

## Oil demand shock and opportunities for chemical

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**Overweight on Chemical, Neutral on Refining; top picks LG Chem (051910.KS, BUY), Kumho Petro (011780.KS, BUY), Hanwha Solutions (009830.KS, BUY)**

1. Oil demand suffered the biggest decline in history because of the COVID-19 pandemic. Even in 2021, we do not expect oil demand to recover to 2019's level. We believe oil prices will remain weak.

- Oil consumption has come down by 8-10 MBPD in 2020. Oil demand bottomed out in April and is now recovering. However, it is unlikely that demand in 2021 will recover to the pre-COVID-19 level seen in 2019.
- Mobility accounts for 60% of oil demand. Because of social and cultural changes brought about by COVID-19, uncertainties over mobility demand are rising.
- There is little room for the growth of shale gas given Saudi Arabia's future strategies and uncertain oil demand. It remains to be seen whether oil prices will stay above USD40/bbl.

2. Demand for petroleum products is unclear and competition is intensifying. Korean refiners' recovery depends on demand for flights but the outlook is grim.

- The 1.0 MBPD capacity expansion in 2020 led by the Middle East will help boost diesel supply. In addition, Chinese refineries are running at lofty utilization rates thanks to high profitability in the domestic market.
- Jet fuel represents 10-15% of Korean refiners' production. However, anemic jet fuel demand is leading to the oversupply of middle distillates.

3. Reduced US shale gas production affects US NGL production. This works to boost US NGL prices, which offers opportunities for NCCs.

- Reduced gas production in the US has worked to tighten ethane and propane supply. This puts ECCs (outside of the US) which depend heavily on US ECCs and US-produced ethane in a disadvantageous position.
- Declining propane exports from the US have worked to boost the ME contract price, which will strengthen the competitiveness of the NCC C3 chain.

4. The coronavirus pandemic offers fresh opportunities for structural growth for the chemical sector in packaging and medical-related areas.

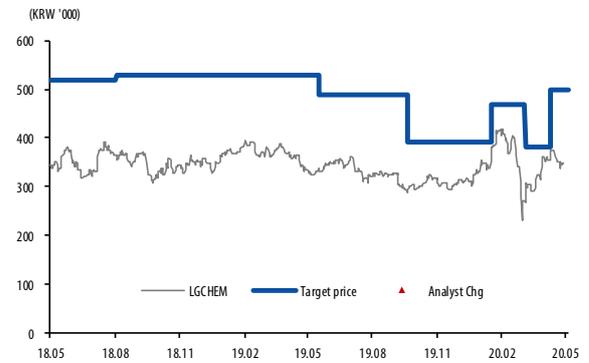
- Weak demand in terms of the economic cycle is a cause for concern but structural demand growth will likely gain further momentum.

5. Regardless of oil price weakness, efforts to reduce CO2 emissions continue across all countries around the world. This works to accelerate the development of energy storage technology (e.g., battery, hydrogen) and provides opportunities for the renewable energy and rechargeable battery industries.

**Investment rating and target price history**

| Date       | Rating   | TP      | Difference (%) |          |
|------------|----------|---------|----------------|----------|
|            |          |         | Average        | High/Low |
| 2018.04.10 | BUY      | 520,000 | -32.14         | -24.81   |
| 2018.08.21 | BUY      | 530,000 | -33.70         | -25.57   |
| 2019.02.21 | AFTER 6M | 530,000 | -31.81         | -26.04   |
| 2019.06.04 | BUY      | 490,000 | -32.26         | -26.22   |
| 2019.10.08 | BUY      | 390,000 | -19.66         | -9.23    |
| 2020.02.04 | BUY      | 470,000 | -20.34         | -10.74   |
| 2020.03.23 | BUY      | 380,000 | -14.89         | -4.61    |
| 2020.04.29 | BUY      | 500,000 | -29.89         | -27.80   |
| 2020.05.18 | BUY      | 500,000 |                |          |

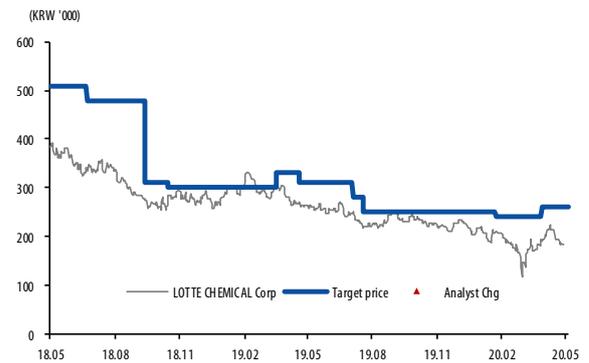
**Two-year price chart**



**Investment rating and target price history**

| Date       | Rating    | TP      | Difference (%) |          |
|------------|-----------|---------|----------------|----------|
|            |           |         | Average        | High/Low |
| 2018.05.03 | BUY       | 510,000 | -28.56         | -22.65   |
| 2018.07.10 | BUY       | 480,000 | -32.98         | -25.10   |
| 2018.10.01 | M.PERFORM | 310,000 | -14.43         | -9.35    |
| 2018.11.02 | M.PERFORM | 300,000 | -3.71          | 10.33    |
| 2019.04.05 | M.PERFORM | 330,000 | -13.93         | -7.73    |
| 2019.05.07 | M.PERFORM | 310,000 | -16.99         | -12.58   |
| 2019.07.22 | M.PERFORM | 280,000 | -16.20         | -10.89   |
| 2019.08.06 | M.PERFORM | 250,000 | -10.14         | 1.00     |
| 2020.02.06 | AFTER 6M  | 250,000 | -16.40         | -16.40   |
| 2020.02.10 | M.PERFORM | 240,000 | -25.11         | -12.50   |
| 2020.04.16 | BUY       | 260,000 | -23.08         | -14.04   |
| 2020.05.18 | BUY       | 260,000 |                |          |

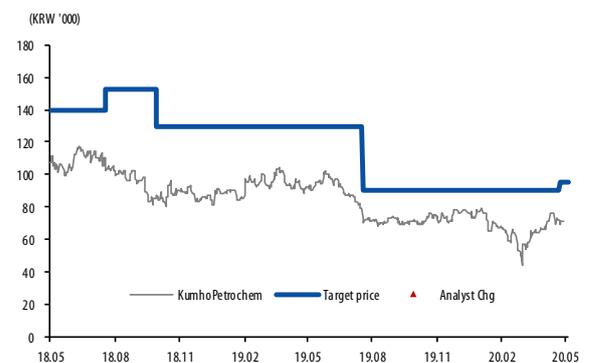
**Two-year price chart**



**Investment rating and target price history**

| Date       | Rating    | TP      | Difference (%) |          |
|------------|-----------|---------|----------------|----------|
|            |           |         | Average        | High/Low |
| 2018.04.30 | BUY       | 140,000 | -22.25         | -16.43   |
| 2018.08.06 | BUY       | 153,000 | -36.61         | -31.37   |
| 2018.10.17 | BUY       | 130,000 | -30.20         | -20.00   |
| 2019.04.17 | AFTER 6M  | 130,000 | -28.96         | -21.15   |
| 2019.08.05 | M.PERFORM | 90,000  | -20.86         | -17.44   |
| 2019.11.05 | BUY       | 90,000  | -23.11         | -11.44   |
| 2020.05.05 | AFTER 6M  | 90,000  | -20.59         | -19.00   |
| 2020.05.11 | BUY       | 95,000  | -25.39         | -24.63   |
| 2020.05.18 | BUY       | 95,000  |                |          |

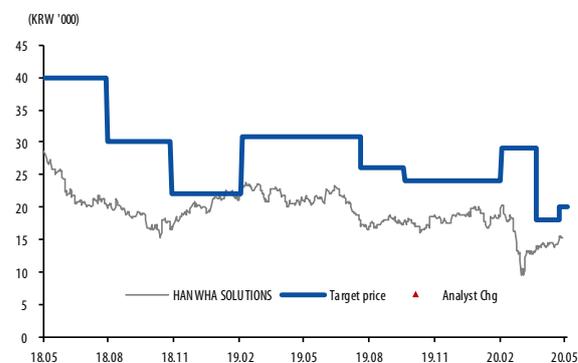
**Two-year price chart**



### Investment rating and target price history

| Date       | Rating | TP     | Difference (%) |          |
|------------|--------|--------|----------------|----------|
|            |        |        | Average        | High/Low |
| 2018.05.15 | BUY    | 40,000 | -42.90         | -28.63   |
| 2018.08.16 | BUY    | 30,000 | -38.53         | -29.00   |
| 2018.11.14 | BUY    | 22,000 | -7.73          | 5.45     |
| 2019.02.21 | BUY    | 31,000 | -30.32         | -23.23   |
| 2019.08.08 | BUY    | 26,000 | -32.26         | -27.88   |
| 2019.10.08 | BUY    | 24,000 | -24.16         | -16.46   |
| 2020.02.21 | BUY    | 29,000 | -49.77         | -34.14   |
| 2020.04.10 | BUY    | 18,000 | -20.82         | -13.61   |
| 2020.05.13 | BUY    | 20,000 | -22.88         | -21.75   |
| 2020.05.18 | BUY    | 20,000 |                |          |

### Two-year price chart



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- MARKETPERFORM (M.PERFORM):** Excess return of between -15p and +15p
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### Stock ratings distribution (2019.04.01-2020.03.31)

| Rating        | Count | % of rating category |
|---------------|-------|----------------------|
| BUY           | 142   | 89.9                 |
| MARKETPERFORM | 16    | 10.1                 |
| SELL          | 0     | 0                    |

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