

Hanwha Chemical

Q2 2019 Earnings Release

August 7, 2019

This presentation, prepared in accordance with K-IFRS, provides preliminary results prior to the completion of an external audit for the convenience of investors only.

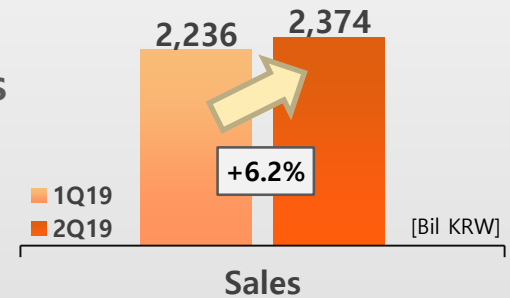
It contains forward-looking statements that are inherently subject to risks and uncertainties, unexpected changes in market conditions and subsequent adjustments in the company's strategies, which may cause actual results to differ materially from the projections made in this presentation.

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2Q19 vs 1Q19

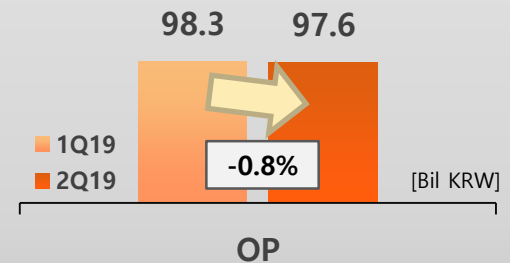
Sales increased by +6.2% QoQ

- Higher product prices in Basic Materials and Photovoltaics
- More business days in Q2
- Favorable domestic sales of new cars



Operating profit decreased -0.8% QoQ

- Higher oil price and maintenance effect
- Cost increase resulting from accelerated multi-to-mono production line conversion
- Higher discounts on products at DFS



Profits and Losses

(Unit: billion KRW)

	2Q19	1Q19	QoQ	2Q18	YoY
Sales	2,374	2,236	+6.2%	2,251	+5.5%
Operating Profit	98	98	-0.8%	184	-47.1%
Operating Profit Margin	4.1%	4.4%	-0.3%p	8.2%	-4.1%p
EBITDA	237	235	+0.6%	292	-18.9%
EBITDA Margin	10%	10.5%	-0.5%p	13%	-3.0%p
Pre-tax Profit	45	157	-71.6%	261	-82.9%
Net Profit	23	120	-80.8%	185	-87.6%



	Basic Materials	Photovoltaics	Process Materials	Retail	Others	Consolidated adj.	Total
Sales	995	1,395	252	176	302	-745	2,374
Operating Profit	50	33	-3	-7	21	3	98
Operating Profit Margin	5%	2.3%	-1.1%	-3.8%	6.9%	-	4.1%

Balance Sheet(K-IFRS)

(Unit: billion KRW)

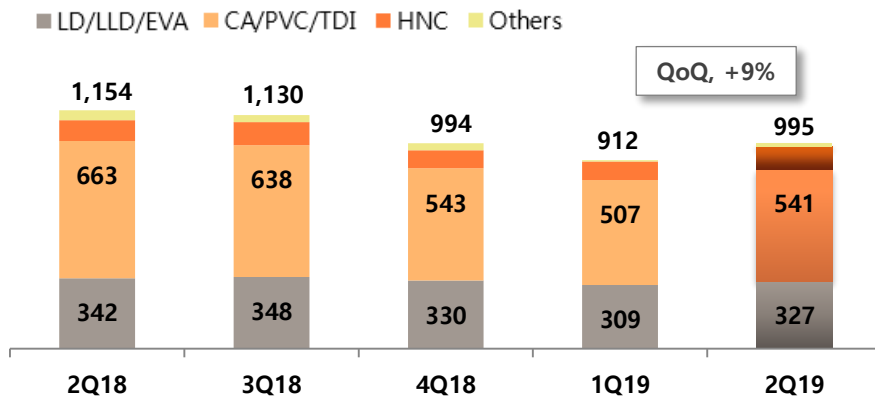
	2017	2018	2Q19	Vs. 2018
Total Assets	13,650	15,232	15,539	+307
Cash & Cash Equivalents	(805)	(1,024)	(843)	△181
Total Liabilities	7,462	9,004	9,273	+268
Debt	(4,417)	(5,889)	(6,105)	+217
Total Shareholders' Equity	6,188	6,227	6,266	+39
Total Liabilities/Equity	121%	145%	148%	+3%p
Net Debt/Equity	58%	78%	84%	+6%p



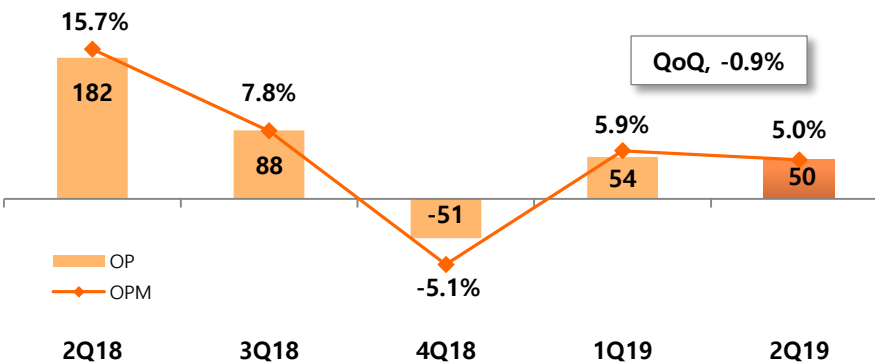
	Basic Materials	Photovoltaics	Process Materials	Retail	Others	Consolidated adj.	Total
Total Assets	8,331	8,303	1,551	2,297	1,447	-6,389	15,539
Total Liabilities	2,857	4,856	961	1,150	685	-1,236	9,273
Total Equity	5,474	3,447	590	1,148	761	-5,153	6,266

Basic Materials

Sales (billion KRW)



Operating Profit (billion KRW)



2Q19 Analysis

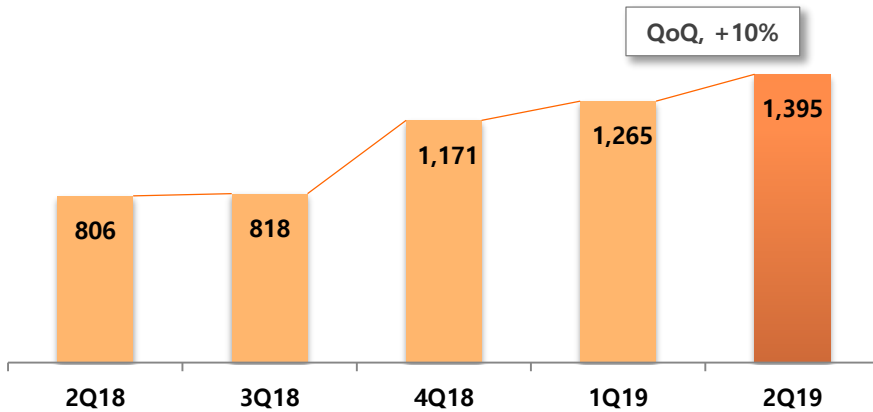
- **Operating profit slightly decreased due to the depreciation of KRW in spite of a increase in raw material cost and maintenance of caustic soda plant**
 - LD/LLD/EVA: Operating profit went slightly down due to the depreciation of KRW against USD despite higher raw material costs
 - CA/PVC/TDI: Operating profit decreased due to the maintenance in Caustic Soda plant, while earnings from PVC and TDI improved QoQ
 - Polysilicon: Operating loss continued owing to unfavorable international price

3Q19 Outlook

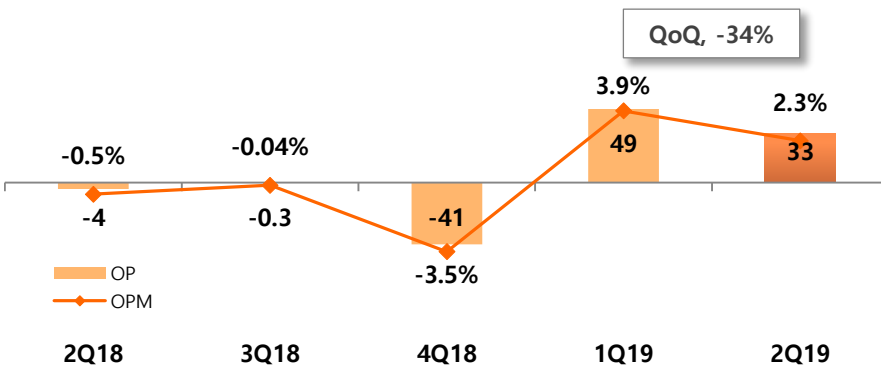
- **Operating profit expected to increase due to improvement of product spreads and recovery in caustic soda sales**
 - LD/LLD/EVA: Operating profit is to improve with lower raw material costs
 - CA/PVC/TDI: Operating profit is to increase with widened PVC spread and recovery of caustic soda sales, while operating loss from TDI will continue due to seasonality
 - Polysilicon: Operating loss is to be reduced with gradual recovery of mono polysilicon market condition

Photovoltaics

Sales (billion KRW)



Operating Profit (billion KRW)



2Q19 Analysis

- Despite of higher ASPs resulting from strong mono demand in major markets such as US and Europe, operating profit decreased due to higher cost as the multi-to-mono conversion of production lines accelerated
- Sales increased with higher ASP supported by strong demand in high-performance modules
- Cost increased temporarily as the multi-to-mono production line conversion process accelerated in order to preemptively respond to changes in market demand

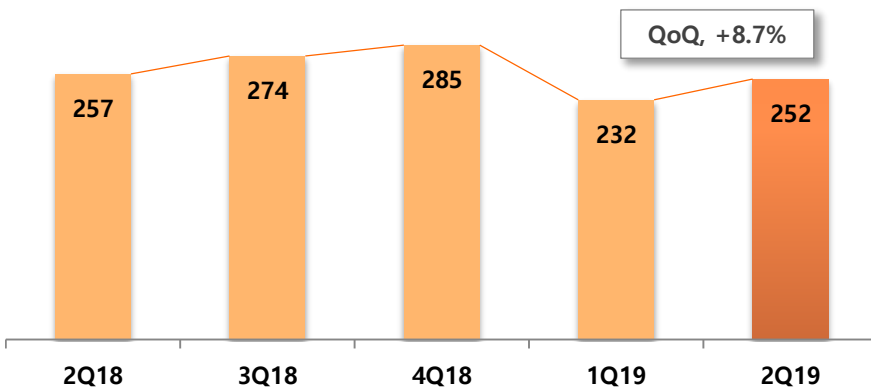
3Q19 Outlook

- Improved product mix resulting from the multi-to-mono production line conversion as well as a QoQ increase in shipments will lead to higher profitability
- Solid demand continues in major markets such as US and Europe
- Approved solar projects in China will support global demand, while other markets including SEA are forecasted to grow as well

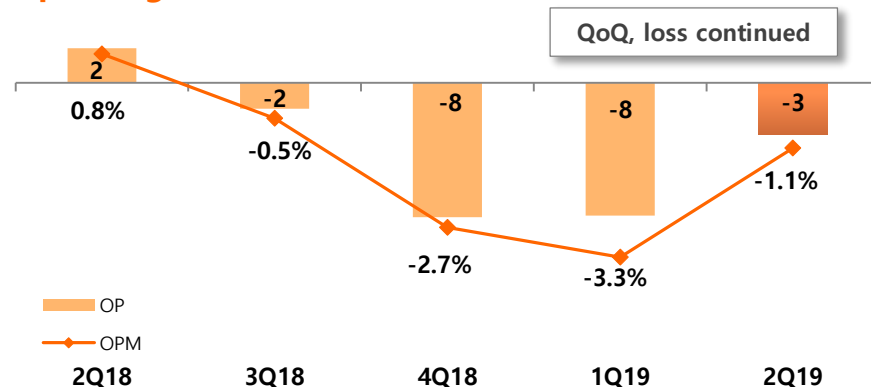
*MIP(Minimum Import Price)

Process Materials

Sales (billion KRW)



Operating Profit (billion KRW)



2Q19 Analysis

- Sales increased and operating loss reduced owing to increased domestic sales of new auto models and higher installation demand in Photovoltaics
 - **Automotive Materials:** Despite major customers sluggish sales trend in China continued, operating profit improved due to a increase in domestic car sales
 - **PV Materials:** Operating profit increased QoQ due to solid installation demand in global PV markets as well as the depreciation of KRW
 - **Electronics Materials:** Operating loss reduced with the effect of new cell phone model release at the end of the quarter

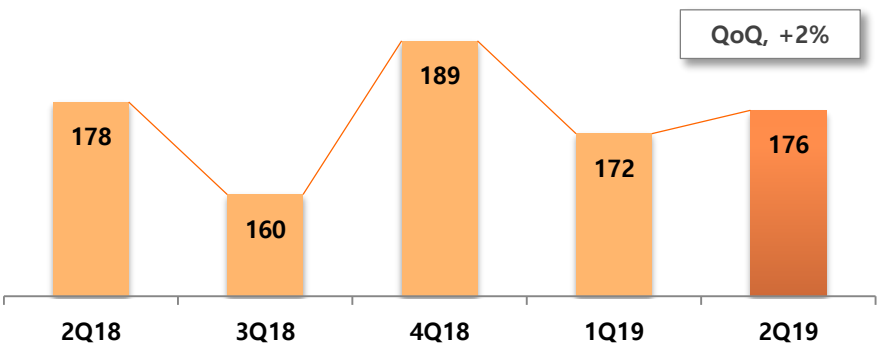
3Q19 Outlook

- Operating loss is expected to be reduced QoQ due to new car sales in North America
 - **Automotive Materials:** Earnings are expected to improve due to new car sales in North America
 - **PV Materials:** Earnings remain stable QoQ with strong global installation demand
 - **Electronics Materials:** Operating profit increased as new cell phone launch effect began to be reflected in full-scale

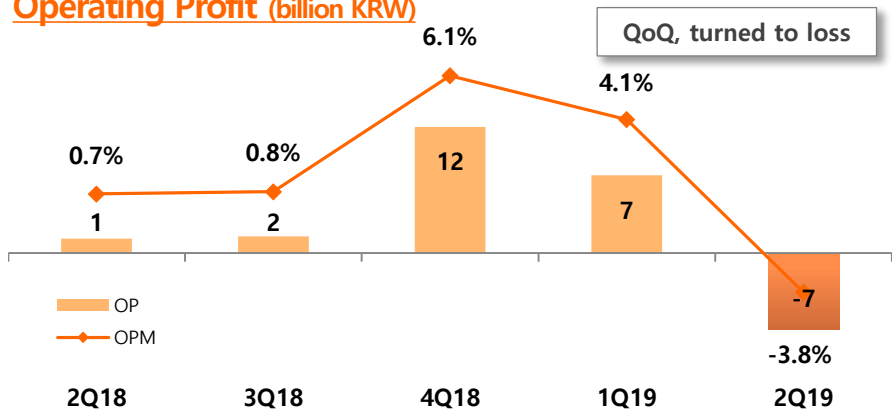
Performance by Segment

Retail

Sales (billion KRW)



Operating Profit (billion KRW)



2Q19 Analysis

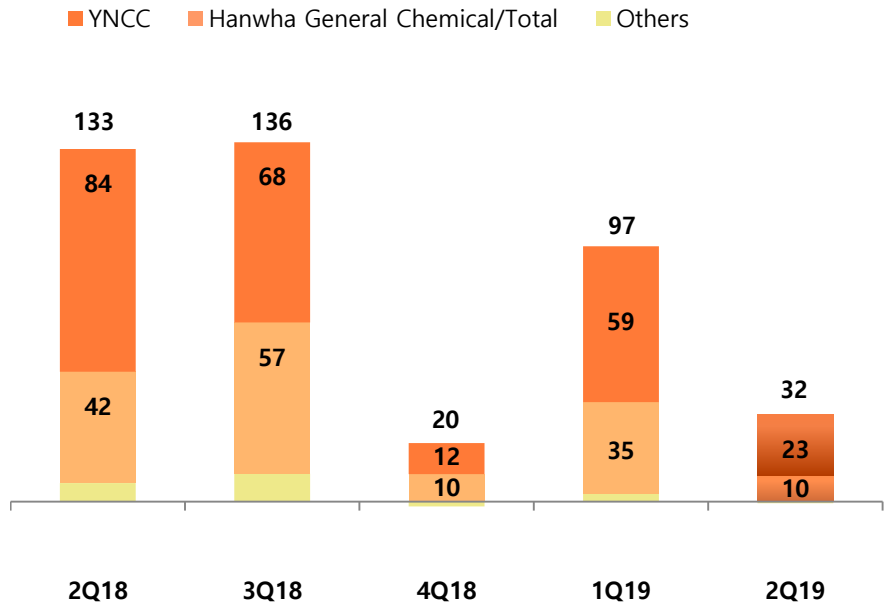
- **Operating profit turned to loss owing to one-off expenses(property tax, etc.) and higher discounts on products in DFS**
 - **Department Store:** Sales increased with renewal of merchandise and promotion to VIP while operating profit decreased due to one-off expenses(property tax, etc.)
 - **DFS:** Operating loss increased owing to higher discounts on products for stock reduction

3Q19 Outlook

- **Operating loss will continue due to low-season effect in department stores and higher discounts on products in DFS**
 - **Department Store:** A renewal of merchandise in Luxury Hall and low-season effect will lead to lower profit
 - **DFS:** Operating loss continues as the store is running out of stocks to sell while simultaneously providing final discounts on remaining products before closing the business
* DFS business expected to be terminated on Sep 30th

Equity Method Income

Equity Method Income (billion KRW)



2Q19 Analysis

- **Equity method income decreased owing to lower sales during the maintenance, bearish market conditions and the leakage accident in Hanwha Total**
 - Hanwha General Chemical : Improved PTA market conditions with a higher utilization rate of PET plants led to increase in operating profit
 - Hanwha Total : Turned to loss owing to the accident in SM plant and extended maintenance
 - YNCC: Operating profit decreased owing to the maintenance of No.1 NCC and narrowed spreads

3Q19 Outlook

- **While concerns around weak demand in global market continue, improved earnings is expected due to termination of maintenance and the base effect of one-off expenses in the previous quarter**
 - Hanwha General Chemical : solid earnings continue with improved market conditions
 - Hanwha Total : Sales is to increase after expansion and spreads are expected to improve
 - YNCC: spreads is to improve due to lower raw material prices

Appendix.

Performance by Segment

(Unit : billion KRW)

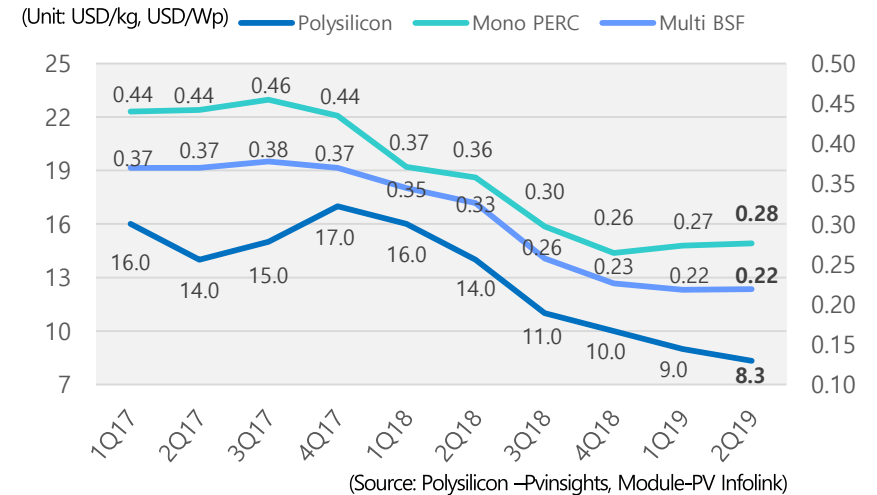
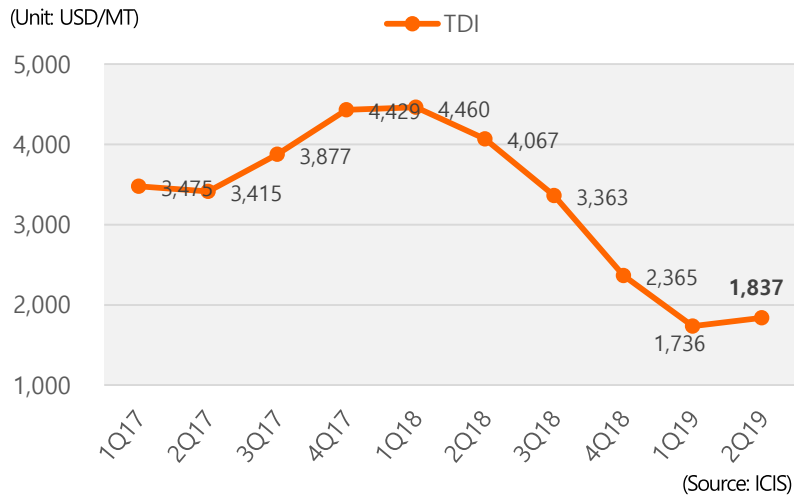
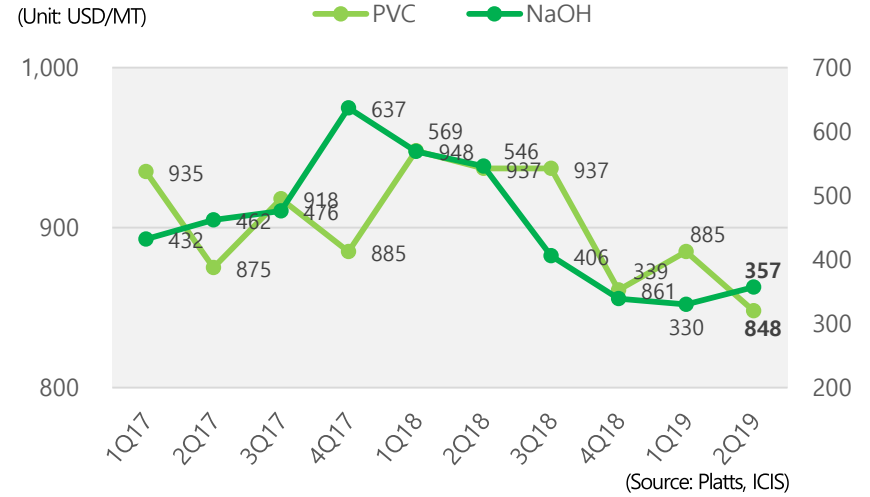
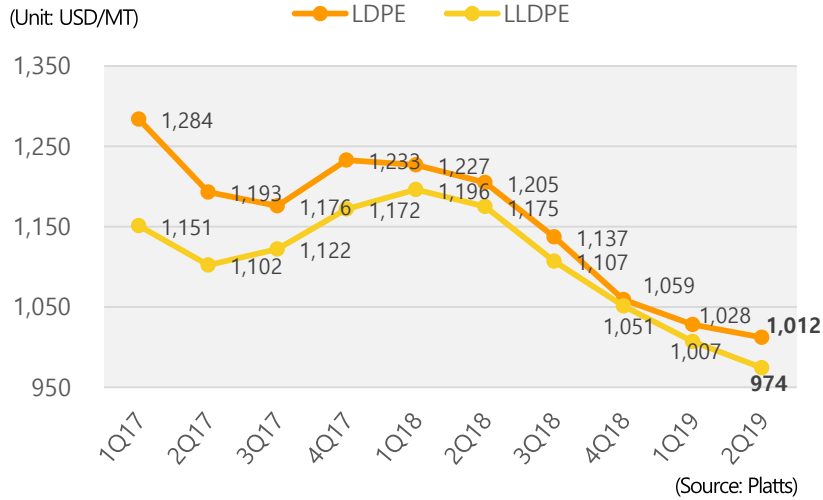
	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	2017	2018
Sales	2,191	2,486	2,313	2,352	2,076	2,251	2,312	2,408	2,236	2,374	9,342	9,046
Basic Materials	1,052	1,065	1,103	1,108	1,094	1,154	1,130	994	912	995	4,328	4,372
Photovoltaics	752	872	838	953	827	806	818	1,171	1,265	1,395	3,415	3,623
Process Materials	263	232	243	244	231	257	274	285	232	252	982	1,048
Retail	167	160	185	204	178	178	160	189	172	176	715	704
Others	375	522	329	255	243	270	268	243	253	302	1,480	1,024
Consolidated adj.	-418	-365	-384	-412	-497	-414	-338	-475	-597	-745	-1,579	-1,724
Operating Profit	197	219	215	126	172	184	94	-96	98	98	756	354
Basic Materials	167	161	182	120	148	182	88	-51	54	50	631	367
Photovoltaics	11	15	5	-17	35	-4	-0	-41	49	33	14	-11
Process Materials	8	-1	3	-7	-6	2	-2	-8	-8	-3	2	-13
Retail	-1	-11	17	19	5	1	2	12	7	-7	23	19
Others	17	52	12	-6	2	7	8	-12	13	21	75	5
Consolidated adj.	-5	+3	-4	+16	-12	-4	-2	+5	-17	3	+11	-13
Pre-tax Profit	393	305	332	36	367	261	-3	-337	157	45	1,066	288
Net Profit	324	249	252	9	293	185	-35	-282	120	23	835	160

2019 Outlook

Basic Materials	LDPE	<ul style="list-style-type: none"> • LDPE market is likely to remain bearish due to oversupply and US-China trade dispute though Chinese supply and demand balance is expected to improve a little with seasonal demand increase during the third quarter and concentrated maintenance of Chinese local manufacturers
	CA	<ul style="list-style-type: none"> • International price expected to remain weak with export increase from China due to sluggish Chinese domestic demand and with stronger environmental regulation in China. However, the price is expected to be supported by large scale of demand from the Middle East and India and by the shutdown of a Brazilian CA maker
	PVC	<ul style="list-style-type: none"> • Price is likely to be change by the impact of US-China trade issue and Indian PVC tariff & anti-dumping decisions, and the international price is expected to remain at current level with strong PVC demand from India and southeastern and southwestern countries
	TDI	<ul style="list-style-type: none"> • TDI price is expected to rebound gradually due to recovery of demand from recognition of the low price, the effect of peak season, and maintenance or operation troubles of major makers
	Polysilicon	<ul style="list-style-type: none"> • International price is expected to recover a little with concentrated solar installation demand during the second half and tight supply and demand balance of mono polysilicon. However, recovery of mono wafer and polysilicon prices is likely to be limited because of mono cell price decrease by expansion of mono cell makers in China
Photovoltaics	<ul style="list-style-type: none"> • China and others : Installations of approved projects will commence in China, and other markets such as SEA and South America forecast to continue growth as well • Europe : Demand is to surge mainly in Spain, Germany, Netherlands and France due to improved price competitiveness in solar products post-MIP removal <ul style="list-style-type: none"> - Spain : Removal of the 'Sun Tax' to resolve uncertainty regarding related levies, resulting in an increase in demand for Rooftop PV - Germany : Local policy to continue to vitalize auctions for the mid- to large-scale utility segment - Netherlands : Installations to increase on the back of subsidies for large-scale projects • US: Demand for module procurement is expected concentrated in Q4 to utilize safe harboring of the 30% ITC rate • Japan: Installation rush is expected before individual consumption tax increases in Q4 	

*MIP(Minimum Import Price)

Price Data



*BSF: Back Surface Field

Projects under Investment

		CAPEX (billion KRW)	Period	Content
Basic Materials	C5 Petroleum resin	124	Jan 2017 ~ Jul 2019	DCPD +50KTA
	VCM/PVC Expansion	163	Sep 2017 ~ Dec 2019	VCM +150KTA, PVC +130KTA
Retail	New Branch Open in Gwanggyo	450	Jul 2016 ~ Feb 2020	New Department Store
Hanwha Total	HDPE Expansion	362	2017 ~ Dec 2019	+400KTA
	PP Expansion	380	2018 ~ 2020	+400KTA
YNCC	NCC/BD Expansion	740	Mar 2019 ~ Dec 2020	Ethylene +340KTA, BD +130KTA

Company		Products	Capacity(KTA)	2019년 Maintenance Plan
Basic Materials		LDPE/EVA	447	April, 10days 100KMT October~November, 20days 120KMT
		LLDPE	355	May~June, 30days, 225KMT
		PVC	650	June, 10days 350KMT October, 13days, 300KMT
		CA	840	April~May, 25days, 340KMT
		TDI	150	April~May, 15days 150KMT October~November, 15days, 150KMT
		Polysilicon	15	-
		PVC (HNC)	350	December, 10days, 350KMT
Photovoltaics		Cell	9.0 GW	
		Module	10.7 GW	
Equity Method Income	Hanwha Total	Ethylene	1,095	End March~Mid June, 1,095KMT
		Propylene	932	End March~Mid June, 932KMT
		Butadiene	125	End March~Mid June, 150KMT
		SM	1,051	End March~Mid June, 1,021KMT
		PX	2,001	-
		PE	735	End March~Mid June, 735KMT
		PP	717	End March~Mid June, 717KMT
	YNCC	Ethylene	1,950	End May~End June, 900KMT
		Propylene	1,111	End May~End June, 591KMT
		Butadiene	240	End May~End June, 240KMT
		BTX	780	End May~End June, 340KMT
	Hanwha General Chemical	PTA	2,000	Daesan plant, April, 700KMT

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