.0	-79.0	16.0
Non-current Assets	3,281.5	3,290.8	3,273.9	-9.3	7.6
<b>Total Assets</b>	<b>4,760.7</b>	<b>4,546.1</b>	<b>4,280.5</b>	<b>214.6</b>	<b>480.2</b>
Current Liabilities	2,214.4	2,145.6	1,668.4	68.8	546.0
Non-current Liabilities	746.9	672.6	929.1	74.3	-182.2
■ Interest bearing Liabilities	2,177.1	2,080.6	1,989.3	96.5	187.8
- Short-term Debts	1,554.0	1,521.1	1,191.3	32.9	362.7
- Long-term Debts	623.1	559.5	798.0	63.6	-174.9
■ Non-interest bearing Liabilities	784.2	737.6	608.2	46.6	176.0
<b>Total Liabilities</b>	<b>2,961.3</b>	<b>2,818.2</b>	<b>2,597.5</b>	<b>143.1</b>	<b>363.8</b>
Common & Preferred Stock	167.5	167.5	167.5	-	-
<b>Total Shareholders' Equity</b>	<b>1,799.4</b>	<b>1,727.9</b>	<b>1,683.0</b>	<b>71.5</b>	<b>116.4</b>
Net Debt Ratio	43.3%	41.4%	44.1%	1.9%p	-0.8%p
Long-term Debts to Total Debts Ratio	28.6%	26.9%	40.1%	1.7%p	-11.5%p
Current Ratio	66.8%	58.5%	60.3%	8.3%p	6.5%p
Debt to Equity Ratio	164.6%	163.1%	154.3%	1.5%p	10.3%p

## Appendices

### Production Capacity (KKPC)

	Product		Capa.	Unit	Note
Synthetic Rubbers	BR	SBR	360,000	MT/Y	
		HBR	290,000		
		LBR	45,000		
	S-SBR		63,000		
	NdBR		60,000		
	NBR		80,000		
	HSR		10,000		
	NB Latex		400,000		Completion of Expansion: 200,000MT/Y(Multi-purpose), 2H,'16
	SB Latex		81,800		
	SBS		75,000		
	Total		1,464,800		
Synthetic Resins	PS		230,000	MT/Y	
	ABS		250,000		
	SAN/POW		145,000		
	EPS		80,000		
	PPG		141,000		
	Total		846,000		
Specialty Chemicals	Antioxidants		83,500	MT/Y	
Energy	Steam		1,710	T/H	
	Electricity		300	MWH	
BD	Ulsan		90,000	MT/Y	
	Yeosu		147,000		
	Total		237,000		

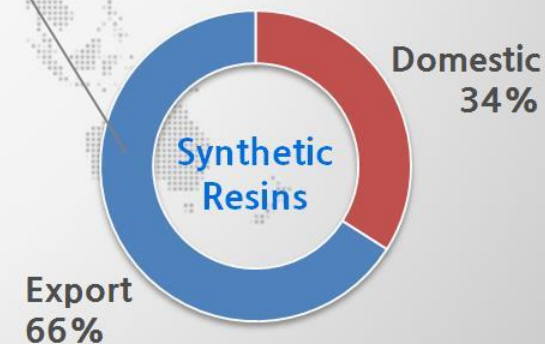
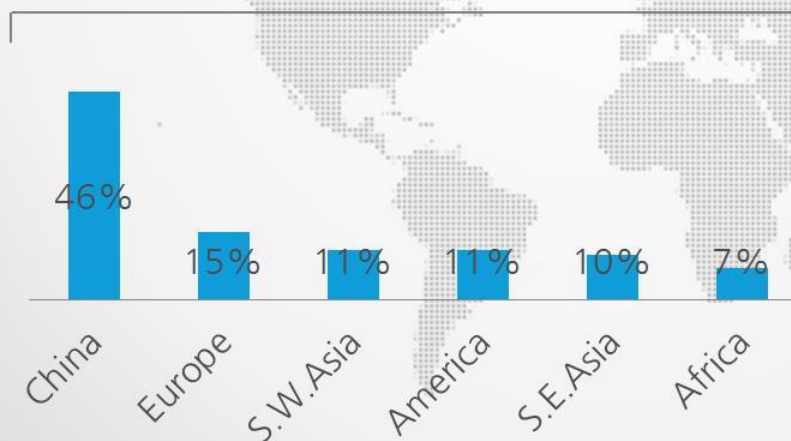
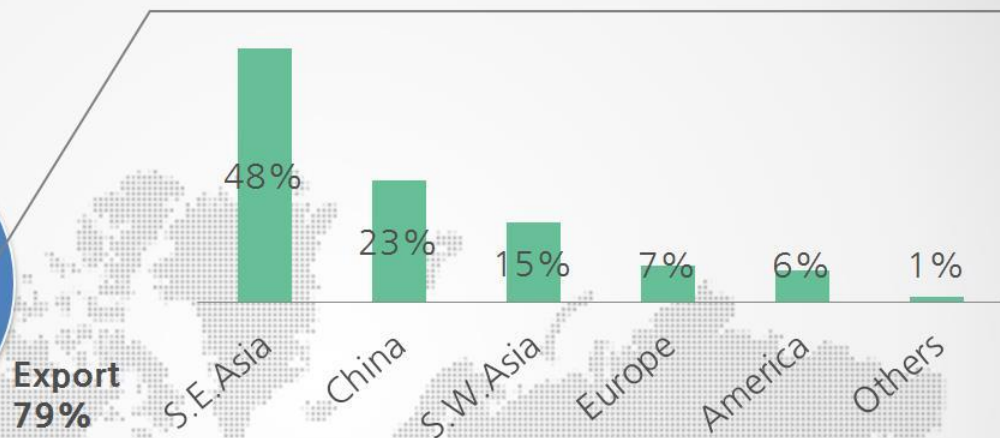
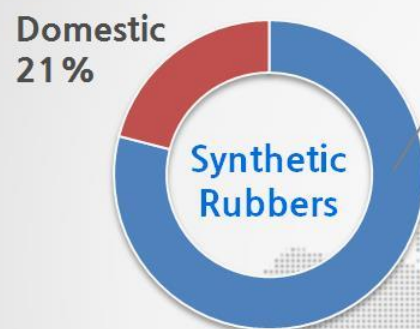


## Appendices

Production Capacity (Affiliates)		Product	Capa.	Unit	Note
Kumho P&B Chemicals		Phenol	680,000	MT/Y	
		Acetone	420,000		
		MIBK	60,000		
		Cumene	900,000		
		BPA	450,000		
		Epoxy Resin	135,000		Completion of Expansion: 17,000MT/Y, 2Q,'17
		Total	2,645,000		
Kumho Mitsui Chemicals		MDI	250,000	MT/Y	Completion of Expansion: 100,000MT/Y, 2H,'17
		Aniline	2,000		
		Total	252,000		
Kumho Polychem		EP(D)M	220,000	MT/Y	
		TPV/KEPA	7,000		Completion of Expansion: TPV 5,000MT/Y, 4Q,'17
		Total	227,000		

## Appendices

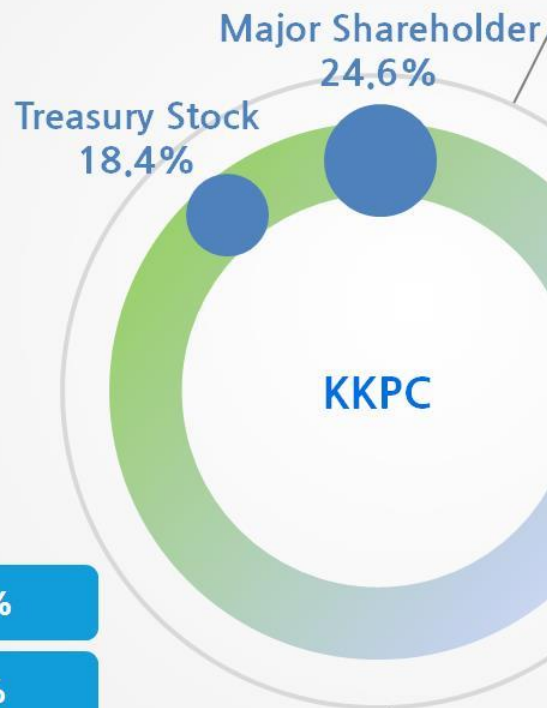
### Sales Breakdown & Export Share by Region



## Appendices

### Investment Shares & Asset available for sale

✓ As of 31<sup>th</sup> March 2017,  
based on common shares



### Investments in Affiliates

Kumho P&B Chemicals 78.2%

Kumho Mitsui Chemicals 50.0%

Kumho Polychem 50.0%

Kumho Terminal & Logistics 95.0%

Korea Energy Power Plant 96.1%

Asiana Airlines 12.0%

Daewoo E&C 3.4%

KDB Life Insurance 0.9%

Asset available for sale



Q & A