

# Business Market & Outlook

March 2014



# Disclaimer

The business results are subject to the IFRS(International Financial Reporting Standards) from 2010. In addition, operating profits are amended to reflect revisions of “K-IFRS, No. 1001” decided on 19<sup>th</sup> regular Financial Services Commission’s meeting on October 17<sup>th</sup> 2012 and “Guidance for public announcements of business results” reported by KAI(Korea Accounting Institute) on Feb 18<sup>th</sup> 2013.

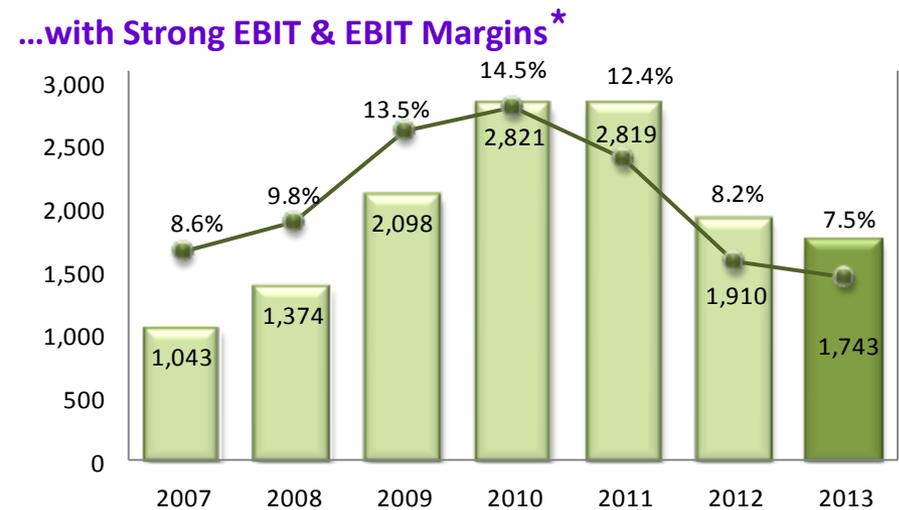
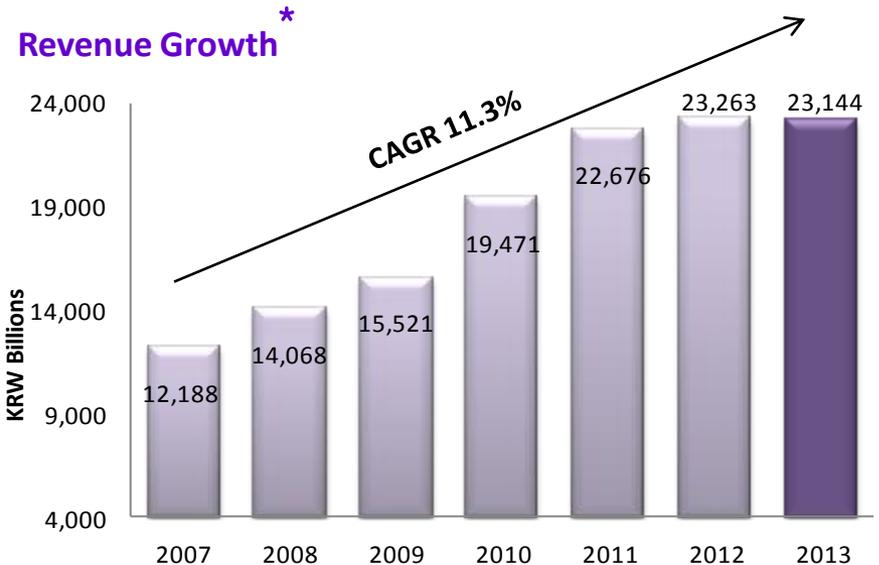
Forecasts and projections contained in this material are based on current business environments and management’s strategies, and they may differ from the actual results upon changes and unaccounted variables.

## **Table of Contents**

<b>LG Chem at a Glance</b>	<b>1</b>
<b>4Q 2013 Business Results</b>	<b>3</b>
<b>Divisional Results &amp; Outlook</b>	<b>5</b>
<b>2014 Business Plan</b>	<b>7</b>
<b>Appendix</b>	<b>9</b>

# LG Chem at a Glance

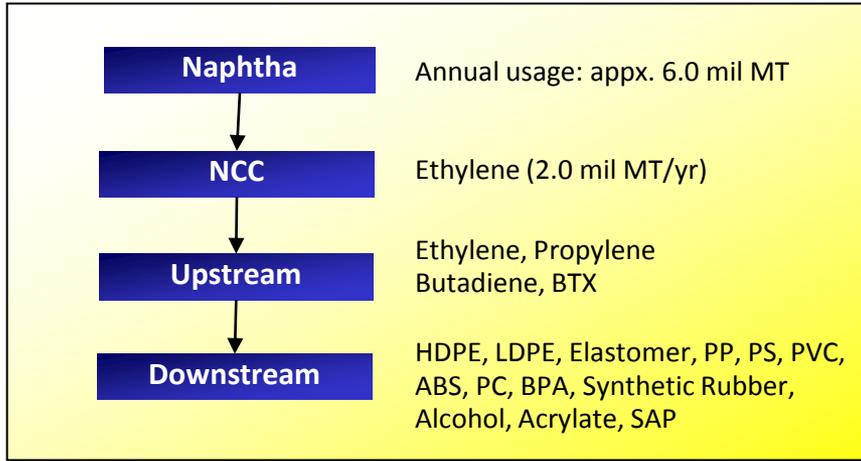
- LG Chem was started in 1947 and is Korea's first and largest chemical company with an established track of over 60 years and annual revenues of KRW 23.1 trillion in 2013.
- LG Chem boasts multiple production facilities and an extensive distribution network that spans 15 countries worldwide in Asia, Europe, North and South America.
- LG Chem currently holds the largest vertically integrated petrochemical production platform in Korea.
- LG Chem was reborn as a specialized and diversified chemical company that focuses on petrochemical goods, rechargeable batteries including HEV/EV purpose, OLED materials, and 3D FPR.
- LG Chem will seek operational excellence in its core business and centralize its resources with new business such as xEV batteries and LCD glass substrates to reinforce the necessary momentum for future growth.
- Despite high uncertainties remaining in the business environment such as a delayed recovery in the global economy, LG Chem is recording robust profitability compared to peers.



\* Sales and EBIT are subject to IFRS from 2009. Those prior to 2009 are subject to K-GAAP(consolidated base).

# Differentiated Competitiveness

## Vertical Integration Structure



## Co-existence of upstream and downstream products

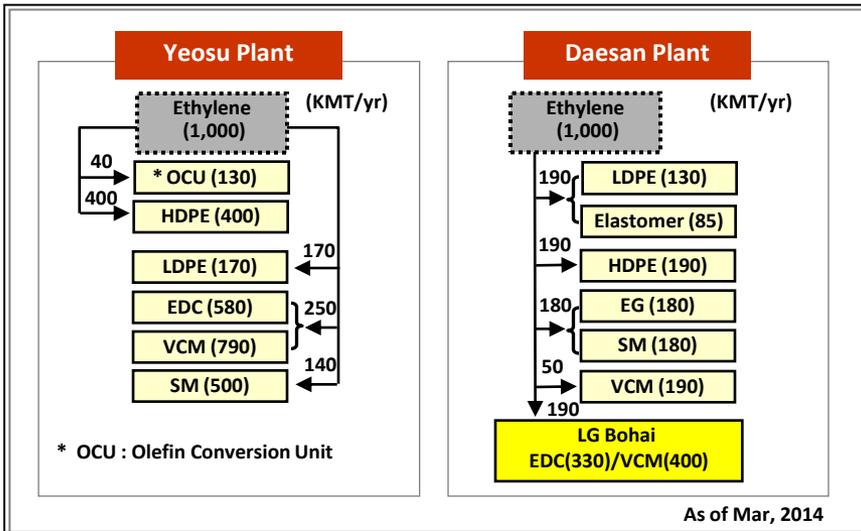
- One of few petrochemical companies around the globe with vertical integration structure, featuring both upstream and downstream production capability.
- This structural characteristic delivers stable business performance against industry cyclicality.

## Comprehensive downstream product lines

LG Chem's comprehensive downstream product lines of PO, ABS, PVC and other various products have complementary business cycles, enabling the Company to generate stable revenue



**Stabilized revenue generating capability under any market conditions**



(Unit: KRW bn)

Classification	'12.4Q	'13.3Q	'13.4Q	YoY	QoQ
<b>Sales</b>	<b>5,681</b>	<b>5,865</b>	<b>5,641</b>	-0.7%	-3.8%
<b>Operating Profit</b>	<b>364</b>	<b>516</b>	<b>316</b>	-13.1%	-38.7%
<b>(%)</b>	(6.4)	(8.8)	(5.6)		
<b>Pre-tax Income</b>	<b>375</b>	<b>441</b>	<b>236</b>	-37.1%	-46.5%
<b>(%)</b>	(6.6)	(7.5)	(4.2)		
<b>Net Income</b>	<b>292</b>	<b>352</b>	<b>177</b>	-39.5%	-49.8%

## Financial Position

(Unit: KRW bn)

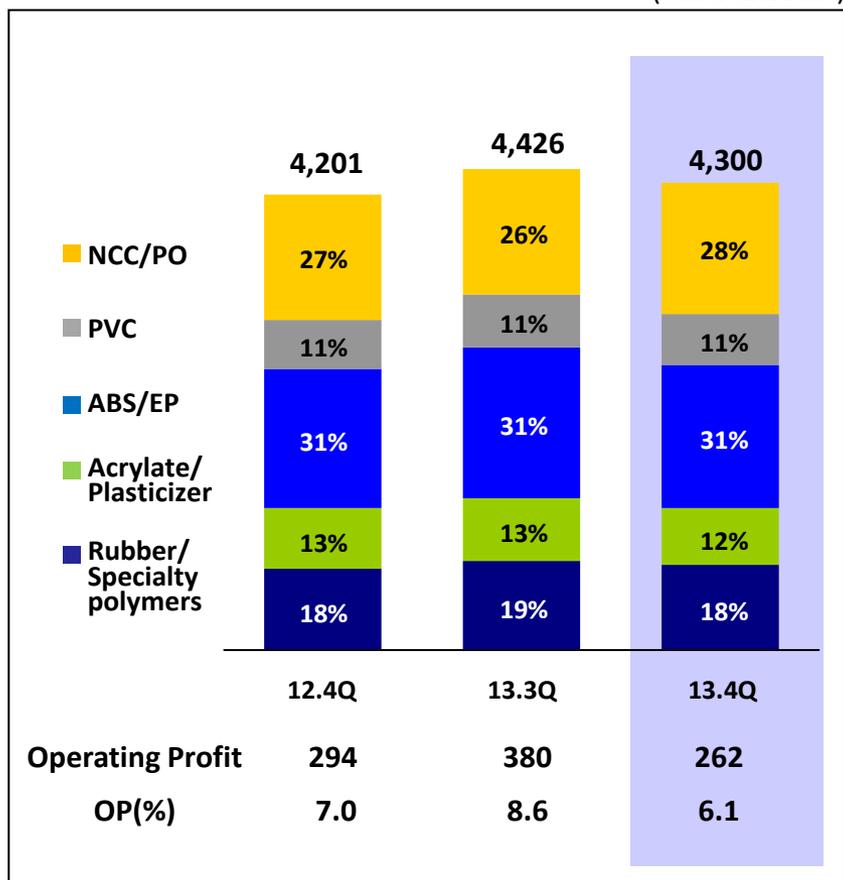
Classification	'12	'13	Change
<b>Asset</b>	<b>16,581</b>	<b>17,447</b>	5.2%
Cash and equivalents	1,341	1,909	42.4%
<b>Liabilities</b>	<b>5,816</b>	<b>5,721</b>	-1.6%
Borrowings	2,947	3,011	2.2%
<b>Shareholder's Equity</b>	<b>10,765</b>	<b>11,726</b>	8.9%
<b>EBITDA</b>	<b>2,784</b>	<b>2,762</b>	

## Financial Ratios

Classification	'12	'13	Change
<b>Total Liabilities/ Equity (%)</b>	54.0	48.8	-5.2%p
<b>Borrowings / Equity (%)</b>	27.4	25.7	-1.7%p
<b>Interest Coverage Ratio (x)</b>	26.2	26.7	0.5
<b>ROE (%)</b>	14.7	11.3	-3.4%p
<b>ROA (%)</b>	9.5	7.5	-2.0%p

### Business results

(Unit: KRW bn)



### Analysis

#### • Analysis

■ Earnings declined due to weak seasonal demand, rising feedstock costs and strengthening Korean won, etc.

- NCC/PO : Maintained profitability with strong PE spread despite rising naphtha costs and weak seasonal demand
- PVC : Margin squeezed by influx of offshore supplies and slow demand from emerging markets such as India
- ABS/EP : Secure solid profits through increased premium product sales amid weak seasonality
- Acrylate/Plasticizer : Earnings declined due to weak alcohol/plasticizer market while favorable Acrylates and SAP market continued
- Rubber/Specialty Polymers : Margin declined by slowdown of BPA & rubber markets

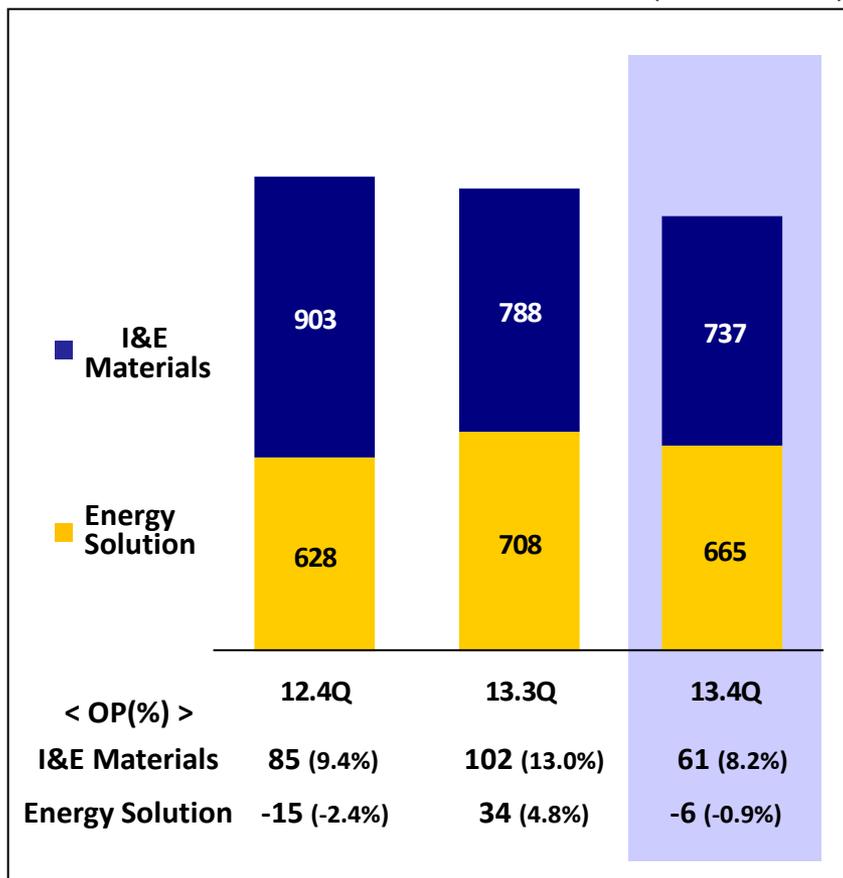
#### • Outlook

- Gradual market recovery with stabilized naphtha costs
- Expect better business results than peers through differentiated product portfolio such as SAP, SSBR, High EVA and m-PO, etc.

## Business results

## Analysis

(Unit: KRW bn)



### • Analysis

#### ■ Earnings decreased due to weak seasonality and stronger KRW

- **I&E Materials** : Recorded sluggish earnings due to weak display market and strengthening KRW
- **Energy Solution** : Diminished results due to reduced demand for IT devices such as notebook PCs and feature phones & strong KRW

### • Outlook

#### ■ Strengthening global market position through increasing sales of high margin products & shares in Chinese customers

- **I&E Materials** : Achieve stable profitability based on capacity additions of polarizer and ITO film & cost reduction
- **Energy Solution** : Continue to increase shares in chinese customers despite slow season for IT devices in 1Q & secure new customers of automotive battery

# 2014 Business Plan

## Business Plan

(Unit: KRW bn)

Classification	'13	'14 Plan
Sales	23,140	23,920
Petro-chemicals	17,610	17,800
I&E Materials	3,170	3,500
Energy Solution	2,580	2,840
Operating Profits	1,740	-
CAPEX	1,380	1,950

## Business Strategy

- Petrochemicals : Sustainable growth with profitability through technology and expanding overseas complex**
  - **Strengthen technology-based products and cost competitiveness**
    - Secure world-best technology(SAP, SSBR) & enhance global #1 NCC energy efficiency
  - **Expand overseas complex and develop eco-friendly materials**
    - Kick-off Kazakhstan PE plant and promote eco-friendly materials
- I&E Materials : Focus on growing markets in display material industry & strengthen future growth engines**
  - **Reduce costs & Increase M/S by expanding major customers esp. in China**
    - Strengthening #1 position by increasing acryl-based polarizer production & capacity additions of polarizers in China
  - **Develop new materials related OLED(RGB, OLED lighting) and Flexible display**
  - **Stabilize production of LCD glass substrates and materials for touch screens to expand new business**
- Energy : Secure major customers for automotive battery & Reinforce Solution competitiveness of mobile polymer battery**
  - **Mobile Battery : Expand sales in premium markets based on stepped/curved ones**
  - **Automotive Battery : Secure major customers in Europe, US and Japan & Improve production efficiency**
  - **ESS : Achieve dominant position in getting supply contracts for Smart Grid & UPS**

# 2014 Business Plan

## Cash Flow

(Unit: KRW bn)

Classification	Amounts
<b>Cash Inflow</b>	<b>2,660</b>
From Operating	1,510
Depreciation	1,150
<b>Cash Outflow</b>	<b>2,370</b>
<b>CAPEX</b>	<b>1,950</b>
Working Capital & others	110
Dividend	310
<b>Net Cash Flow</b>	<b>290</b>

## CAPEX

Classification	Amounts
<b>Total</b>	<b>1,950</b>
Type	
New / Expansion	960
Maintenance, etc.	990
Divisional	
Petrochemicals	930
I&E Materials	600
Energy Solution	210
Common	210

## Key Investments

(Unit: KRW bn)

<b>&lt;New &amp; Expansion&gt;</b>	<b>960</b>
<ul style="list-style-type: none"> <li>■ Petrochemicals <u>480</u></li> <li>- Yeosu : NCC, SAP, and AA</li> <li>- Daesan : Kazakhstan PE</li> </ul>	
<ul style="list-style-type: none"> <li>■ I&amp;E Materials <u>410</u></li> <li>- LCD glass substrates</li> <li>- Polarizer and ITO film</li> </ul>	
<ul style="list-style-type: none"> <li>■ Energy Solution <u>60</u></li> <li>- Mobile polymer battery</li> </ul>	
<b>&lt;Ordinary investments&gt;</b>	<b>990</b>
<ul style="list-style-type: none"> <li>■ Maintenance <u>350</u></li> <li>■ R&amp;D <u>180</u></li> <li>■ Safety/Environment <u>140</u></li> </ul>	

(Unit: KRW bn)

Classification	2012					2013				
	1Q	2Q	3Q	4Q	Total	1Q	2Q	3Q	4Q	Total
Sales	5,753	5,996	5,834	5,681	23,263	5,721	5,917	5,865	5,641	23,144
Operating Profit	447	499	601	364	1,910	409	502	516	316	1,743
Petrochemicals	4,491	4,521	4,366	4,201	17,579	4,353	4,536	4,426	4,300	17,614
NCC/PO	1,249	1,200	1,174	1,163	4,786	1,178	1,165	1,156	1,204	4,703
PVC	478	485	449	450	1,862	463	489	485	473	1,910
ABS	1,104	1,115	1,111	1,032	4,361	1,082	1,165	1,099	1,051	4,396
EP	267	281	262	257	1,067	265	282	284	271	1,102
Acrylate/Plasticizer	530	556	551	557	2,195	570	591	577	525	2,263
Synthetic Rubber/ Specialty Resin	864	883	819	743	3,310	795	845	825	776	3,241
Operating Profit	366	340	436	294	1,436	324	367	380	262	1,332
I&E Materials	761	864	923	903	3,452	827	813	788	737	3,166
Operating Profit	69	131	150	85	436	97	119	102	61	379
Energy Solution	562	677	611	628	2,479	592	619	708	665	2,583
Operating Profit	12	28	14	-15	39	-12	16	34	-6	32

※ Operating profits for 2012 are amended to reflect revisions of "K-IFRS, No. 1001" decided on 19<sup>th</sup> regular Financial Services Commission's meeting on October 17th, 2012.

## Borrowings

(Unit : KRW bn)

Classification	'12	'13
<b>Total</b> (Overseas Subsidiaries)	<b>2,947</b> (1,024) 100%	<b>3,011</b> (1,172) 100%
<b>KRW Currency</b>	<b>812</b> 28%	<b>803</b> 27%
<b>C P</b>	598	599
<b>Others</b>	214	205
<b>Foreign Currency</b>	<b>2,135</b> 72%	<b>2,207</b> 73%
<b>Loan</b>	1,140	935
<b>Negotiation Borrowings</b>	994	1,272
<b>Short-term</b> (Overseas Subsidiaries)	<b>1,752</b> (739) 59%	<b>2,207</b> (1,074) 73%
<b>Long-term</b> (Overseas Subsidiaries)	<b>1,195</b> (286) 41%	<b>803</b> (98) 27%

\* The % is calculated to total borrowings.

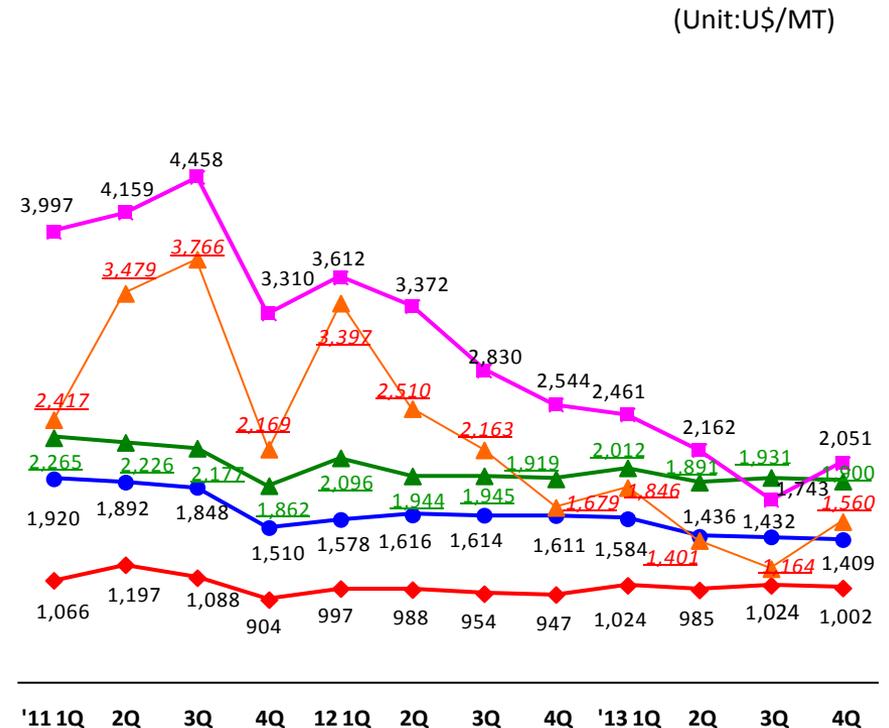
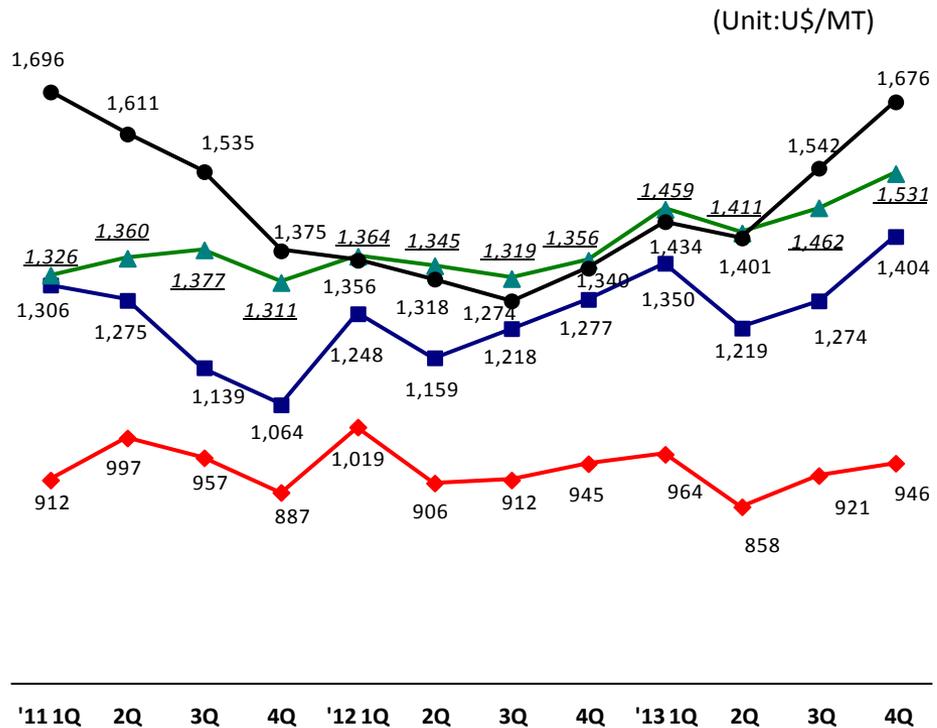
## Cash Flow

(Unit: KRW bn)

Classification	'12	'13
<b>Beginning Cash</b>	<b>1,379</b>	<b>1,341</b>
<b>Operating/Investing</b>	<b>-143</b>	<b>813</b>
<b>Net Income</b>	1,506	1,271
<b>Depreciation</b>	874	1,019
<b>Working Capital</b>	-147	-280
<b>CAPEX</b>	-2,075	-1,380
<b>Others</b>	-300	184
<b>Financing</b>	<b>104</b>	<b>-245</b>
<b>Borrowings</b>	420	64
<b>Dividends</b>	-316	-308
<b>Ending</b>	<b>1,341</b>	<b>1,909</b>

(Unit: KRW bn)

Classification		'11	'12	'13 Plan	'13
Petrochemicals	New / Expansion	664	784	549	405
	Maintenance	296	226	245	250
	<b>Total</b>	<b>960</b>	<b>1,009</b>	<b>795</b>	<b>655</b>
I & E Materials	New / Expansion	330	242	744	254
	Maintenance	100	82	135	118
	<b>Total</b>	<b>430</b>	<b>324</b>	<b>878</b>	<b>371</b>
Energy Solution	New / Expansion	660	395	70	96
	Maintenance	105	101	202	119
	<b>Total</b>	<b>765</b>	<b>496</b>	<b>272</b>	<b>215</b>
Common Expenses	New / Expansion	-	16	-	6
	Maintenance	166	230	179	133
	<b>Total</b>	<b>166</b>	<b>246</b>	<b>179</b>	<b>139</b>
Total	New / Expansion	1,654	1,436	1,363	761
	Maintenance	666	639	761	619
	<b>Total</b>	<b>2,321</b>	<b>2,075</b>	<b>2,124</b>	<b>1,380</b>



◆ Naphtha    ■ Ethylene    ▲ HDPE(Film)    ● LDPE

◆ PVC    ▲ ABS    ● Oxo-Alcohol    ▲ BD    ■ BR

NCC/PO

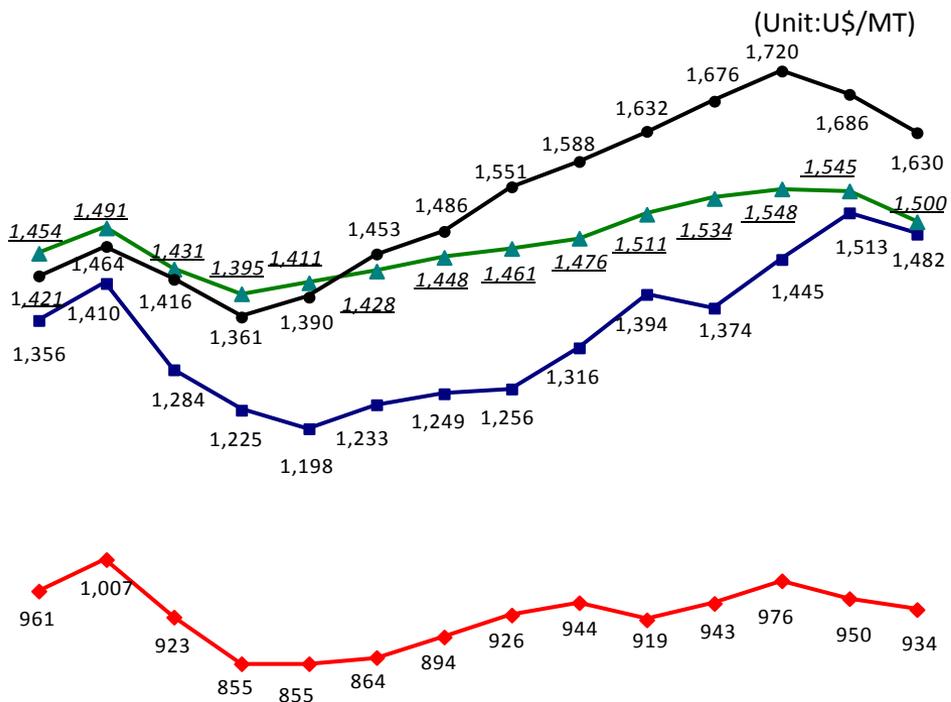
PVC

ABS/EP

Acrylate/  
Plasticizer

Rubber/  
Specialty Polymers

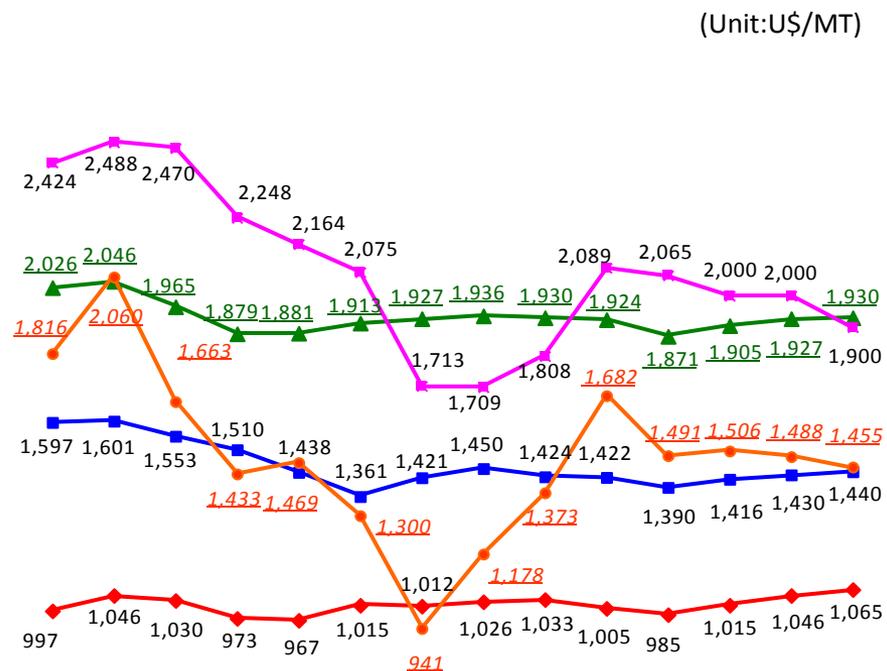
• The prices are average price of CFR FE Asia for general grade in each product group.



Jan '13 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan '14 Feb\*

◆ Naphtha ■ Ethylene ▲ HDPE(Film) ● LDPE

**NCC/PO**



Jan '13 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan '14 Feb\*

◆ PVC ▲ ABS ■ Oxo-Alcohol ● BD ◆ BR

**PVC**

**ABS/EP**

**Acrylate/Plasticizer**

**Rubber/Specialty Polymers**

• The prices are average price of CFR FE Asia for general grade in each product group.

\* Shows the prices on Feb 21, 2014

As of 1<sup>st</sup> quarter of 2014

	Item	Location	Capa	Global Rank	Capa Additions
Petro-Chemicals	ABS (Acrylonitrile-Butadiene-Styrene)	Korea, China	1,390 KMT/Yr	1st*	
	PVC (Polyvinyl Chloride)	Korea, China	1,270 KMT/Yr	6th	
	Oxo-Alcohol	Korea (Yeosu, Naju)	299 KMT/Yr	10th	
	AA (Acrylic Acid)	Korea (Yeosu, Naju)	353 KMT/Yr	6th	
	PC (Polycarbonate)	Korea (Yeosu)	170 KMT/Yr	6th	
	BR (Butadiene Rubber)	Korea (Daesan)	180 KMT/Yr	7th	
	Elastomer	Korea (Daesan)	85 KMT/Yr	4th	
	SAP (Super Absorbent Polymer)	Korea (Gimcheon, Yeosu)	260 KMT/Yr	6th	
	MBS (Methacrylate-Butadiene-Styrene)	Korea (Yeosu)	50 KMT/Yr	4th	
	NBL (Acrylonitrile-Butadiene-Latex)	Korea (Yeosu)	100 KMT/Yr	2nd	
I & E Materials / Energy Solution	BPA (Bisphenol A)	Korea (Yeosu)	430 KMT/Yr	5th	
	Polarizer	Korea (Ochang), China	137 mn m <sup>2</sup> /Yr	1st	[20mn m <sup>2</sup> /Yr will be added in 2Q 2014]
	Consumer Battery (Lithium-ion)	Korea (Ochang), China	94 mn cells/Month**	2nd	[3mn cells will be added in 2Q 2014]
	EV/HEV Battery (Lithium-ion)	Korea (Ochang), US	140K Units/Yr***	1st	
	Color Filter Photoresists	Korea (Ochang)	-	2nd	
	3D FPR	Korea (Ochang)	-	1st	

★ Actual Sales Base

★★ Cylindrical : 41 mn, Prismatic : 26 mn, Polymer : 27 mn

★★★ Convert to GM 'VOLT' base.