



SECTOR IN-DEPTH

FERTILIZER

It only happens once in a
blue moon

Fertilizer

“It only happens once in a blue moon”

2022 was another booming year

Due to 1) the political tension between Russia and Ukraine, and 2) the race to hoard food of nations, fertilizer exports in 2022 could reach the all-time high record. We forecast revenue growth rate of this sector could hit more than 60% yoy in 2022. The gross margin of the fertilizer industry in 2022 could expand around 5.0%p – 6.2%p yoy compared with 2021 of (20.9%). Among the top gainers, DPM and DCM are the best with their large exposure to export.

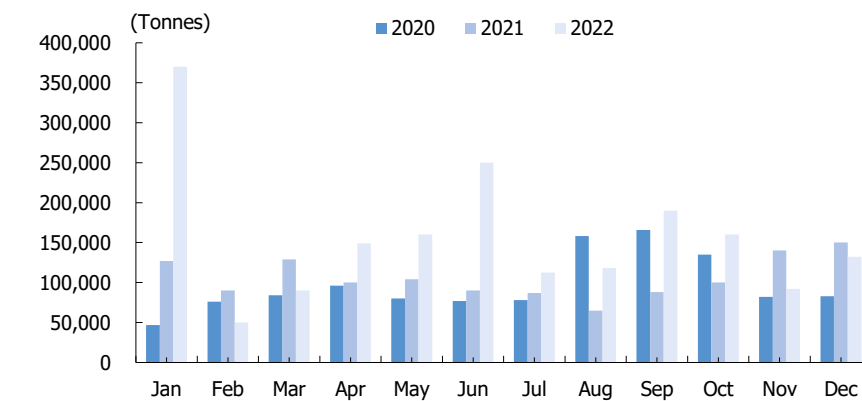
... But the favor factors in 2022 could not last until 2023F-24F

However, without the sharp cost-competitive products, Vietnam's urea market finds it not to be easy to beat Russia's and China's. When these giant exporters come back in 2023F, we think favorable factors that Vietnam enjoyed in 4Q21-1Q22 may not last long. In 2023F, we expect fertilizer selling prices could cool off more with a reduction of 15-20% yoy in average price. The urea sector sales volume could reduce by 14% yoy and revenue could fall 23% yoy in 2023F. We forecast the gross margin of the fertilizer industry will decrease by around 3.0%p – 6%p yoy in 2023F.

“It only happens once in a blue moon”

We believe the advantage that Vietnam enjoyed in both 2H21 and 1H22 was a one-off event, and it is hard to happen again in both 4Q22 and 2023F due to the comeback of China and Russia in the global fertilizer battlefield. However, because of global political tension, the fertilizer supply could shrink in certain nations. Although Vietnam's fertilizer export volume in 2023F could not beat 2022's, we think it could increase by about 10% - 15% compared to 2021's (2021: 1.3mn tonnes). Based on that, we rate the sector **NEUTRAL**.

Viet Nam fertilizer exports in 2020-22



Source: MoIT, KISVN

Neutral (Hold)

Company	Rating	TP (VND)
DPM	Hold	50,400
DCM	Hold	32,500

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What is the report about?

- Keys driving factors of Viet Nam fertilizer in 2022-24F
- Leader urea producers reap the benefit and take off the flight

I. Executive summary

Now overbought; Initiate Neutral

Fertilizer industry stocks have outperformed the broader market throughout 2021 as they have been engaged in a heated fertilizer war. We see that fertilizer shares are overbought as the negatives are not fully priced at the current level. We initiate **Neutral** on 1) fear of producers' peaked ability to pass the heavier cost of raw materials on to the farmers and the average selling price could ease by 15-20% yoy in 2023F, 2) downturn of earnings growth in 2023F-24F from the 2022 peak. While urging a prudent stance on fertilizer stocks, we selectively fancy DPM with its ample cash balance facilitating a dividend yield of 12-14% p.a.

1) Fertilizer prices could not trend up hastily in 2023F-24F

First, we see a tepid probability of a relentless fertilizer price hike in the next 12 months after a 142% growth of urea price in the Vietnam market from Jan 2021 to May 2022. However, we believe the Vietnamese urea price hit a new high as long as the supply control by giant producers like China and Russia persists and the global demand for fertilizer to ensure food security stays solid. The rally is temporary and soon fade amid the shrinking demand. Overall, we skew in favor of an 15-20% yoy fall in average urea price in each 2023F-24F.

Second, the gross margin could peak in 2022

Second, keeping in mind the likelihood of cooling down energy prices, the cost of producing fertilizer could trend downward. However, we believe the reduction in selling price could outpace the drop in raw materials. Hence, the gross margin in 2022F could breach the top before scaling down in 2023F-24F. The best earnings growth phase is foreseen to end in 2022 for all fertilizer makers with record margins and EPS. Even though some tops could make full use of the temporary shortage of global supply to compensate for the reduction in selling price, the gains are not sufficient.

Third, the fat dividend policy payment is appealing to fertilizer stockholders. The top pick is DPM

We like DPM the most among the fertilizer producers thanks to its wealthy cash balance. As of end-3Q22, cash and cash equivalent balance made up 54% of total assets. We estimate the DPM's cash bunker could be enriched in 2022-23F since DPM could ramp up export to fill the global shortage. A healthy balance sheet with no significant CAPEX plan could facilitate DPM to pursue a dividend payout ratio of 50-70% in 2022F-23F. The stockholders could enjoy a dividend yield of 12-14% p.a, significantly higher than the deposit yield of 10-11% p.a.

Stock	Recommendation/TP	Investment point	Key valuation assumptions
DPM	HOLD, VND50,400	- Attractive dividend policy in 2022-23F	Target 4x 2023F PE
DCM	HOLD, VND32,500	- Stable export market (Cambodia)	Target 4x 2023F PE

Table 1. Coverage valuation

Recommendation & TP			Earnings & Valuation										
Company				Sales	OP	NP	EPS	BPS	PE	PB	ROE	EV/EBITDA	DY
				(VND bn)	(VND bn)	(VND bn)	(VND)	(VND)	(x)	(x)	(%)	(x)	(%)
Petrovietnam Fertilizer & Chemicals (DPM)	Recommendation	Hold	2020A	7,762	666	691	1,766	20,659	9.7	0.8	8.6	3.6	7.0
	TP (VND)	50,400	2021A	12,786	3,543	3,118	7,959	26,871	5.6	1.7	33.5	3.6	3.1
	Price (10 Jan, VND)	42,100	2022E	19,862	7,011	5,989	15,148	34,565	3.4	1.4	50.4	1.4	5.7
	Market cap. (VND bn)	16,475	2023F	15,042	4,690	4,132	10,452	39,953	4.4	1.2	28.9	1.4	8.9
			2024F	14,895	4,102	3,603	9,334	44,558	5.0	1.0	20.8	1.0	10.3
Petrovietnam CaMau Fertilizer (DCM)	Recommendation	Hold	2020A	7,561	644	661	1,249	11,900	9.7	1.1	8.7	3.6	2.8
	TP (VND)	32,500	2021A	9,870	1,920	1,918	3,073	14,075	11.3	2.5	23.7	4.8	4.8
	Price (10 Jan, VND)	26,250	2022E	14,525	4,330	4,231	6,790	19,270	4.4	1.6	48.8	1.6	16.9
	Market cap. (VND bn)	13,897	2023F	13,264	3,316	3,245	5,211	20,609	4.9	1.5	31.4	1.2	7.6
			2024F	13,164	2,971	3,163	5,975	22,641	5.1	1.3	23.0	0.8	10.0
Duc Giang Chemicals (DGC)	Recommendation	Not-rated	2019A	5,091	592	567	1,484	10,475	5.4	0.9	16.8	3.8	9.9
	TP (VND)	N/A	2020A	6,237	987	907	2,298	11,658	8.9	1.9	23.6	5.6	3.8
	Price (10 Jan, VND)	56,500	2021A	9,550	2,542	2389	6,047	17,058	12.1	4.5	45.0	8.7	0.6
	Market cap. (VND bn)	21,457	2022F	12,591	4,615	4,556	11,650	36,382	5.5	1.7	37.5	N/A	6.0
			2023F	13,028	4,083	3,428	8,683	35,669	24.9	6.1	26.6	14.0	n.a
Binh Dien Fertilizer (BFC)	Recommendation	Not-rated	2019A	6,132	257	74	893	20,164	7.8	0.6	7.2	5.7	11.0
	TP (VND)	N/A	2020A	5,418	297	133	2,329	21,107	7.4	0.9	12.6	5.2	7.8
	Price (10 Jan, VND)	17,400	2021A	7,743	449	220	3,841	23,811	8.8	1.6	19.1	6.1	4.9
	Market cap. (VND bn)	995	2022F	7,960	N/A	179	2,811	21,264	6.5	0.9	14.7	N/A	11.0
			2023F	8,000	480	295	4,383	28,229	5.5	0.9	19.2	n.a	8.8

Source: Respective company data, Bloomberg, KISVN

Table 2. Peer valuation

Company	Ticker	Market cap (USD mn)	Sales growth in 2021 (%)	PE (x)		PB (x)		ROE (x)		EV/EBITDA (x)		DY (%)	
				2022F	2023F	2022F	2023F	2022F	2023F	2022F	2023F	2022F	2023F
Mosaic	MOS US equity	18.4	42.3	3.6	4.6	1.2	1.2	39.4	25.5	2.8	3.6	1.1	1.1
CF Industries	CF US equity	18.9	58.5	4.6	6.7	2.9	2.9	80.2	38.9	3.6	4.9	1.6	1.6
Sinofert Holdings	297 HK equity	1.1	5.9	5.7	5.2	0.8	0.8	13.7	13.4	4.8	4.6	5.7	5.7
ICL Group	ICL IT equity	12.7	37.9	5.4	7.5	2.2	2.2	44.2	27.4	4.0	5.1	8.0	8.0
Arab Potash	APOT JR equity	5.1	42.1	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Bloomberg, KISVN

II. Why fertilizers are crucial?

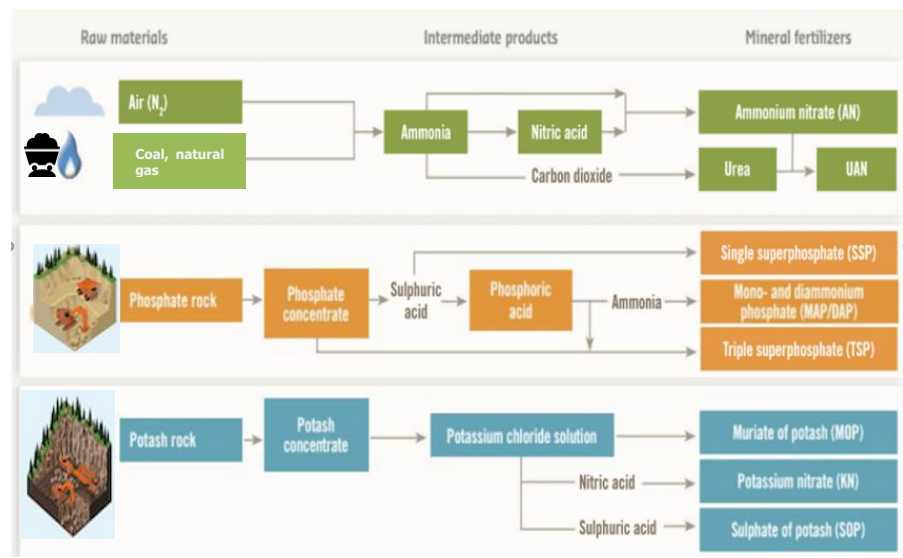
1. Internationally-traded goods in a wide variety of forms

The main nitrogen-based straight fertilizer is ammonia (NH_3) or its solutions. Urea is a popular source of nitrogen, thanks to its solid and non-explosive forms. Nitrogen fertilizers are made from ammonia (NH_3), in which nitrogen is combined with hydrogen to synthesize the ammonia, using natural gas or coal as the source of the hydrogen. The main straight phosphate fertilizer is superphosphate and the main potassium-based straight fertilizer is muriate of potash (MOP). The common two-component fertilizers are monoammonium phosphate (MAP) and diammonium phosphate (DAP), which provide nitrogen and phosphorus to plants.

Phosphate obtained from apatite ore then combines with sulfur to produce acid phosphoric. This compound, after being injected with NH_3 in a certain ratio, will create common phosphate fertilizers such as MAP and DAP. The process of making potassium is quite simple: potash is mined and crushed, then potassium is screened and separated. NPK is a three-component fertilizer providing nitrogen, phosphorus, and potassium. NPK is commonly used for rice, corn, tea, and rubber crops.

Nitrogen is essential in the formation of protein so it will help make plants healthy. Phosphorus is linked to a plant's ability to use and store energy. Potassium helps strengthens the plants' ability to resist disease and to increase crop yields and quality.

Figure 1: Production chain: Coal, natural gas is among the most key inputs



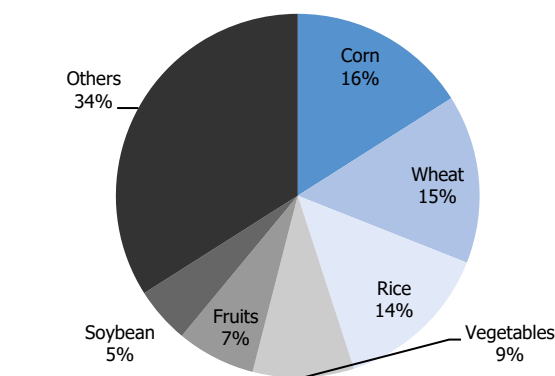
Source: Chemistryscd, KISVN

2. Essential to human life by nurturing the crops

According to the Market Intel report, two-thirds of global fertilizer demand is driven primarily by six crops, namely corn/wheat/rice/vegetables/fruits/soybean, which accounted for 16/15/14/9/7/5% of the global farm-use fertilizer demand. In general, N is needed for almost commodities with a proportion above 40% of the fertilizers used in crops. As to FAO statistics data, overall, the five-largest producing countries of agricultural commodities named: China, India, Russia, the U.S, and Brazil. Agricultural policies as well as the annual output of agricultural products enacted by these countries could have a significant impact on the global fertilizer industry.

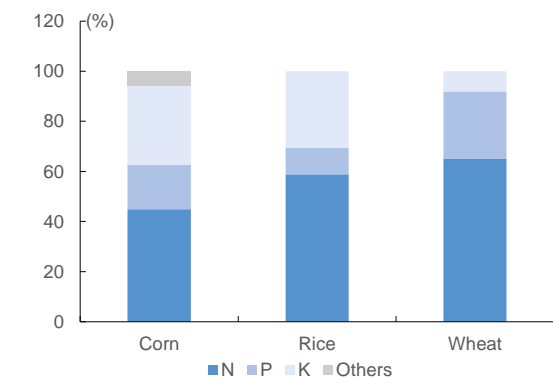
Two-thirds of global fertilizer demand is driven primarily by six crops, namely corn/wheat/rice/vegetables/fruits/soybean

Figure 2. Global farm-use demand is buoyant in corn, wheat, and rice crop seasons



Source: FAO, KISVN

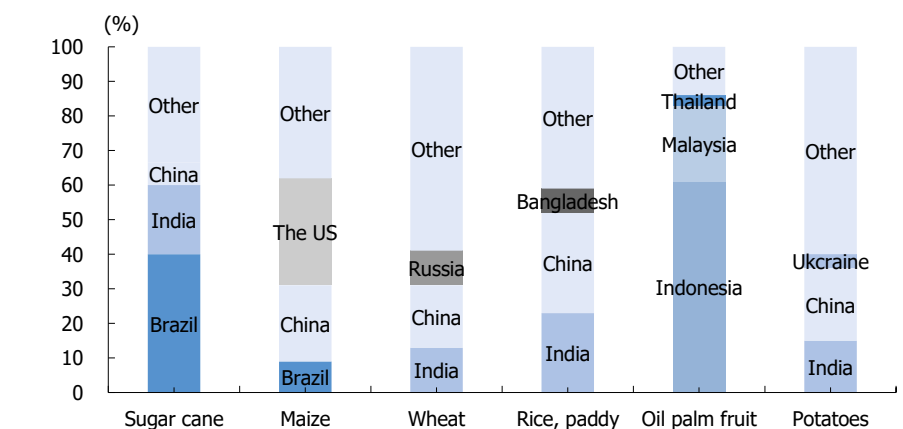
Figure 3. Nitrogen is essential in main crops



Source: ResearchGate, KISVN

In 2020, half of the global agricultural production came from Asia, with economies such as China and India being key players in the world's sphere. Europe harvested one-tenth of the world's agricultural production, with Russia, Ukraine, Spain, and Germany among the biggest producers. North America produced 8.5% of the world's aggregate output. South America supplied one-sixth of the world's agricultural output, namely Brazil and Argentina.

Figure 4. Half of global agricultural production came from Asia in 2020

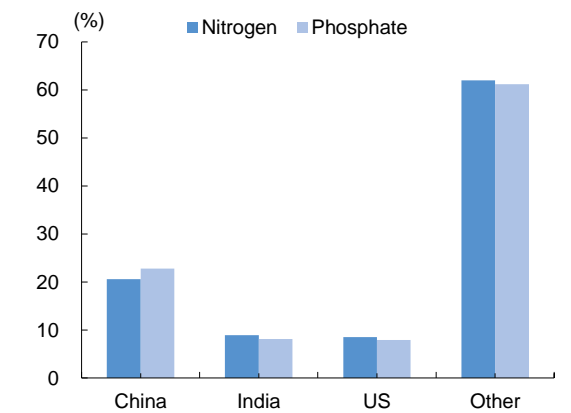


Source: FAO 2020, KISVN

3. Unequal distribution across the nations

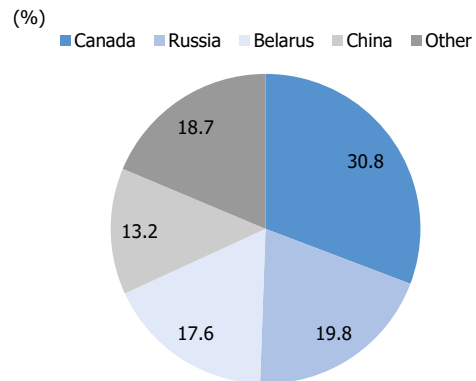
In general, it could be seen that China was a major fertilizer producer and exporter in the world, which had strength in nitrogen and phosphate production. Russia was also a fertilizer powerhouse with a large volume of nutrients (*nitrogen, phosphate, potash*). Besides, Brazil and the US were major fertilizer importers. According to the data from the FAO, in 2020, China ranked first in nitrogen production, representing 20.6% of global production, ahead of India, which produced 8.9% of global nitrogen. The US was the third-largest global producer of nitrogen, producing 8.5%.

Figure 5. Global nitrogen and phosphate production



Source: FAO 2020, KISVN

Figure 6. Global potash production



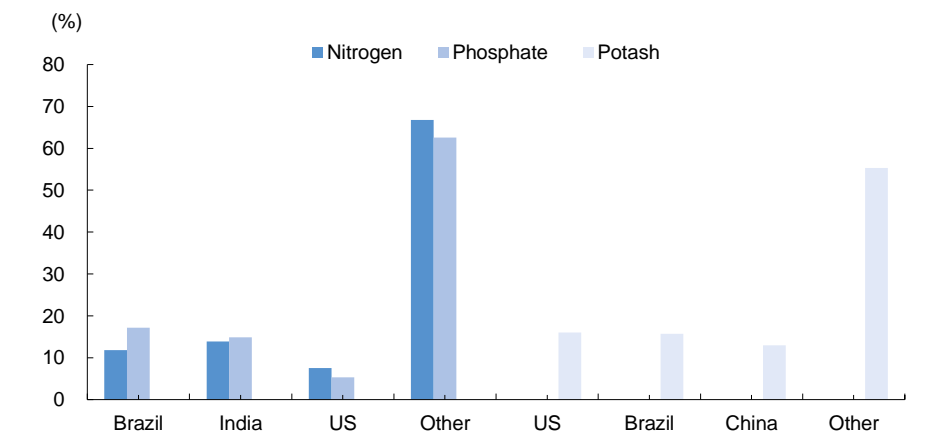
Source: Bloomberg 2021, KISVN

China was a major fertilizer producer and exporter in the world, which had strength in **nitrogen and phosphate** production. **Russia** was also a fertilizer powerhouse with a large volume of nutrients.

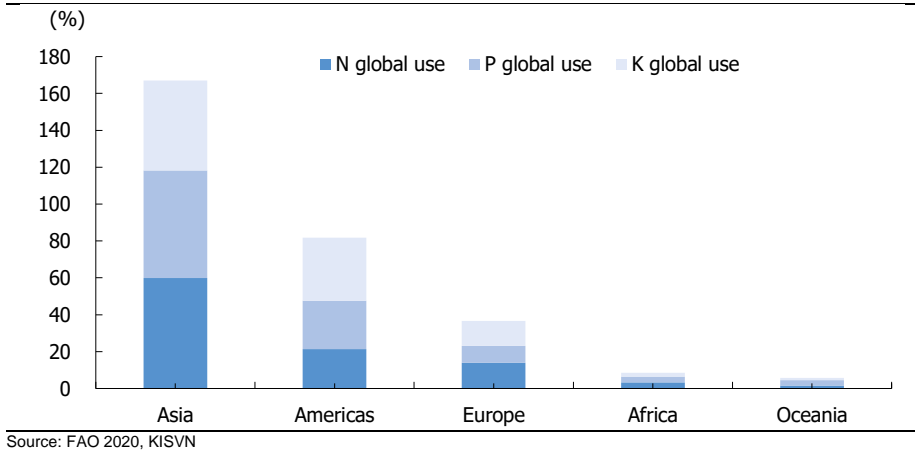
For phosphate production, China also ranked first with 22.8% of global production. Compared to nitrogen production, India's position in phosphate global production represented only 8.1% while the US hold 7.9%. Russia was the fourth-largest global nitrogen and phosphate production with 7.2%/7.3% respectively. In the global potash market, Canada led the way in production, representing 30.8%, followed by Russia, which produced 19.8% of the global supply. Belarus was a close third as it produced 18.7% of potash global supply. China ranked fourth with 13.2%. In total, more than 80% of the world's potash came from those four countries.

When it came to nitrogen global exports, Russia topped with 16.5%, followed by China with 11.2%, and Saudi Arabia, which held 6.4%. For the global phosphate exports market, China won the first position, holding a 25.2% share, ahead of Morocco with 17.4%, and Russia with 12.7%. Of the global potash exports, Canada led with a 36.2% market share, followed by Belarus with 18.5%, and Russia, which represented 16.5%. For global fertilizer imports, the rankings had a dramatic change. The top three in nitrogen and phosphate import named Brazil, India, and the U.S. However, for potash import, the U.S. won the first position with 18.2%, followed by Brazil with 16.3% and China with 13.3%.

Figure 7. Brazil and the US are giant counterparties



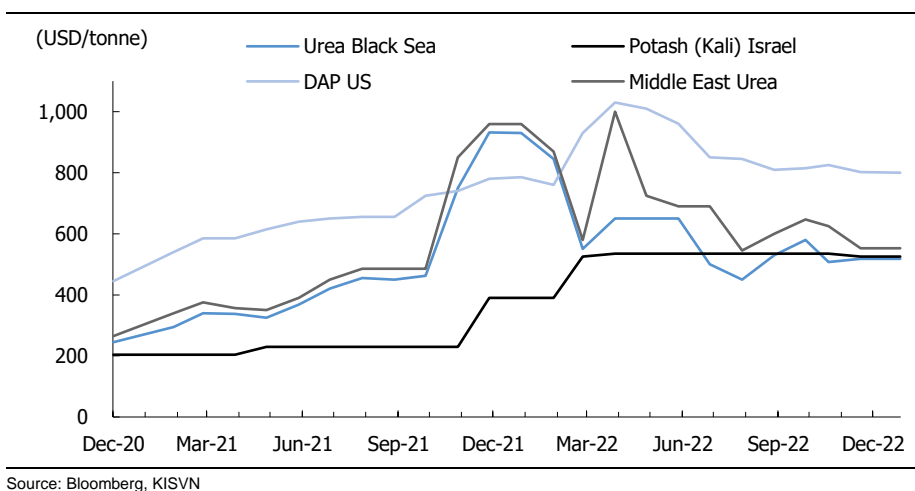
Source: FAO 2020, KISVN

Figure 8. Global fertilizer consumption by regions

III. Peak and move sideways in the short-term

Could be back to normal condition?

Global fertilizer prices were about rising since 2H21 to 1H22. In Dec-21, urea/DAP was trading in the US market at USD780/785/tonne, upping 164%/45% YTD. At the same time, Potash in Israel rose by 91% YTD while NPK in the Black Sea market jumped by 36% YTD. After the acceleration phase in 1Q22, global fertilizer prices tend to move sideways since Jun 2022. In Dec 2022, Potash in Israel nearly keeps the same level at USD525 since Mar 2022, while Urea Black Sea/DAP US were trading at USD518/USD800/tonne, stayed at the same level as Nov. At the same time, NPK Black Sea and Middle East urea were trading at the same level as Sep. The global urea export price in Dec 2022 was around USD392 – USD440/tonne.

Figure 9. Global fertilizer prices move sideways

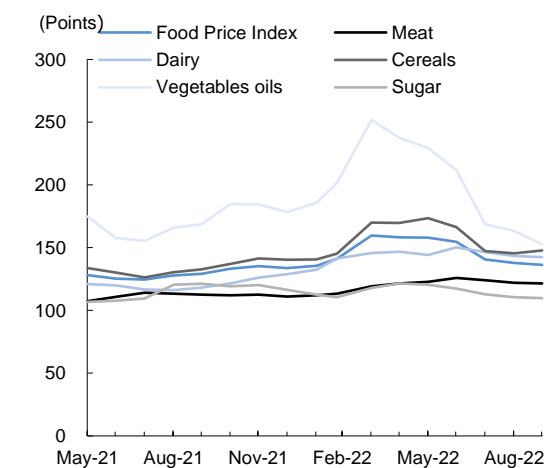
We examine several factors which pushed the price up in 2H21-1H22 to assess if any probability for fertilizer prices to hit another peak in 2023F. Those factors are 1) the concern about food security, 2) the costly input persisting, 3) supply from Russia and China, 4) the supply chain disruptions recovered, 5) the global balance between supply and demand, and 6) the trend of organic fertilizer. We analyze these factors in detail as below:

The FAO indicated that global acute food insecurity is likely to continue between Oct 2022 and Jan 2023.

1. Food security concern is magnified

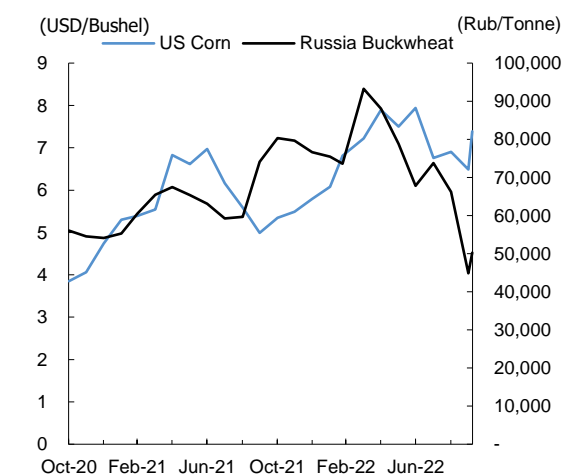
According to FAO, Food Price Index (FFPI) averaged 125.7 points in 2021 – a 28.1% yoy. The 2021 surge in food prices was largely associated with the recovery in food demand from the global COVID-19 recession and temporary disruption in logistics. Massive export buying of commodities immediately pushed up the prices. The global grain prices stayed at high level in 10M22. In which, US corn/Russia buckwheat prices upped 1%/12% mom. According to the lasted report, the FAO indicated that global acute food insecurity is likely to continue between Oct 2022 and Jan 2023. Therefore, we believe that overall global grain prices could increase significantly in this period as many countries follow the “food protectionism” policy now. Increases in commodity prices drove farmers to plant more profitable crops. Thus, the demand for fertilizer could remain high.

Figure 10. FAO Food Price Index



Source: FAO, KISVN

Figure 11. Global grain prices



Source: Bloomberg, KISVN

Food trade protectionism bolstered the food price inflation, which in turn stimulates farmers to use more fertilizers.

Global crop trading has been roiled after Russia’s invasion of Ukraine paralyzed crucial Black Sea supplies and then the “food protectionism” threat among nations has become hotter than ever. With prices of agricultural products spiking, nations are taking steps to safeguard domestic supplies and keep costs stable. Nations are expected to increase agricultural production to cope with the “storm” of food shortage shortly, which causes fertilizer demand rises. The table below looks at the price effects of the food export restrictions imposed since the beginning of the war in Ukraine.

According to the World Bank, as of 25 Sep 2022, 20 countries have implemented 29 food export bans, and 7 have implemented 12 export-limiting measures.

Table 3. How major grain exporters' trade policy affect global grain prices

Jurisdiction	Measure	Products	Announcement	Expected End Date	Share of world export quantities (%)	Estimate price change as a result of the export ban
India	Export ban	Broken rice	9/8/2022	12/31/2022	32.94	+12.09%
Russia	Export taxes	Corn	4/8/2022	12/31/2022	2.17	+5.29
Russia	Export taxes	Wheat	4/8/2022	12/31/2022	17.5	+7.49%

Source: WorldBank, KISVN

Table 4. Food trade policy tracker (Major food Commodities)

Jurisdiction	Measure	Products	Announcement	Expected End Date
Afghanistan	Export ban	Wheat	5/20/2022	12/31/2022
Argentina	Export taxes	Soybean oil, soybean meal	3/19/2022	12/31/2022
Bangladesh	Export ban	Rice	6/29/2022	12/31/2022
Belarus	Export licensing	Rice, whole-meal flour, flour from rye, barley, pasta	3/25/2022	12/31/2022
India	Export ban	Wheat	5/13/2022	12/31/2022
India	Export licensing	Wheat flour and related products	7/6/2022	12/31/2022
India	Export ban	Broken rice	9/8/2022	12/31/2022
Kosovo	Export ban	Wheat, corn, flour, vegetable oil, salt, sugar	4/15/2022	12/31/2022
Pakistan	Export ban	Sugar	4/15/2022	12/31/2022
Russia	Export ban	Rapeseed	3/31/2022	2/1/2023
Russia	Export taxes	Sunflower oil, sunflower meal	4/15/2022	12/31/2022
Russia	Export taxes	Corn	4/8/2022	12/31/2022
Russia	Export taxes	Wheat	4/8/2022	12/31/2022
Russia	Export licensing	Nitrogenous fertilizers	11/3/2021	12/31/2022
China	Export ban	Phosphate rock	9/28/2021	12/31/2022
China	Export licensing	Fertilizers	9/24/2021	12/31/2022
Türkiye	Export ban	Cooking oils	3/9/2022	12/31/2022
Türkiye	Export ban	Beans, lentils, olive oil	2/27/2022	12/31/2022
Ukraine	Export ban	Nitrogenous fertilizers	3/12/2022	12/31/2022

Source: WordBank, KISVN

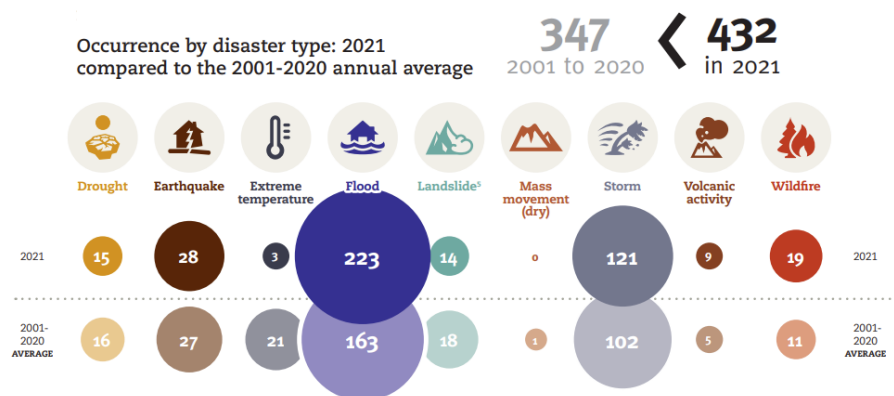
2010-2019 was the most turbulent decade for disasters, no truce in sight for the 2020s. The food price could not remain stable and that benefits the fertilizer demand.

Extreme events and disease outbreaks exert a heavy toll on agriculture and all its sectors. Their growing frequency and intensity, along with the systemic nature of risk, are jeopardizing the agri-food systems. According to a Market Intel report, during the Feb 2021 freeze throughout Texas, much natural gas production was interrupted or shifted away from regular uses. This forced the US ammonia plants which combined account for about 60% of US production, to shut down during this time and cut about 250,000 tonnes of production. These bad weather conditions reduced the number of agricultural products harvested, leading to the risk to food security in these countries, requiring Government to introduce measures to increase crop capacity in time.

However, due to an increase in climate change, nations are adopting an environmental policy that could affect fertilizer use. For instance, the UK and New Zealand have implemented maximum nitrogen application rates. In North America, Canada's new climate strategy includes an objective to reduce emissions from fertilizer application by 30%. In Asia, China's zero-growth policy on fertilizer use is expanding, enabled by increased adoption of fertilizer technology and best practices. Thus, in the longer term, nations could encourage farmers to reduce fertilizer use to protect the environment.

As the importance of food security and political stabilization, we see many countries will try to secure the supply of fertilizer in short and medium terms. Similar to Russian crude oil, we believe that countries will find one way or another to stock up the fertilizer inventories even though the products come from Russia given the sanction on Russian products. Countries are believed to put their own benefits over the sanction rather than follow it strictly. This is, in our opinion, one of the drivers for lower the global fertilizer price in 2023F.

Figure 12. Disaster truly becomes more frequent and dangerous which created a huge loss to agri-food systems



Source: Emergency Event Database, KISVN

2. The costly input is persisting

With less domestic production, and disrupted supply from Russia and Belarus, Europe will certainly need to compete on the global market for supply, which would put more pressure on worldwide fertilizer prices.

Driven by geopolitical tensions, the price of gas in the EU surged from Jun 2021 and many fertilizer producers find it unprofitable to keep production lines open. In Oct 2022, the average benchmark EU gas price was USD154/MWh upped 47% yoy but downed 23% mom. Although the gas price tends to cool down since Sep 2022, according to AMIS, about 70% of the EU's fertilizer production capacity is reported to be idle now. As the winter is coming in EU, we expect to see the volatility in gas price given the good amount of inventories for winter. However, the gas price is expected to be lower when the winter is over in 2023F, which may help EU fertilizer manufacturers resume operation. We also expect to see the average EU gas price to be lower in 2023F when the winter is over and EU planned to resume coal-fired power plants to solve energy crisis.

The majority of fertilizer exports from Belarus transit via Lithuania to reach the Baltics Sea, and with rail lines no longer willing to transport products from Belarus through EU territory, exports to the EU market may be blocked. Wholesale fertilizer prices, which fell back after climbing to multiyear highs following Russia-Ukraine tension, are rising again as EU producers curb capacity. We think if the political tension between Russia and the EU last longer, the shortage of natural will make EU switch from being a key exporter to an importer, putting more pressure on worldwide fertilizer prices.

Figure 13. Natural gas EU Dutch TTF

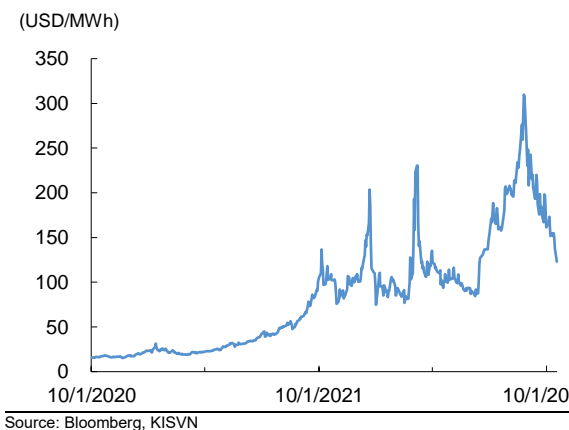
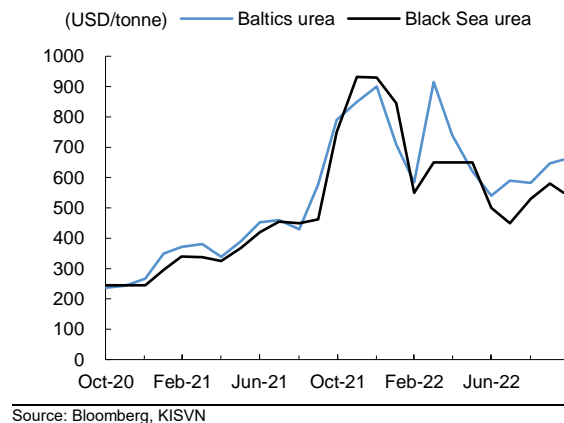


Figure 14. Urea prices in EU

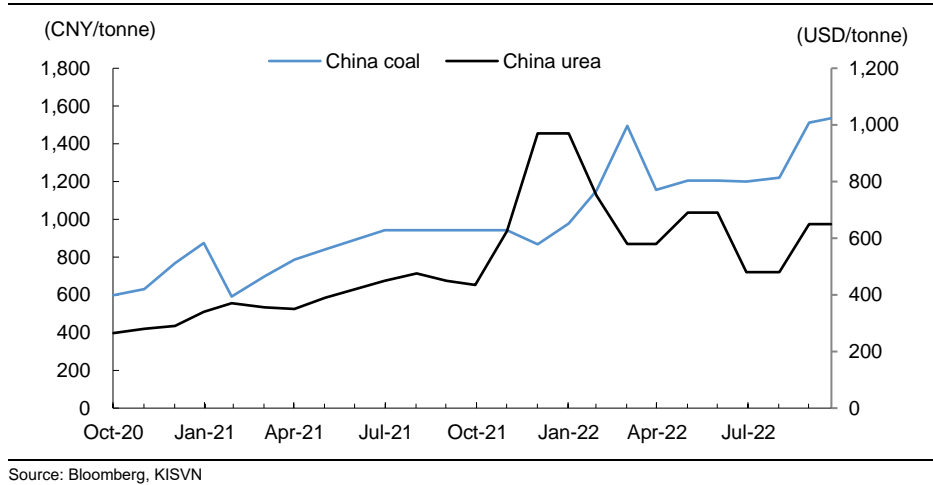


Greater demand will keep the coal price to remain near highs.

China's nitrogen fertilizer industry is unique in three respects. First, small-and-medium-sized manufacturing plants have accounted for a large share of output, whereas most of the world's nitrogen fertilizer is manufactured in large, centralized facilities. Second, China's nitrogen fertilizer industry is significantly more energy-and carbon-intensive than the global average. Third, in China coal has been the primary feedstock for the production of ammonia, the source of nitrogen in chemical fertilizers, while the rest of the world has relied primarily on natural gas.

The rise in coal prices in 2021 could be attributed to a resurgence of demand after the pandemic, especially in emerging markets such as China and India, but also in the EU and the US. Electricity demand, which remains closely linked to coal, was estimated to raise by 5% in 2021 and a further 4% in 2022. the likelihood of a cold winter, constraints on the Chinese rail network, and a much-depleted hydro generation system after historic droughts may boost the prices of coal further. In Oct 2022, the thermal coal price in China jumped to CNY1,535/tonne, upped 157% yoy and 2% mom. According to CFIndustries, China thermal coal price could reach USD156/tonne (+9% yoy) in 2023F.

Figure 15. China coal and urea prices



3. The supply will improve but still not back to the pre-tension/COVID level

Figure 16. China urea export volume and value in 9M22

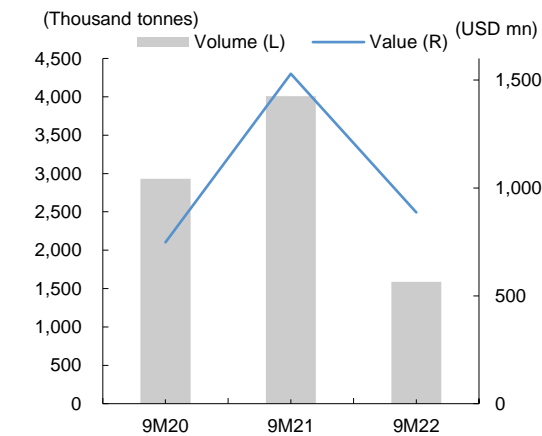
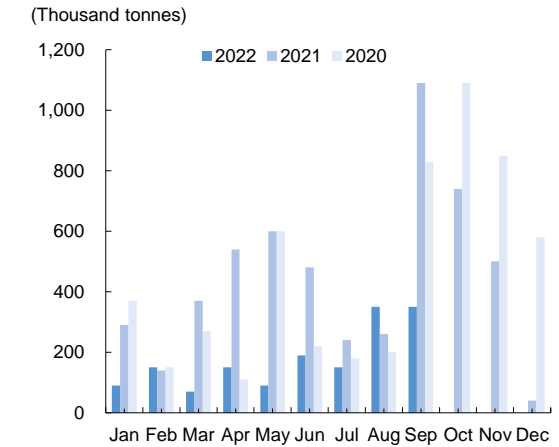


Figure 17. China urea export volume by months



Because of the political tension, export to the EU is interrupted. Therefore, Russia intends to shift to potential customers in Asia, such as India.

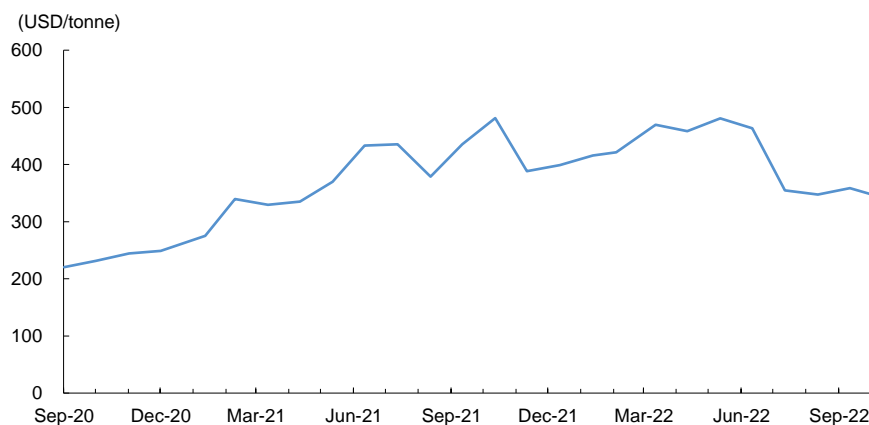
At the beginning of Jun 2022, Russia announced that they will continue to impose a quota on nitrogen and NPK fertilizer exports from Jul to Dec-22 to ensure supply in the domestic market. However, we believe this movement is more political than balancing domestic supply and demand. Russia is the largest nitrogen exporter thanks to abundant gas reserve. Russia exports to Eastern Europe the most. However, because of the political tension, export to this area is interrupted. Therefore, Russia intends to shift to potential customers in Asia, such as India. As we mentioned in food security part, we believe Russia can find the new clients that replacing EU members. Although Russia cannot fully replace the volume that it failed to sell to EU, the increasing export volume from Russia will put downward pressure on fertilizer prices.

Table 5. Fitch Ratings global fertilizers assumption

USD/tonne	2021	2022	2023	2024	2025	2026
Ammonia – FOB Middle East	530	1,000	750	450	300	280
Urea – FOB Middle East (Granular)	450	650	500	350	270	260
Phosphate Rock – FOB Morocco	135	270	160	90	90	90
DAP – FOB US Gulf Export	630	900	550	380	360	360
Potash – FOB Vancouver	275	600	460	350	230	230

Source: Fitch ratings, KISVN

According to The Times of India, the Indian Government is working on options to ensure fertilizer from Russia, including a mechanism to work out the cost of fertilizer in Rupee, and in return, the traders can export Indian items to Russia of similar value. With the strength of low input cost and with the abundance of inventory, Russia can offer to India a lower FOB price than the average global urea export price of USD600/tonne in Oct.

Figure 18. China urea FOB price

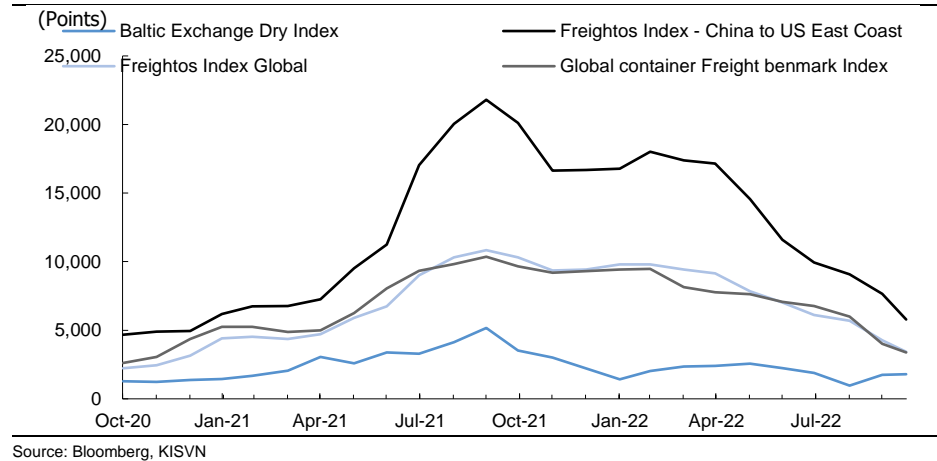
Source: Bloomberg, KISVN

In Jul 2021, China Government implemented measures to tighten their controls on fertilizer exports to ensure domestic supply until the end of Jun 2022. In 9M22, exports of urea in China were nearly 1.6mn tonnes (-60% yoy), equivalent to USD886mn (-42% yoy). This level was also far lower than the 2020's of 2.9mn tonnes. However, since Sep 2022, China starts loosening the policy to allow urea fertilizer exports to resume when the peak season has passed.

With low domestic demand and large capacity, urea producers will try to boost export volume, causing urea prices to drop rapidly. The price of China urea export offered in Oct was only USD347/tonne (-3% mom). We expect the current global supply tightening will be partly released when China's urea back to the market (see figure 18) and Russia re-target its urea to new market (India). These factors, therefore, could partly reduce the stress on global urea prices in 2023F-24F.

4. Distribution and supply chain disruptions are recovered

Figure 19. Global freight rate index



Fertilizer is traded globally and so can be impacted by multiple market factors beyond the control of producers. About 44% of fertilizers output is exported to different countries (source: Market Intel), so the fertilizer price is not only influenced by the cost of production but also by the transportation rates to get the fertilizer to its final destination. When fuel prices were up, the expense increased as fertilizer must be transported to on-farm use.

Global container freight rate index pike in Sep 2021 at 10,361 points, but then it fell steadily and reached 3,383 points in Oct 2022. Similarly, freightos index hit the bottom at 3,429 in Oct 2022, after falling from the top of 10,839 points in Sep 2021. After the COVID-19 breakdown, countries resumed trade and so international transportation became “smoother”. Based on that, we think the transportation costs are “affordable” to fertilizer exporters in both 4Q22F and 2023-24F.

5. The balance between supply and demand

The figure below shows the IFA forecast on the three nutrients’ capability based on announced capacity developments and historical trends. In the optimistic scenario, a modest decline in nitrogen capability of 0.2mn tonnes is forecast in 2022, while the pessimistic scenario suggests 5.7mn tonnes. For phosphate, a decline of 1.2mn tonnes is forecast in the pessimistic scenario, while the middle ground scenario results in a 0.4mn tonnes reduction in 2022. In the optimistic scenario, potash capability is forecast to be 4.1mn tonnes lower than in 2021, and in the pessimistic scenario is almost 9mn tonnes lower in 2022.

Between 2023 and 2026, the global capability is forecast to improve across all scenarios for both nitrogen and phosphate. In detail, nitrogen capability is expected to increase ranging from 113.4mn tonnes to 120mn tonnes in 2026, up from a base of 112.6mn tonnes in 2021. Phosphate capability is forecast to grow from 48.9mn tonnes in 2021 to between 50.7mn and 52.7mn tonnes across three scenarios in 2026. However, potash capability is forecast to remain below 2021 levels in all scenarios over the next five years. Overall, nitrogen fertilizer supply is expected to be dictated by a mix of availability and affordability constraints. Phosphate capability is forecast to be constrained by affordability, while potash is likely to be heavily constrained by availability.

Potash (K) capability is forecast to be most constrained, followed by nitrogen, and then phosphate

Global nitrogen consumption is forecast to decline by between 0-5%, phosphate consumption is forecast to contract by between 0-7%, and potash consumption is forecast to drop by between 1-13% in 2022F. In 2023F, all three nutrients are expected to recovery in all scenarios. In the medium-term (2024-26), global fertilizer demand is expected to continue its recovery, differentiated by scenarios.

6. Organic could substitute more

In long term, population growth leads to an increase in food demand, which will push up fertilizer consumption. However, using too many chemical fertilizers will rise concerns over both environment and the health security of people. Therefore, the general trend for the world is to use organic fertilizers or high-quality synthetic fertilizers such as NPK and DAP with the advantage of enhancing crop yield and saving. Synthetic fertilizer used in agriculture has wide-reaching environmental consequences. According to the Intergovernmental Panel on Climate Change (IPCC), the production of these fertilizers and associated land use practices are drivers of global warming.

To mitigate environmental concerns, the international community promises to create a climate-friendly and sustainable food production system. Most policies and regulations to address environmental issues are focused on sustainable or regenerative agricultural practices such as using less synthetic fertilizers, better soil management, and more organic fertilizers. For instance, India is building a farming practice called “zero budget natural farming” (ZBNF), which is carried out by covering the soil with organic matter and aerating the soil.

In addition, low-cost inputs such as cow dung and urine, jaggery, and vegetable garbage are used instead of chemical fertilizers. In China, regulations have been implemented to control the use of nitrogen fertilizers in farming. In 2008, China’s governments began to partially withdraw fertilizer subsidies, including subsidies for fertilizer transportation and electricity and natural gas use in the industry. In consequence, the price of fertilizer has gone up and large-scale farms have begun to use less fertilizer. If large-scale farms keep reducing their use of fertilizer subsidies, they have no choice but to optimize the fertilizer they have which would therefore gain an increase in both grain yield and profit.

7. Summary and conclusion

As we see the industry condition in 1H22 and whole 2022, which was caused by the combination of many issues in the short period, was extreme one, the improvement in any factors mentioned above will partly reverse the industry condition, then, have the impact on prices and volume. As for 2023F, we believe that the industry condition will be improved thanks to the improvement in input costs and supply sources, which will cool down the fertilizer prices compared to ones in 1H22.

Table 6. Factors that could affect global fertilizer industry in 2022-23F

Factors		Impact on fertilizer				Comment
		2022		2023F		
		Prices	Volume	Prices	Volume	
1	The concern about food security	+	+	+	+	Positive thanks to higher food demand from “food protectionism” threat.
2	The input prices	+		-		Political tension between Russia and the EU puts pressure on worldwide fertilizer prices. Greater demand will keep China's coal price at high level.
3	The supply from Russia and China	+	-	-	-	The comeback of Russia and China, however, will partly reduce the stress on global fertilizer prices.
4	The supply chain disruptions recovered	+	-	-	+	After the COVID-19 breakdown, countries resumed trade and so international transportation became “smoother”. Based on that, we think the transportation costs are “affordable” to fertilizer exporters in both 4Q22F and 2023-24F.
5	The global balance between supply and demand		+			According to the IFA, in 2023F, all three nutrients consumption are expected to recovery in all scenarios.
6	The trend of organic fertilizer					Neutral. In long term, population growth leads to an increase in food demand, which will push up fertilizer consumption. However, organic fertilizer will be encouraged due the health concerns.

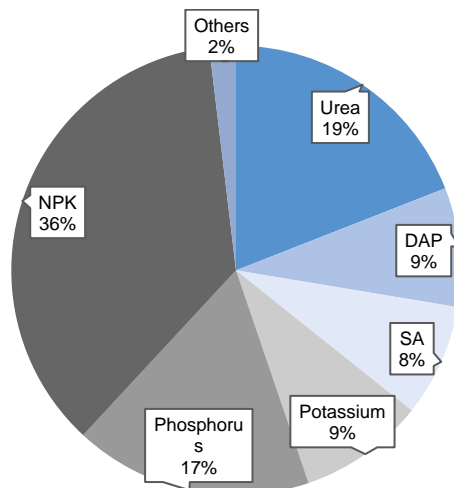
Source: KISVN

Note: (+) factors that have positive impact on prices/volume; (-) factors that negative impact on prices/volume.

IV. Viet Nam: Export chance to compensate the shortage dependence

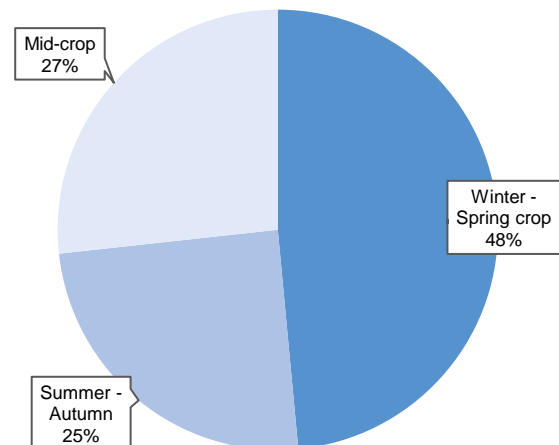
1. Autonomy of nitrogenous (N) fertilizer production

Figure 20. Viet Nam fertilizer demand on average



Source: MARD, KISVN

Figure 21. Fertilizer demand in rice crop as seasons



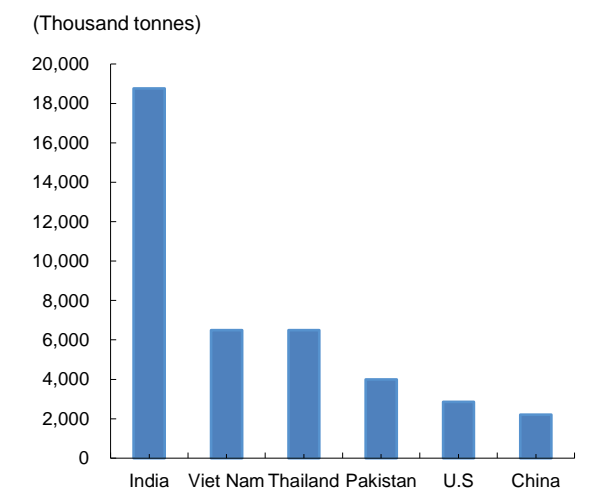
Source: MARD, KISVN

According to the Ministry of Agriculture and Rural Development (MARD), domestic demand for fertilizer is about 10.5mn tonnes/year, in which, urea/DAP/SA is 2mn/900,000/850,000 tonnes, potassium/phosphorus are 950,000/1.8mn tonnes and NPK is 3.8mn tonnes. The output from domestic firms provides about 7.5mn tonnes of fertilizer per year in total. Domestic fertilizer factories have produced most of the key fertilizers such as urea, phosphate, DAP, and NPK, while SA (ammonium sulfate) and potassium are still dependent on import.

According to the GSO, the area of rice cultivation accounts for about 25% of the total arable land. Viet Nam is among the top three largest rice exporting countries in the world. Therefore, the fluctuation of rice cultivation area will directly affect the annual fertilizer consumption. Viet Nam has three main rice production crops that are Winter-Spring crop, Summer-Autumn crop, and Mid-crop. The Winter-Spring crop is the rice crop with the largest proportion of output in the year, accounting for nearly 47% of the whole year's rice production. Fertilizers are accounted for about 33.1% of rice production costs.

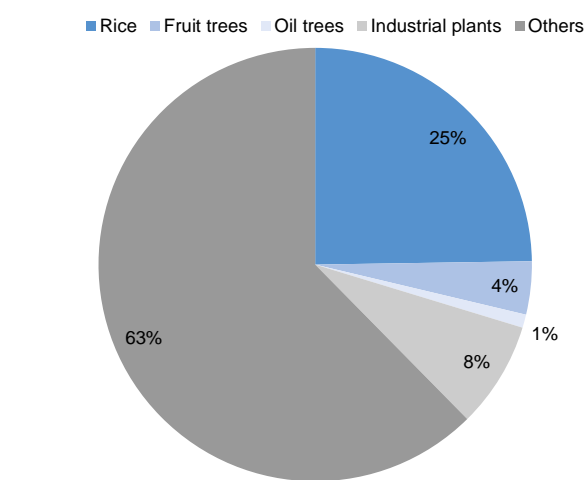
Viet Nam's fertilizer industry is dominated by two large groups which are Viet Nam Chemicals Group (Vinachem) and Petro Viet Nam (PVN). Petrovietnam Fertilizer and Chemical (DPM) and Ca Mau Petroleum Fertilizer (DCM) are the business unit of PVN. Currently, DPM and DCM accounted for more than 60% domestic urea market. While DPM and DCM use gas for urea production, business units under Vinachem (DHB: UPCoM) use coal as a material input. For urea, domestic capacity is nearly 2.7mn tonnes/year, including DPM/DCM/DHB with 800,000/800,000/500,000 tonnes/year. Thus, domestic urea production not only serves agricultural production but also has a surplus for export.

Figure 22. Top six rice exporting countries in 2021



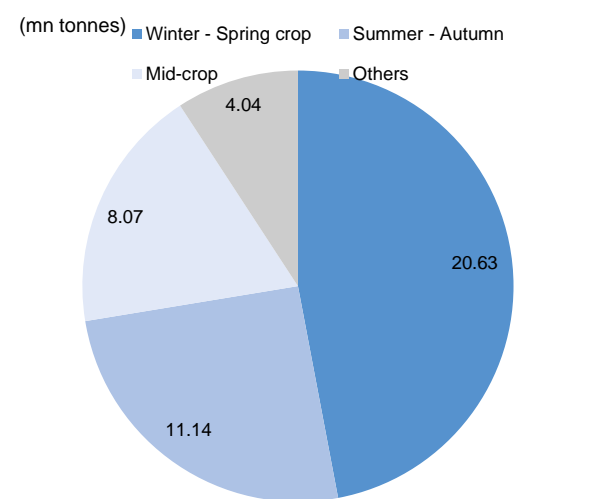
Source: Statista, KISVN

Figure 23. Proportion of arable land for crops



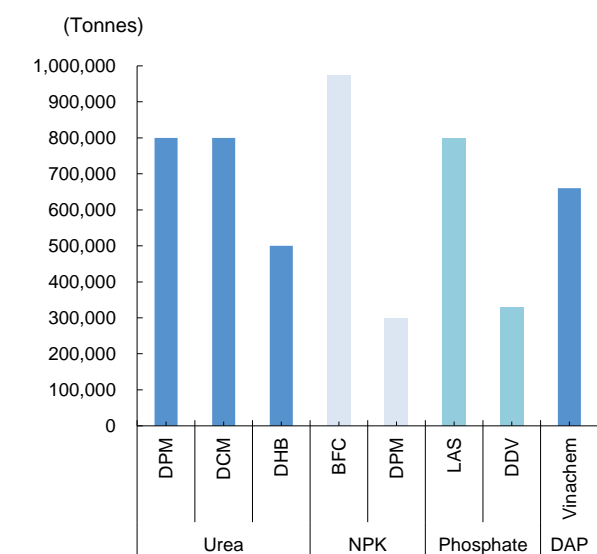
Source: GSO, KISVN

Figure 24. Rice production volume as crops in 2021



Source: GSO, KISVN

Figure 25. Capacity of fertilizer producer leaders in domestic market



Source: Company data, KISVN

Phosphate domestic capacity is about 1.2mn tonnes/year, in which DDV/LAS (business units of Vinachem) have a maximum capacity of 330,000/800,000 tonnes/year. The NPK production technology in Viet Nam is mostly quite simple, which mainly mixes N-P-K with a given ratio. There are three large NPK producers with advanced technology, which are BFC, DPM, and DCM. These firms use the technology of fusing the N-P-K compound and then adding other elements to create chemical reactions, helping the new-creating NPK fertilizer to be more permeable. Currently, BFC is the leader in the NPK market with a capacity of 975,000 tonnes/year. Leading in the DAP segment is the Vinachem group with the capacity of 660,000 tonnes/year.

Most of the positive export turnovers contributed from 4Q21 and 1Q22's.

2. Export gains in the global shortage supply period

According to the data we collected, we observe a jump in nitrogenous exports happened in from 4Q21 to 1Q22, when the world experienced a serve shortage of fertilizer. We call that the “once-in-a-lifetime” opportunity. In 2021 the value of nitrogenous fertilizer export was USD265mn (about 47% of total fertilizer export value), in which the export turnovers in 4Q21 contributed 58%. Moreover, total Vietnam’s nitrogenous exported in 9M22 was USD488mn (49% of total fertilizer export value), while contributed from those in 1Q22 was 48%. For instance, DPM’s urea exported in 9M21 was 9,600 tonnes but accumulated sharply to 64,000 tonnes for 2021 (4Q21: 54,400 tonnes). DPM’s urea turnovers in 9M22 mostly came from 1Q22 exports, which was 90,450 tonnes (9M22: 150,000 tonnes).

Based on the data we collected, Vietnam’s urea FOB price was the highest among big players such as Russia and China. Both Russia and China could be able to offer cheap nitrogen thanks to low production costs. In Oct, China urea’s FOB price was USD358/tonne, while those of Vietnam were USD735/tonne. Based on that, we believe the advantage that Vietnam enjoyed was a one-off event, and it is hard to happen again in both 4Q22F and 2023F due to the comeback of China and Russia in the global fertilizer battlefield. CFIndustries forecast that, in both 2022F and 2023F, China’s average urea production cost is about USD200 – USD300/tonne, while the total cost of Russia urea is under a lower range, which is about below USD180/tonne.

Table 7. Impact of main factors that drove Vietnam’s urea export volume over years

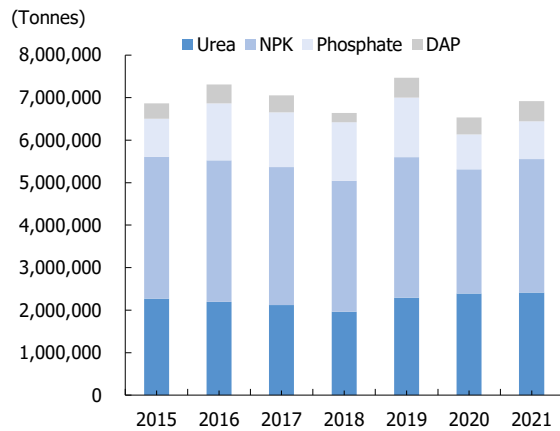
Factors	Time period	Impact			Note
		2021	2022F	2023F	
China limited urea export	Jul 2021 – Jun 2022	+	+	-	Since Sep 2022, China starts loosening the policy to allow urea fertilizer exports to resume (figure 18). With low domestic demand and large capacity, urea producers will try to boost export volume.
Russia limited nitrogenous fertilizers	Mar 2021 – Dec 2022	+	+	-	We believe this movement is more political than balancing domestic supply and demand. Russia intends to shift to potential customers in Asia, such as India.
Global demand is still high due to the “food protectionism” threat		+	+	+	Vietnam still has the “loyal” customers such as Cambodia. Korea is the potential customer of Vietnam. This country had to export a large amount of NH ₃ used in car engines.

Source: KISVN

Note: (+) factors that have positive impact on Vietnam’s urea export volume; (-) factors that have negative impact on Vietnam’s urea export volume

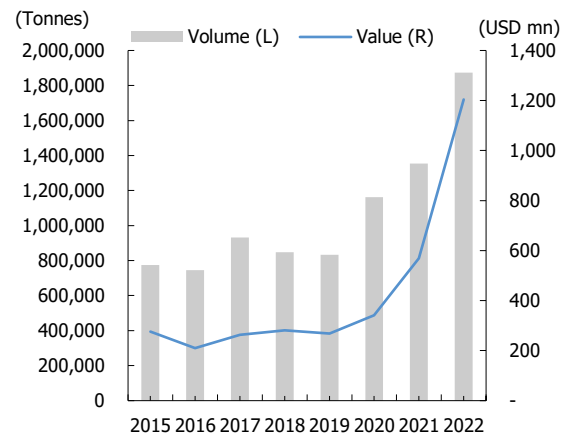
As we forecasted, Vietnamese urea producers cannot make money with urea prices below USD328/tonne in 2022. Our forecast assumes that Brent oil will reach USD102/tonne in 2022 and fall to USD88/tonne in 2023F (2021: USD71/tonne). According to data we collected, Russia’s main urea export markets in 2021 were Brazil, Finland, and the US, while those of China were India and Korea. In 2021, the main market of Vietnam’s urea export were Cambodia and India. Based on the data shown below, it could be said that both Russia and China had strength in certain markets and it may be hard for Vietnam to “step” into it. In 2023F, we forecast Vietnam’s urea production costs would be USD275/tonne, much higher than China’s and Russia’s of USD205/USD150/tonne. Thus, Vietnam does not have any advantage which can beat China and Russia.

Figure 26. Fertilizer domestic production from 2015 to 2021



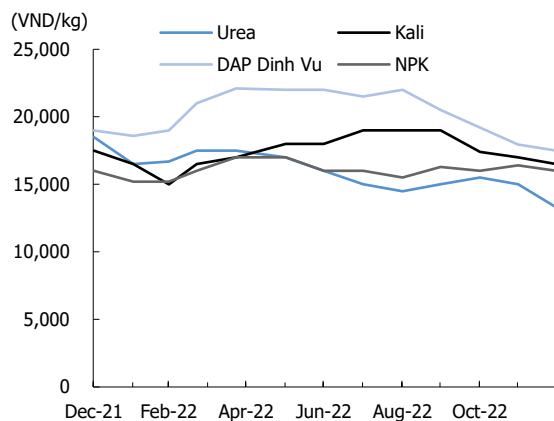
Source: MoIT, KISVN

Figure 27. Fertilizer export volume and value from 2015 to 2022



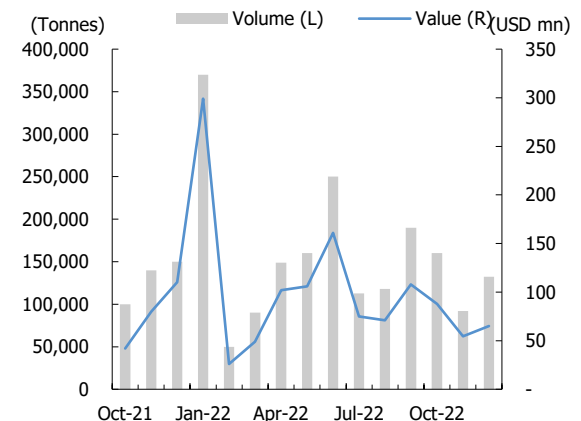
Source: MoIT, KISVN

Figure 28. Domestic selling prices



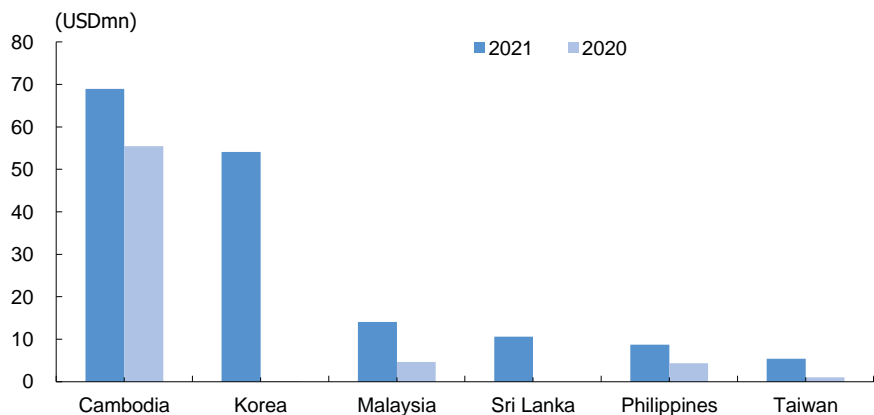
Source: Agromonitor, KISVN

Figure 29. Fertilizer export volume and value by months in 2022



Source: MoIT, KISVN

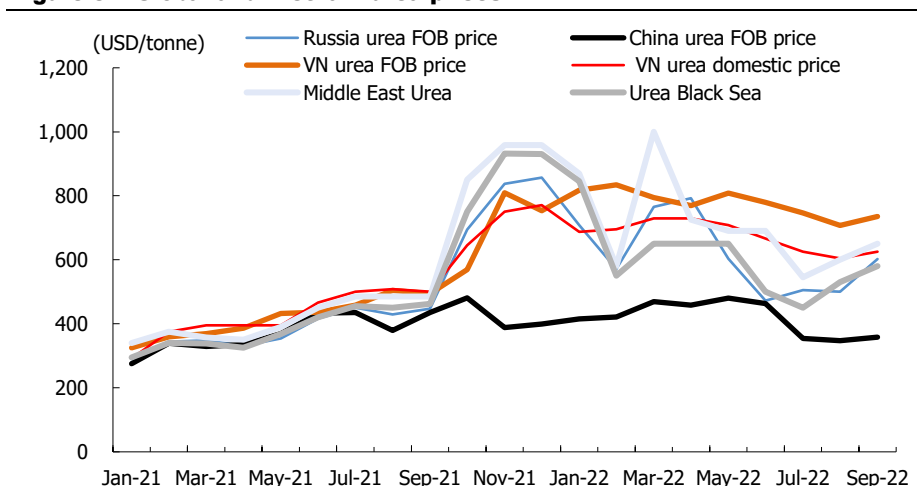
Figure 30. Top importers of Vietnam's nitrogenous fertilizer



Source: Trademap, KISVN

Vietnamese urea producers cannot make money with urea prices below USD328/tonne in 2022, while those of China are estimated at USD200/tonne.

Figure 31. Global and Vietnam urea prices



Source: Bloomberg, KISVN

3. Record all-time performance results in 2022

We believe that fertilizer could still achieve positive growth in revenue compared to 2021 thanks to higher selling prices and support from export volume. We think Vietnam's domestic fertilizer price to average around VND15-15.8mn/tonne in 2022, compared with VND11-12mn/tonne in 2021. In 2023F, we expect fertilizer selling prices could cool down more with a reduction of 15-20% yoy in average price. With that estimated plunge, it's unlikely for the market to witness a back-to-pre-pandemic level (around VND9mn-10mn/tonne).

In Oct, the gas input price was USD226/tonne, -4% mom. The average gas input price in 4Q22 was USD226/tonne, -13% vs the 3Q22 level. Based on the data collected from the top five companies, the gross margin of the fertilizer industry in 2022 could expand around 5.0%p – 6.2%p compared to the 2021 level (20.9%). The volume of the industry in 2022 could be up 10% -20% yoy. Nonetheless, in 2023F the sales volume could reduce by 14% yoy and revenue could fall 23% yoy. We forecast the gross margin of the fertilizer industry will decrease by around 3.0%p – 6%p yoy in 2023F.

4. Underlying risks are material

Due to the spiking in material prices, rice land cultivation has decreased and hence the demand for affordable fertilizer.

According to the Department of Agricultural and Rural Development of Dong Thap province, the area of rice in 2021's Winter-Spring crop was downed 2% yoy. In An Giang province, the area for rice seeding in Summer-Autumn/22 crop was reduced by 600ha over the same period last year. For a country with a large rice crop area like Vietnam, the reduction of the cultivated area could raise a concern about national food security and export advantage. The main reason is that when the fertilizer prices stay at a high level, the input costs exceed the farmer's tolerance threshold and so farming does not bring profit. As a result, farmers are forced to leave the farm and find another job for a living. Therefore, the amount of fertilizer consumption may reduce.

Due to the spiking in material prices, rice land cultivation has decreased. In Dong Thap province, the rice cultivation from the beginning of 2022 up to now is 375 thousand hectares, down 2% yoy. Similarly, Tra Vinh's authorities reported that in the Summer-Autumn crop they are going to grow more than 74,000 hectares of rice, but by mid-May 2022, the capacity just reached 42.3% compared to the plan. To prevent the risk that farmers leaving the farm because of loss, the Ministry of Agriculture and Rural Development (MARD) and local

Proposing a 5% export tax could alleviate the competitiveness of Vietnam's export fertilizer

authorities are going to introduce guidance to support farmers. According to the MARD, the development orientation of Vietnam's agriculture to 2030 is in the direction of developing large-scale production, focusing on quality rather than quantity, thereby reducing resource exploitation and production costs.

In addition, the industry should flexibly use land crops to both ensure national food security and improve land use efficiency. At the same time, farmers need to convert inefficient rice land to other crops with higher capacity such as vegetables, legumes, and fruit. Farmers are encouraged to use a fertilizer that has many functions like NPK or those that are friendly to the environment like organic fertilizer. We believe microbial fertilizer will make a positive contribution to the revenue structure of fertilizer producers.

Moreover, proposing to impose a 5% export tax on fertilizer could be seen as an attempt to control prices and ensure domestic supply from the Ministry of Finance (MoF). Therefore, we believe under pressure from agricultural associations as well as calls from the Government, fertilizer producers should demonstrate their efforts in adjusting pricing policy, ensuring farmers do not leave the farm.

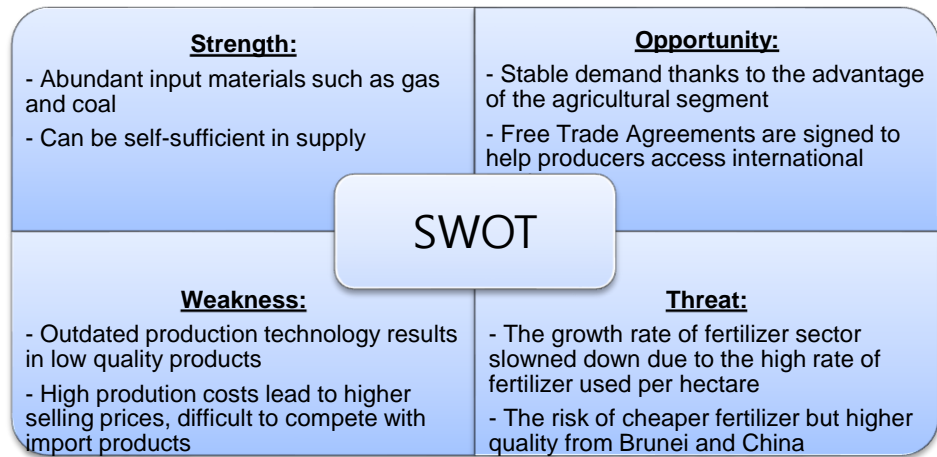
V. Conclusion and rating

We believe the advantage that Vietnam enjoyed in both 2H21 and 1H22 was a one-off event, and it is hard to happen again in both 4Q22F and 2023F due to the comeback of China and Russia in the global fertilizer battlefield. However, because of global political tension, the fertilizer supply could shrink in certain nations. Although Vietnam's fertilizer export volume in 2023F could not beat 2022's, we think it could increase by about 10% - 15% compared to 2021's (2021: 1.3mn tonnes). Based on that, we rate the sector **NEUTRAL**.

Table 8. Companies summary

Ticker	DPM	DCM	DHB	BFC	LAS	DGC
Main products	Urea	Urea	Urea	NPK	Phosphate	P ₄ /H ₃ PO ₄
Feedstock	Gas	Gas	Coal	SA/Urea	Apatite/Sulfur	Apatite
Capacity (tonnes/year)	800,000	800,000	500,000	975,000	800,000	72,000
Main markets	Southeast Vietnam	Southwest Vietnam, Cambodia	Northern Vietnam	Southeast Vietnam, Southwest Vietnam	Northern Vietnam	China, India, Japan
% Export revenue	8%	20%	n.a	13%	n.a	68%
Revenue in 2021 (VNDbn)	13,117	9,870	4,499	4,646	2,801	9,550

Source: Company data, KISVN



Our recommendations are DPM (HOLD, TP: VND50,400) and DCM (HOLD, TP: VND32,500), based on:

- 1) DPM and DCM are two leaders in urea market. They have advantage of capacity and product quality to be able to participate in bidding for urea export packages, especially to India;
- 2) DPM and DCM account for about 65% domestic urea market. Therefore, the pricing policy of these two companies could have a significant impact on the whole industry.



Company Analysis

PetroVietnam Fertilizer & Chemicals (DPM)

CaMau Petroleum Fertilizer & Chemicals (DCM)

PetroVietnam Fertilizer (DPM)

HOLD (Initiate), TP VND50,400

Stock price (10 Jan, VND)	42,100
Market cap (USD mn)	703
Shares outstanding (mn)	391
52W High/Low (VND)	69,175/34,550
6M avg. daily turnover (USD mn)	5.25
Free float (%)	35.5
Foreign ownership (%)	19.3
Major shareholders (%)	
Vietnam Oil Gas Corporation	59.6
Dragon Capital	8.1

Yr to	Sales	OP	NP	EPS	% chg	EBITDA	PE	EV/EBITDA	PB	ROE	DY
Dec	(VND bn)	(VND bn)	(VND bn)	(VND)	(YoY)	(VND bn)	(x)	(x)	(x)	(%)	(%)
2020A	7,762	666	691	1,766	77.4	1,216	26.6	23.0	2.2	8.6	38.3
2021A	12,786	3,543	3118	7,966	351.0	4,079	5.9	3.8	1.7	33.5	33.5
2022E	19,862	7,011	5,989	15,148	90.2	7,555	3.4	1.4	1.4	50.4	5.7
2023F	15,042	4,690	4,132	10,452	(31.0)	5,237	4.4	1.4	1.2	28.9	8.9
2024F	14,895	4,102	3,603	9,334	(10.7)	4,653	5.0	1.0	1.0	20.8	10.3

2022F will be a sublime year thanks to high selling prices and increasing export volume

HOLD and TP of VND50,400. We initiate the coverage of DPM with HOLD rating based on the outlook in 2023F-24F. Our target price of VND50,400 is based on the combination of forward PE of 4.0x (lower than 2022's average) on the average EPS over 2022F-23F (70% weight) and DCF valuation over 5-year projection period (30% weight). We use a WACC at 20.3% assuming: 1) a risk-free rate of 5.5%, 2) a beta of 1.39 and 3) an equity risk premium of 11.0% and terminal growth rate of 1%.

2023F-24F earnings growth could cool off. We forecast EPS will post a forward CARG of 4.4% in 2022F-24F thanks to the excellent 2022F's EPS. In which, we expect the urea sales volume in 2022F will up by 22% yoy but down by 12% yoy in 2023F. Average selling price could jump by 39% yoy in 2022F but decline by 15% yoy in 2023F amid the re-balance of global urea production.

Abundant of cash. We estimate the DPM's cash bunker could be enriched in 2022F-23F since DPM could ramp up export to fill the global shortage. A healthy balance sheet with no significant CAPEX plan could facilitate DPM's pursuit of a dividend payout ratio of 50-60% in 2022F-23F. The stockholders could enjoy a dividend yield of 12-15% p.a, significantly higher than the current deposit yield of 6-9% p.a.

Company overview

PetroVietnam Fertilizer and Chemicals (DPM: HSX) is a member unit of Vietnam Oil and Gas Group, started operating on Jan 19th, 2004. On Nov 5th, 2007, the Company officially listed its shares on the stock market, with stock code DPM. Currently, DPM is the largest fertilizer company in Vietnam with a urea domestic market share of 35% and the urea capacity of 800,000 tonnes/year.

Performance

	1M	6M	12M
Absolute (%)	(2.0)	(1.7)	7.3
Relative to VNI (%p)	(2.3)	6.5	35.7

Stock price trend



Source: Bloomberg

Research Dept

researchdept@kisvn.vn

Table 15. Cost of equity

Item	%
Beta	1.31
Risk free rate	5.5
Equity risk premium	11.0
Cost of equity	20.8

Source: KISVN

Table 16. WACC calculation

Item	%
Cost of debt	7.0
Target debt to capital	3.4
Tax rate	20.0
WACC	20.3

Source: KISVN

Table 17: DCF Valuation

(VNDbn)

FCFF	2023F	2024F	2025F	2026F	2027F	2028F
EBIT	4,690	4,102	2,776	1,890	1,970	2,062
less: tax	(913)	(802)	(557)	(402)	(418)	(437)
add: depreciation	547	550	553	560	560	560
less: capex	(79)	(79)	(79)	(79)	(79)	-
(increase) / decrease in NWC	571	181	228	72	(36)	(52)
Unlevered free cash flow	5,267	4,008	3,093	2,248	2,314	2,460
PV of FCF	5,267	842	526	315	278	246
PV of Terminal Value	1,287					
Total PV of Operations	10,244					
Discount factor	20.3%					
Plus: Cash	11,809					
Less: Debt	(570)					
Less: Minority Interest	(403)					
Equity Value	19,000					
Shares Outstanding, Million	391					
Target price at end-2023 (VND- rounded)	48,593					

Source: KISVN

Table 18. Blended Valuation

(VND)

Metrics	Implied price	Weight	Weight value
Price/EPS, 1-yr forward at 4.0x	51,200	70%	35,840
DCF	48,593	30%	14,578
Consensus DPM's target share price (rounded)			50,400

Source: KISVN

Table 8. Earnings estimates

(VND bn, %, tonnes)

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22F	1Q23F	2Q23F	3Q23F	4Q23F	2021	2022F	2023F
Revenue	1,945	2,931	2,824	5,086	5,829	5,013	3,885	5,135	3,900	3,712	3,621	3,808	12,786	19,862	15,041
yoy	14.6	34.5	44.5	163.5	199.7	71.0	37.6	1.0	(33.1)	(26.0)	(6.8)	(25.8)	64.7	55.3	(24.3)
Urea sales volume	95,130	237,000	180,120	228,450	247,000	220,000	195,000	243,000	200,000	200,000	200,000	200,000	740,700	905,000	800,000
GP	433	940	1,041	2,732	2,823	1,931	1,489	2,054	1,521	1,448	1,412	1,485	4,786	8,297	5,866
yoy	27.7	64.8	140.3	512.3	552.5	105.4	43.0	(13.4)	(46.1)	(25.0)	(5.2)	(27.7)	176.7	73.4	(29.3)
OP	283	779	835	2,071	2,604	1,582	1,130	1,797	1,307	1,225	1,195	1,257	3,543	7,011	4,984
yoy	41.6	78.6	190.5	1,262.3	820.8	125.7	54.6	(5.7)	(47.8)	(22.6)	5.8	(30.1)	269.0	97.9	(28.9)
EBT	215	812	762	2,009	2,552	1,634	1,213	1,031	1,331	1,266	1,235	1,299	3,801	6,400	5,131
yoy	67.2	122.8	239.8	1,415.5	1,071.1	101.2	59.2	(48.7)	(47.2)	(22.5)	1.8	26.0	348.3	78.6	(19.8)
NP	179	694	630	1,668	2,126	1,291	1,001	928	1,131	1,076	1,050	1,104	3,171	5,393	4,361
yoy	68.3	125.0	245.2	1,468.2	1,087.8	86.0	58.9	(44.4)	(46.8)	(19.6)	4.9	19.0	352.0	80.2	(19.1)

Source: Company data,
KISVN

Balance sheet

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Current assets	6,314	9,520	12,833	15,106	17,383
Cash & cash equivalents	4,214	5,979	8,720	11,809	13,997
Accounts & other receivables	341	489	931	684	661
Inventory	1,468	2,776	2,547	2,162	2,308
Non-current assets	4,986	4,398	3,864	3,385	2,898
Fixed assets	4,283	3,717	3,348	2,880	2,408
Investment assets	417	429	245	235	225
Others	576	528	906	720	681
Total assets	11,300	13,918	16,697	18,491	20,281
Advances from customers	123	124	199	124	124
Unearned revenue	0	0	0	0	0
Trade payables	453	771	932	810	884
Others	1,426	1,410	1,334	1,394	1,485
ST debt & due bonds	191	200	177	177	177
LT debt & bonds	859	701	524	347	170
Total liabilities	3,052	3,206	3,166	2,852	2,840
Controlling interest	8,085	10,515	13,210	15,235	16,965
Capital stock	3,914	3,914	3,914	3,914	3,914
Capital surplus	21	21	21	21	21
Other reserves	3,497	3,497	3,497	3,497	3,497
Retained earnings	655	3,085	5,780	7,805	9,535
Minority interest	163	197	319	403	475
Shareholders' equity	8,248	10,712	13,529	15,638	17,440

Income statement

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Sales	7,762	12,786	19,862	15,042	14,895
COGS	6,032	8,001	11,565	9,450	9,899
Gross profit	1,730	4,786	8,297	5,592	4,996
SG&A expenses	1,064	1,244	1,286	903	894
Operating profit	666	3,543	7,011	4,690	4,102
Financial income	180	176	211	317	327
Interest income	172	159	203	309	319
Financial expenses	95	75	104	47	35
Interest expenses	89	69	100	43	31
Other non-operating profit	95	153	0	0	0
Gains (Losses) in associates, subsidiaries and JV	2	3	0	0	0
Earnings before tax	95	3,800	6,400	4,960	4,394
Income taxes	146	628	1,007	744	791
Net profit	702	3,172	5,393	4,216	3,603
Net profit of controlling interest	691	3,118	5,989	4,132	3,531
EBITDA	1,216	4,079	7,555	5,237	4,653

Cash flow

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
C/F from operations	787	2,358	5,961	5,092	3,881
Net profit	702	3,172	5,393	4,216	3,603
Dep'n & Amort'n	550	537	0	0	0
Net incr. in W/C	(465)	(1,351)	568	876	278
C/F from investing	(1,066)	(1,174)	1,483	240	250
Capex	(82)	(79)	10	(69)	(69)
Incr. in investment	(984)	(1,095)	1,473	309	319
C/F from financing	(669)	(693)	(3,434)	(2,243)	(1,943)
Incr. in equity	0	0	0	0	0
Incr. in debt	(190)	(145)	(200)	(177)	(177)
Dividends	(479)	(548)	(3,234)	(2,066)	(1,766)
C/F from others	0	0	0	0	0
Increase in cash	(948)	491	4,011	3,089	2,189

Key financial data

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Per-share data (VND, adj.)					
EPS	1,766	7,966	15,148	10,452	8,931
BPS	21,073	27,368	34,565	39,953	44,558
DPS	1,225	1,400	8,263	5,279	4,511
Growth (%)					
Sales growth	1.0	64.7	55.3	(24.3)	(1.0)
OP growth	54.2	431.8	97.9	(33.1)	(12.5)
NP growth	83.0	351.0	92.1	(31.0)	(14.5)
EPS growth	77.4	351.0	90.2	(31.0)	(14.5)
EBITDA growth	54.2	431.8	113.3	(30.7)	(11.2)
Profitability (%)					
OP margin	8.6	27.7	35.3	31.2	27.5
NP margin	9.0	24.8	30.8	28.0	24.2
EBITDA margin	8.6	27.7	38.0	34.8	31.2
ROA	6.2	25.2	39.9	24.0	18.6
ROE	8.6	33.5	50.4	28.9	21.8
Dividend yield	38.3	33.5	5.7	8.9	10.4
Dividend payout ratio	69.3	17.6	60.0	49.0	49.0
Stability					
Net debt (VND bn)	(3,164)	(5,078)	(8,019)	(11,285)	(13,650)
Net debt/equity (%)	(40.0)	(50.0)	(60.0)	(70.0)	(80.0)
Valuation (x)					
PE	26.6	5.9	3.4	4.4	5.1
PB	2.2	1.7	1.4	1.2	1.1
EV/EBITDA	23.0	3.8	1.4	1.4	1.1

Ca Mau Fertilizer (DCM)

HOLD (Initiate), TP VND32,500

Stock price (10 Jan, VND)	26,250
Market cap (USD mn)	593
Shares outstanding (mn)	529
52W High/Low (VND)	45,725/24,632
6M avg. daily turnover (USD mn)	5.91
Free float (%)	20.3
Foreign ownership (%)	12.1
Major shareholders (%)	
Vietnam Oil Gas Corporation	75.6
PFI Fund	
8.5	

Yr to	Sales	OP	NP	EPS	% chg	EBITDA	PE EV/EBITDA	PB	ROE	DY
Dec	(VND bn)	(VND bn)	(VND bn)	(VND)	(YoY)	(VND bn)	(x)	(x)	(%)	(%)
2020A	7,561	644	661	1,249	61.7	1,962	24.5	22.1	2.6	10.6
2021A	9,870	1,920	1918	3,622	190.1	3,306	8.4	3.7	2.2	27.8
2022E	14,525	4,330	4,231	6,790	87.5	4,330	4.4	1.6	1.6	48.8
2023F	13,264	3,316	3,245	5,211	(23.3)	3,316	4.9	1.2	1.5	31.4
2024F	13,164	2,971	3,163	5,975	14.7	2,971	5.1	0.8	1.3	23.0

2022F will be an explore year

HOLD and TP of VND32,500. We initiate the coverage of DCM with HOLD rating based on the outlook in 2023F-24F. DCM benefited from the skyrocket of the selling price to boost their 2022's business results. DCM could achieve revenue of VND14,525bn (+46% yoy) and NPAT of VND3,661bn (+91% yoy) in 2022, implying a VND6,790 EPS. Our target price of VND32,500 is based on the combination of forward PE of 4.0x (lower than 2022's average) on the average EPS over 2022F-23F (70% weight) and DCF valuation over 5-year projection period (30% weight). We use a WACC at 19.2% assuming: 1) a risk-free rate of 5.5%, 2) a beta of 1.39 and 3) an equity risk premium of 11.0% and terminal growth rate of 1%.

Prospect investments. DCM firstly introduced self-produced NPK products to the domestic market in Apr 2021, which promises to fuel DCM's revenue growth in the coming year. NPK consumed volume was estimated at 80,000 tonnes in 2022, which contributed VND1,050bn to the company's total turnover. The project of converting and supplying raw CO₂ is entering its final stage, which is expected to help increase urea capacity by 110,000 tonnes/year. In the long-term, DCM has a plan to invest in the microbial fertilizer segment. In 2021, the company placed an order with a trial production partner for 9,000 tonnes of microbial organic fertilizer.

DCM plans to build strategic storage chains in the Southwestern provinces to serve the need for stockpiling and distribution. According to the company data, DCM accounted for about 30%/61% market share of Central Highland and Southwestern. By expanding the distribution network, the company believes they can increase their market share in these two key markets. Recently, DCM is one of the leading firms in the field of microbial fertilizer. In 2021, DCM successfully tested and produced 7,000 tonnes of organic fertilizer products. The company aims to produce about 22,000 tonnes of organic fertilizer by 2022 and set a target of 240,000 tonnes in 2024.

Company overview

PetroVietnam Ca Mau Fertilizer (DCM: HXS) was established in 2011. The company's products include cloudy urea, mainly distributed in the Southwest, the South, and the Mekong Delta. The company's products are also exported to Asian markets, especially Cambodia. The company directly owns a urea factory with a design capacity of 800,000 tonnes/year. DCM has been listed and traded on the Ho Chi Minh City Stock Exchange (HOSE) since Mar 2015.

Performance

	1M	6M	12M
Absolute (%)	(8.2)	(5.1)	(12.2)
Relative to VNI (%p)	(8.6)	3.1	16.2

Stock price trend



Source: Bloomberg

Research Dept

researchdept@kisvn.vn

Table 15. Cost of equity

Item	%
Beta	1.39
Risk free rate	5.5
Equity risk premium	11.0
Cost of equity	20.8

Source: KISVN

Table 16. WACC calculation

Item	%
Cost of debt	4.0
Target debt to capital	9.1
Tax rate	20.0
WACC	19.2

Source: KISVN

Table 17: DCF Valuation

(VNDbn)

FCFF	2023F	2024F	2025F	2026F	2027F	2028F
EBIT	3,316	2,971	1,674	784	806	837
less: tax	(369)	(351)	(231)	(237)	(154)	(158)
add: depreciation	1,409	1,425	17	17	23	40
less: capex	(157)	(415)	(157)	(415)	(157)	(415)
(increase) / decrease in NWC	1,159	(300)	492	492	175	(295)
Unlevered free cash flow	5,485	3,458	2,514	881	1,085	580
PV of FCF	5,485	2,905	1,760	520	543	244
PV of Terminal Value	1,352					
Total PV of Operations	16,847					
Discount factor	19.2%					
Plus: Cash	11,426					
Less: Debt	(1,094)					
Less: Minority Interest	(179)					
Equity Value	23,765					
Shares Outstanding, Million	529					
Target price at end-2023 (VND- rounded)	44,924					

Source: KISVN

Table 18. Blended Valuation

(VND)

Metrics	Implied price	Weight	Weight value
Price/EPS, 1-yr forward at 4.0x	27,172	70%	19,020
DCF	44,924	30%	13,477
Consensus DCM's target share price (rounded)			32,500

Source: KISVN

Table 3. DCM's Earnings estimates

(VND bn, %, tonnes)

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22E	1Q23F	2Q23F	3Q23F	4Q23F	2021	2022E	2023F
Revenue	1,873	2,364	1,812	3,907	4,075	4,084	3,307	3,059	3,447	3,299	3,179	3,339	9,870	14,525	13,264
yoy	39.1	22.5	-10.3	72.3	117.6	72.8	82.5	(21.7)	(15.4)	(19.2)	(3.9)	9.2	30.5	45.9	(8.7)
Urea sales volume	216,000	205,130	164,770	238,000	220,000	175,000	180,000	170,000	200,000	200,000	200,000	200,000	823,900	745,000	800,000
GP	267	528	583	1,476	1,977	1,353	1,007	1,009	1,206	1,155	1,113	1,169	2,854	5,346	4,643
yoy	33.5	26.7	127.0	231.0	639.7	156.3	72.7	(31.6)	(39.0)	(14.6)	10.5	15.9	116.3	87.3	(13.2)
OP	133	295	357	1,134	1,556	1,048	708	1,018	861	825	795	835	1,920	4,330	3,316
yoy	32.6	12.9	314.2	454.6	1,068.4	255.3	98.3	(10.2)	(44.7)	(21.3)	12.3	(18.0)	194.3	125.6	(23.4)
EBT	161	323	393	1,176	1,607	1,118	786	387	958	917	883	928	2,056	3,898	3,686
yoy	61.3	13.9	257.2	410.6	895.3	246.1	100.0	(67.1)	(40.4)	(18.0)	12.3	139.8	186.8	89.9	(5.4)
NP	152	297	374	1,096	1,512	1,039	731	373	862	825	795	835	1,921	3,661	3,317
yoy	63.9	11.2	265.0	428.7	901.0	249.8	95.5	(66.0)	(43.2)	(20.6)	8.8	123.9	189.7	90.8	(9.4)

Source: Company data, KI.

Balance sheet

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Current assets	3,978	7,276	11,914	14,190	16,523
Cash & cash equivalents	2,812	4,790	7,841	11,426	13,677
Accounts & other receivables	217	188	523	338	325
Inventory	834	2,204	3,376	2,266	2,376
Non-current assets	4,739	3,796	2,547	1,325	360
Fixed assets	3,955	3,406	2,418	1,166	156
Investment assets	761	66	0	0	0
Others	138	419	302	318	348
Total assets	8,718	11,072	14,461	15,515	16,883
Advances from customers	118	286	145	124	124
Unearned revenue	0	0	0	0	0
Trade payables	709	795	1,275	1,016	851
Others	742	1,821	2,151	2,775	3,233
ST debt & due bonds	685	689	689	689	689
LT debt & bonds	137	3	0	0	0
Total liabilities	2,391	3,594	4,260	4,604	4,897
Controlling interest	6,300	7,451	10,089	10,731	11,744
Capital stock	5,294	5,294	5,294	5,294	5,294
Capital surplus	0	0	0	0	0
Other reserves	423	970	970	970	970
Retained earnings	584	1,188	3,826	4,468	5,481
Minority interest	26	27	113	179	242
Shareholders' equity	6,326	7,478	10,202	10,910	11,986

Income statement

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Sales	7,561	9,870	14,525	13,264	13,164
COGS	6,244	7,016	9,179	8,621	8,877
Gross profit	1,317	2,854	5,346	4,643	4,287
SG&A expenses	673	934	1,016	1,327	1,316
Operating profit	644	1,920	4,330	3,316	2,971
Financial income	128	168	240	392	571
Interest income	112	131	240	392	571
Financial expenses	63	34	16	28	28
Interest expenses	43	8	16	28	28
Other non-operating profit	8	2	0	0	0
Gains (Losses) in associates, subsidiaries and JV	0	0	0	0	0
Earnings before tax	717	2,056	4,554	3,680	3,514
Income taxes	55	135	237	369	351
Net profit	662	1,921	4,317	3,311	3,163
Net profit of controlling interest	661	1,918	4,231	3,245	3,100
EBITDA	1,962	3,306	4,330	3,316	2,971

Cash flow

(VND bn)

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
C/F from operations	1,781	2,569	4,121	5,466	3,717
Net profit	662	1,921	4,317	3,311	3,163
Dep'n & Amort'n	1,318	1,386	0	0	0
Net incr. in W/C	(199)	(738)	(196)	2,155	554
C/F from investing	(462)	(2,102)	(109)	235	2,217
Capex	(273)	(157)	(349)	(157)	(415)
Incr. in investment	(189)	(1,945)	240	392	2,632
C/F from financing	(1,280)	(549)	(962)	(2,116)	(1,623)
Incr. in equity	0	0	0	0	0
Incr. in debt	(961)	(124)	(3)	0	0
Dividends	(320)	(425)	(959)	(2,116)	(1,623)
C/F from others	0	0	0	0	0
Increase in cash	39	(82)	3,051	3,586	4,311

Key financial data

FY-ending Dec.	2020A	2021A	2022E	2023F	2024F
Per-share data (VND, adj.)					
EPS	1,249	3,622	6,790	5,211	4,977
BPS	11,950	14,126	19,270	20,609	22,641
DPS	604	803	1,811	3,996	3,065
Growth (%)					
Sales growth	7.4	30.5	47.2	(8.7)	(0.8)
OP growth	63.5	198.2	125.5	(23.4)	(10.4)
NP growth	55.2	190.1	120.6	(23.3)	(4.5)
EPS growth	61.7	190.1	87.5	(23.3)	(4.5)
EBITDA growth	63.5	413.4	73.4	(17.6)	(7.0)
Profitability (%)					
OP margin	8.5	19.5	29.8	25.0	22.6
NP margin	8.8	19.5	29.7	25.0	24.0
EBITDA margin	8.5	33.5	39.5	35.6	33.4
ROA	7.0	19.4	33.8	22.1	19.5
ROE	10.6	27.8	48.8	31.4	27.6
Dividend yield	50.6	38.0	16.9	7.6	10.0
Dividend payout ratio	78.2	64.3	50.0	57.8	48.9
Stability					
Net debt (VND bn)	(1,990)	(4,098)	(7,151)	(10,737)	(12,988)
Net debt/equity (%)	(30.0)	(50.0)	(70.0)	(100.0)	(110.0)
Valuation (x)					
PE	24.5	8.4	4.4	4.9	5.1
PB	2.6	2.2	1.6	1.5	1.3
EV/EBITDA	22.1	3.7	1.6	1.2	0.8

■ **Guide to KIS Vietnam Securities Corp. stock ratings based on 12-month forward performance**

- BUY: Expected total return will be 15%p or more
- Hold: Expected total return will be between -5%p and 15%p
- Sell: Expected total return will be -5%p or less
- KIS Vietnam Securities Corp. does not offer target prices for stocks with Hold or Sell ratings.

■ **Guide to KIS Vietnam Securities Corp. sector ratings for the next 12 months**

- Overweight: Recommend increasing the sector's weighting in the portfolio compared to its respective weighting in the VNIndex based on market capitalization.
- Neutral: Recommend maintaining the sector's weighting in the portfolio in line with its respective weighting in the VNIndex based on market capitalization.
- Underweight: Recommend reducing the sector's weighting in the portfolio compared to its respective weighting in the VNIndex based on market capitalization.

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