



*cutting through complexity™*

# Georgian National Investment Agency

Chemical Sector Research  
Mineral Fertilizer and nitrogen  
compounds

April 2015



*Our findings, observations and/or recommendations are those that we could reasonably derive from the procedures or scope of services performed. The specific procedures performed were agreed with Georgian National Investment Agency (the Client) and were performed by us as set forth in the Report.*

*Our work was carried out solely based on the publicly available research data.*

*We have indicated within our Report the sources of the information presented and have satisfied ourselves, so far as possible, that the information presented in our Report is consistent with other information which was made available to us in the course of our work in accordance with the terms of the Contract. We have not, however, sought to establish the reliability of the sources by reference to other evidence.*

*All recommendations, provided to you with/in this Report that refer to the future have some limitations in the sense that they are based on the assumptions valid on the issuance date. These assumptions could change with time, after the date of this Report issuance, and so could lose their value.*

*References to 'KPMG Analysis' in this Report indicate only that we have (where specified) undertaken certain analytical activities on the underlying data to arrive at the information presented; we do not accept responsibility for the underlying data.*

**In 2013 the global fertilizer market value decreased by 8.8%**

**The global fertilizer market forecast for 2018 is 199,949 thousand tones, which is an increase of 14.4% since 2013**

Fertilizers are commodity chemicals that contain nitrogen, phosphorous, or potassium and are designed to improve the growing potential of soil. Taking into account the growing population of earth, need for food and the limited capacity of the agricultural land the use of measures for increasing the productivity of land is growing.

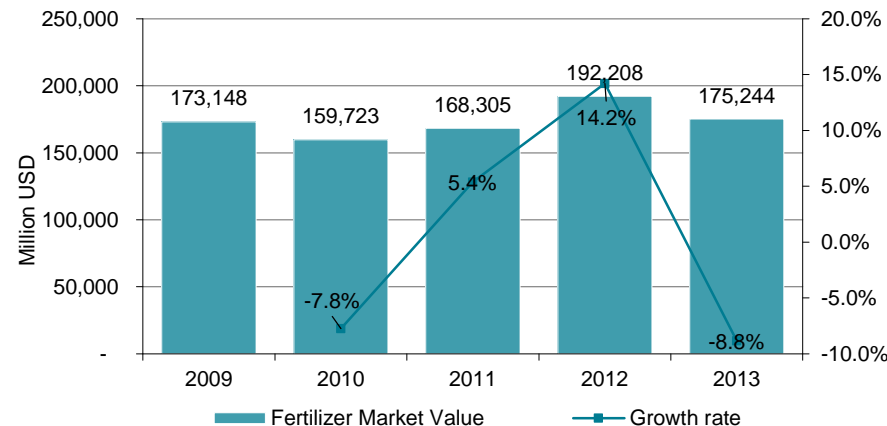
Fertilizers may be considered as one of the most efficient means of increasing crop yields and quality. The main types of fertilizers are nitrogen fertilizers, phosphorous fertilizers and potassium fertilizers.

In 2013 the global fertilizer market shrank by 8.8% to reach USD 175.2 billion. The compound annual growth rate (CAGR) of the market in the period 2009- 2013 was 0.3%.

The fertilizer market volume is the annual agricultural consumption of manufactured fertilizer containing nutrients nitrogen (N), potash (K<sub>2</sub>O), and phosphates (P<sub>2</sub>O<sub>5</sub>). The global fertilizer market volume grew by 1.5% in 2013 to reach a volume of 174,832 thousand tones CAGR of 3.2%. The market's volume is expected to increase to 199,949 thousand tones by the end of 2018, representing a CAGR of 2.7% for the period of 2013-2018 .

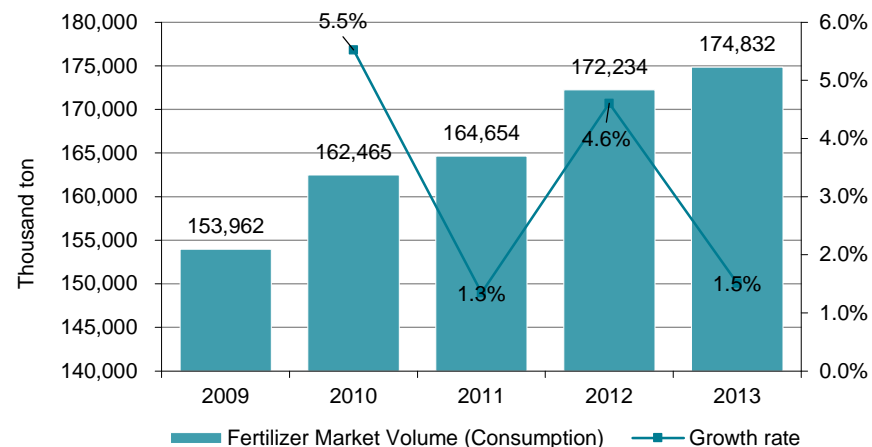
*Note: The market is valued at farmer's retail price, taking into account any applicable taxes and subsidized price reductions*

### Global Fertilizer Market value in 2009-2013



Source: MarketLine

### Global Market volume of fertilizers in 2009-2013



Source: MarketLine

**Nitrogen fertilizer is the largest segment of the global fertilizer market.**

**In 2013 the global import of fertilizers decreased by 8% compared with the previous year and reached USD 75.2 billion.**

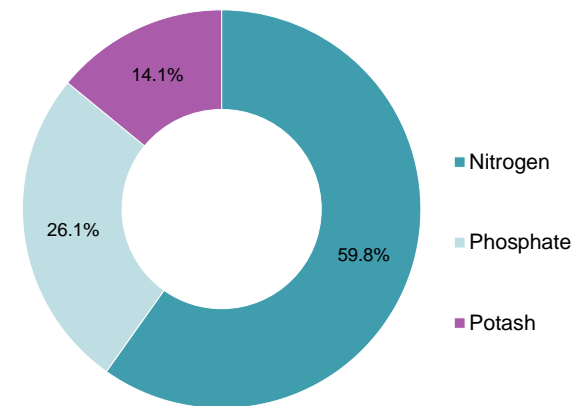
**Nitrogen fertilizer accounted for approximately USD 30 billion of the global import of fertilizers.**

Nitrogen fertilizer is the largest segment of the global fertilizer market, accounting for 59.8% (USD 104.8 billion) of the market's total value (revenues valued at farmer's retail price). The phosphate fertilizer segment accounts for a further 26.1% (USD 45.7 billion) of the market and the rest is potash fertilizer (USD 24.6 billion) .

In terms of geographical segmentation Asia-Pacific accounts for 69.3% (USD 121.3 billion) of the global fertilizer market value and Europe accounts for a further 15.8% (USD 27.6 billion) of the global market. Americas accounts for 13.2% (USD 23.1 billion) and Middle East and Africa for only 1.8% (USD 3 billion)

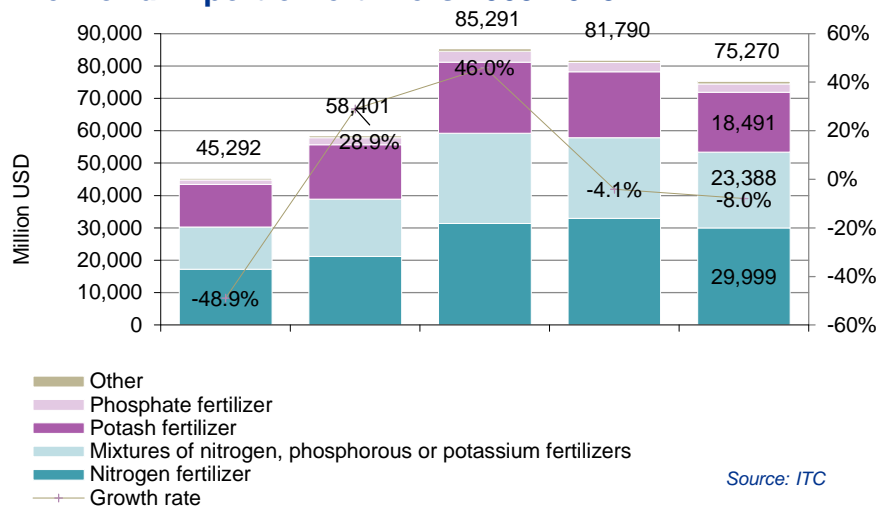
In 2013 the global import of fertilizers shrank by 8% compared with the previous year to reach USD 75.2 billion.

**Global fertilizer market segmentation by main fertilizer types 2013**



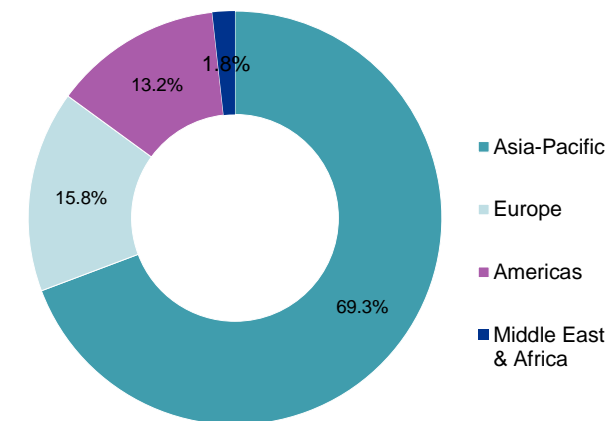
Source: MarketLine

**The world import of fertilizers 2009-2013**



Source: ITC

**Global fertilizer market segmentation 2013**



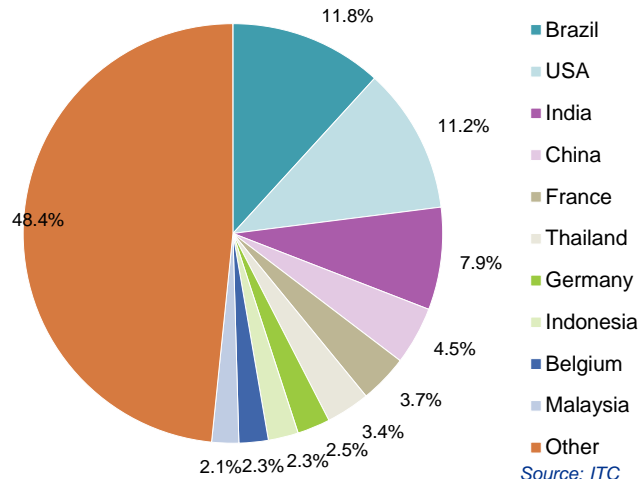
Source: MarketLine



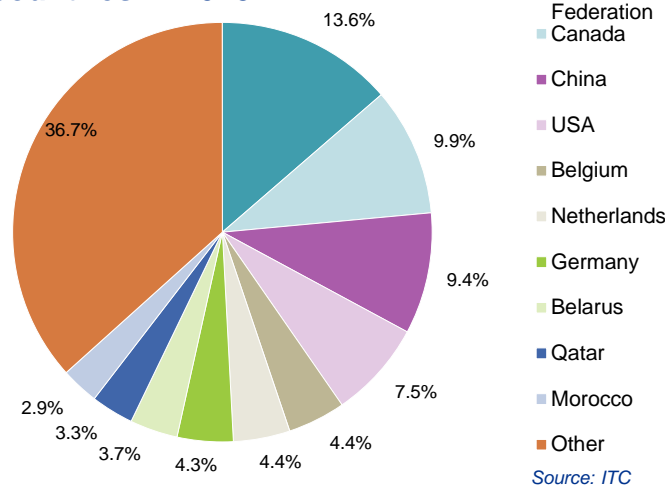
*In 2013 top three importing countries of fertilizers accounted for about 32.9% of the world fertilizers import.*

*In 2013 top six exporting countries of fertilizers accounted for about 49.2% of the world fertilizers export.*

### Structure of the world fertilizer import by countries in 2013



### Structure of the world fertilizer export by countries in 2013

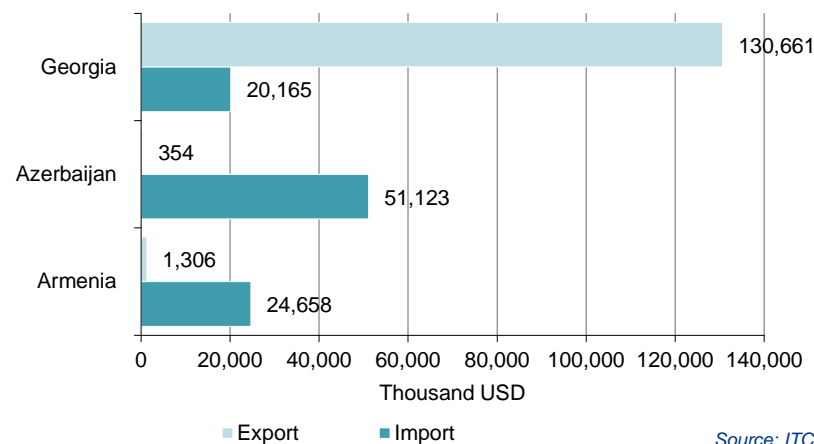


In 2013 top ten importing countries of fertilizers accounted for about 52% of the world fertilizers import. Brazil, USA and India were the top 3 importers of fertilizers with share of 11.8%, 11.2% and 7.9% respectively in the world import of fertilizers. Meanwhile in 2013 top ten exporting countries of fertilizers accounted for about 63% of the world fertilizers export. Russia, Canada and China were the top 3 exporters of fertilizers with share of 13.6%, 9.9% and 9.4% respectively in the world export of fertilizers.

In 2013 the import of fertilizers in South Caucasus countries (Georgia, Azerbaijan and Armenia) was about USD95.9 million, with Azerbaijan accounting for 53% of the region import.

The export of fertilizers in South Caucasus was USD 132.3 million and Georgia was the main exporter of fertilizers accounting for 98.7% of the total export of fertilizers in the region.

### Import and export of fertilizers in South Caucasus in 2013



*In 2013 China accounted for 21.5% of the global production of fertilizers.*

*Global consumption of fertilizers was 174.8 million tones in 2013.*

*The global consumption of fertilizers nutrients is expected to reach 199.9 million ton by 2018.*

*The main factors that stipulates production of fertilizers in different region/ countries are availability and price of key raw materials in the region, regional demand for fertilizers, agricultural products demand (crop demand).*

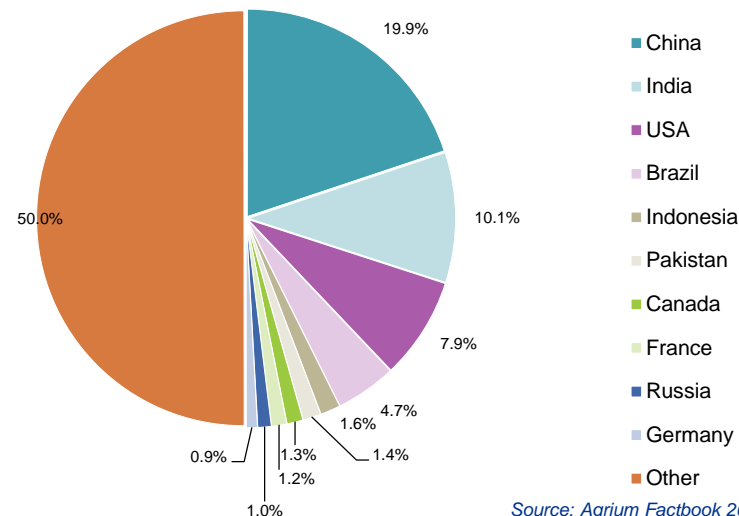
Based on the main fertilizer nutrient (nitrogen, potash, and phosphates) consumption the top consuming countries of fertilizer accounted for approximately half of the global consumption.

According to 2011-2013 data the biggest consumer of all the main fertilizer nutrients was China accounting for 19.9% of the global consumption. India was the second largest consumer country with 10.1% share in the global consumption fertilizer nutrients and USA was the third with 7.9% share.

The fertilizer market is highly concentrated with top ten producing countries accounting for approximately half of the total global production of fertilizers.

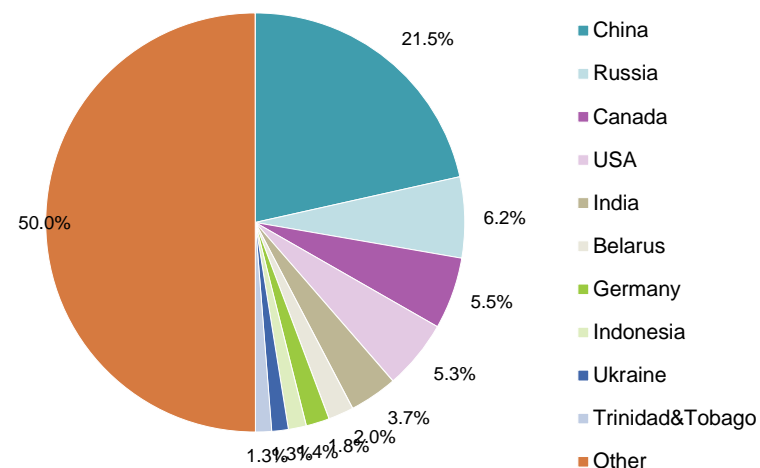
According to 2013 data China accounted for 21.5% of the global production capacity of fertilizers followed by Russia 6.2% and Canada 5.5%.

### Main fertilizer consuming countries 2011-2013



Source: *Agrium Factbook 2013-2014*

### Main countries with fertilizer production capacity in 2013



Source: *Agrium Factbook 2013-2014*

*In 2013 the global operational production and production capacity of main fertilizer nutrients are estimated to be around 237 Mt and 277 Mt respectively.*

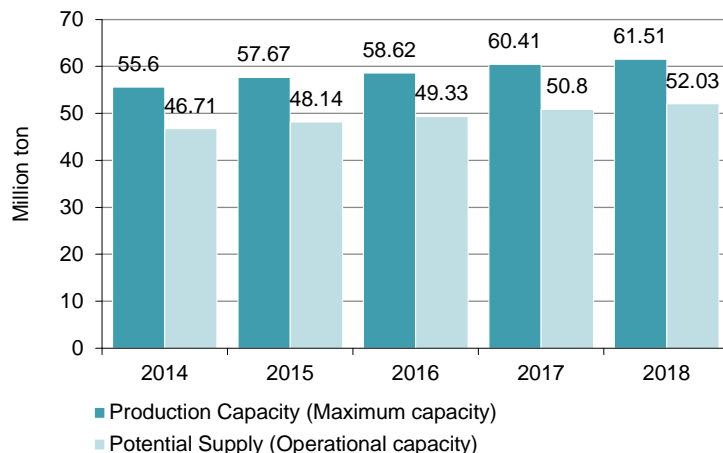
According to Fertilizer Outlook 2014-2018 investments in new capacity by the fertilizer industry will have positive effects increasing the supply and securing the growing fertilizer demand.

According to the forecasts the global ammonia production capacity is expected to increase by 16% compared with 2013, reaching 245 Mt in 2018.

The global phosphate rock supply would grow 18% over 2013, to 258 Mt in 2018 and global phosphoric acid capacity in 2018 is projected at 61.5 Mt.

The world potassium capacity is forecasted to increase from 49.7 Mt in 2013 to 60.7 Mt in 2018 with only three projects planned for completion before 2019, in Canada and Russia.

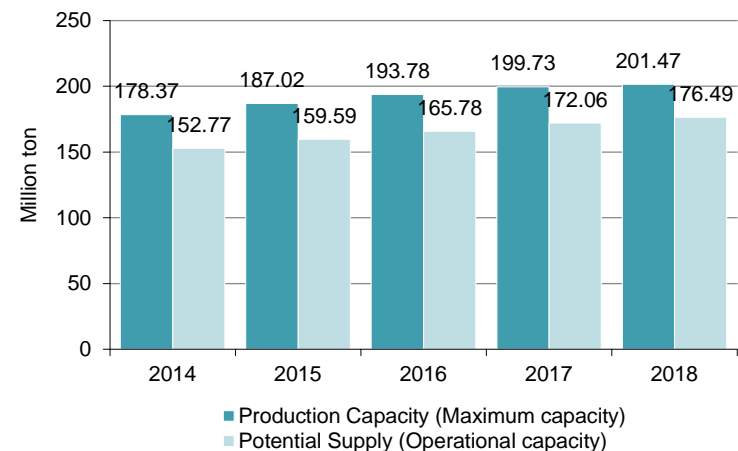
### World Phosphate (Phosphoric Acid) Potential Supply and Forecast



Source: IFA Fertilizer Outlook 2014-2018

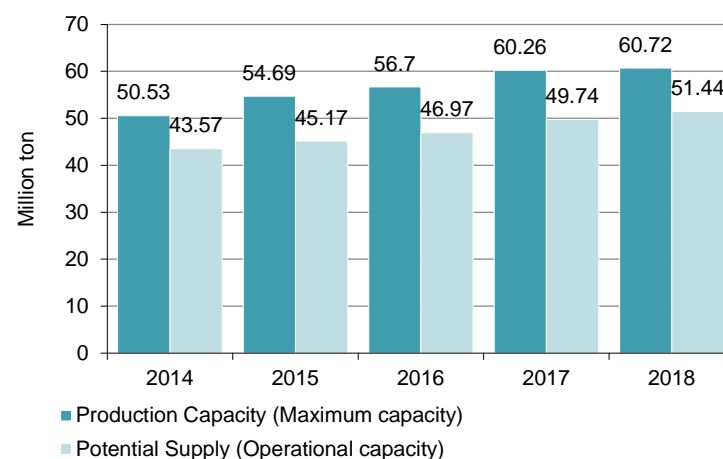
Note: We have use the capacity of phosphoric acid production as a measure for the capacity of phosphate fertilizer.

### World Nitrogen Potential Supply and Forecast



Source: IFA Fertilizer Outlook 2014-2018

### World Potash Potential Supply and Forecast



Source: IFA Fertilizer Outlook 2014-2018

## Price analysis

Volume and price of fertilizers consumption can be affected by many factors, including weather conditions, accessibility, politics, and regulations

In 2013 the global fertilizers prices decreased which could be explained by a decrease of input prices (natural gas, coal etc.)

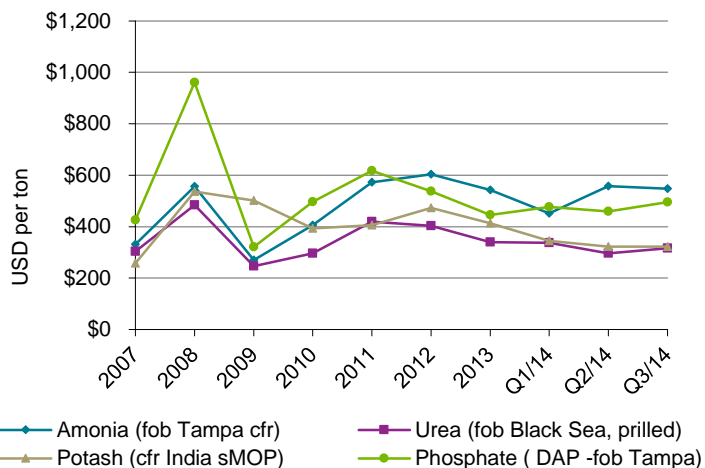
Fertilizers are highly volatile commodities. Volume and price of consumption can be affected by many factors. The fundamental price drivers are supply, demand and price of raw materials.

The price of the products is also dependent on the production technology used and the raw material used. For example producing nitrogen fertilizer requires access to large supplies of ammonia, which is made from natural gas.

The main price drivers are:

- Cost of inputs (natural gas, coal in China, etc.),
- Grain prices/weather conditions,
- Inventory levels
- Seasons (planting/harvest);
- Product prices in the international market

### Fertilizers Price dynamics



Source: BMO Capital markets: Chemicals and Fertilizers

### Latest Fertilizers Pricing Data (as at 26 January 2015)

Nitrogen fertilizer (USD/t)		Phosphate fertilizer (USD/t)		Potash fertilizer (USD/t)	
Prilled Urea		DAP		MOP Contract	
Black Sea	320	Morocco fob bulk	528	Vancouver fob	270
Baltic	310	Tunisia fob bulk	508	Baltic fob	260
Croatia/Romania	335	Jordan fob bulk	460	Black Sea fob	270
Arabian Gulf	325	Saudi Arabia fob bulk	475	China cfr	305
China	286	Baltic fob bulk	475	India cfr	322
Brazil (cfr)	335	China fob cash	465	<b>MOP Spot</b>	
<b>Granular Urea</b>		India cfr bulk contract	482	Vancouver fob	300
Arabian Gulf	322	fob Tampa	485	W. Europe fob	290
Iran	302	<b>MAP</b>		Baltic fob	265
Egypt	355	Baltic fob bulk	490	Black Sea fob	270
China	320	Brazil avg. cfr	510	SE Asia cfr	325
Indonesia/Malaysia	320	<b>TSP</b>		E.C. L. America cfr (BR)	365
South East Asia	340	Morocco fob bulk	389		
Venezuela/Trinidad	315	Tunisia fob bulk	405		
Brazil (CFR)	345	Bulgaria fob bulk	380		
US	356	<b>Phosphoric acid</b>			
French Atlantic	340	US Gulf fob	655		
<b>Ammonia</b>		Uindia cfr	765		
Black see fob	410				
US Tampa cfr	495				
Ammonium Nitrate					
fob bulk Baltic	287				
fob bulk Black See	285				

Source: J.P. Morgan-Fertile Grounds

Note: FOB refer to Free on Board, CFR refer to Cost and Freight, TSP refer to Triple Superphosphate



## Project pipeline

According to the International Fertilizer Industry Association (IFA) the main additions to ammonia capacity in future will be in East Asia (China, Indonesia), Africa (Algeria, Egypt, Nigeria), West Asia (Saudi Arabia, Iran, Bahrain) and Latin America (Venezuela, Brazil). Significant amount of phosphate capacity addition is expected in Morocco, Saudi Arabia, China and Brazil. Potash production capacity is expected to increase mainly in Russia and Canada.

The projects of future capacity development in the regions (selected regions and countries including South Caucasus, EU, Central Asia, Georgia, Ukraine, Turkey) are presented in the tables below (information regarding other planned projects in the region was not available as at the data of the analysis).

### Nitrogen Fertilizer (Ammonia and urea) capacity expansion projects

Company	Facility	Location	Products	Expected Completion	Incremental Capacity		Type
					Ammonia	Urea	
Turkmenistan State Concern	Maryazot II	Turkmenistan	Ammonia, Urea	2014	0.4	0.635	Greenfield
SOCAR (State Oil Company of the Azerbaijan Republic)	-	Azerbaijan	Urea	2017	--	0.661	Greenfield

Source: IFA, Macquarie Research, KPMG research

### Potash capacity expansion projects

Company	Location	Type/Mine Type	Initial Capacity	Start date
Belaruskali	Soligorsk, Belarus	Brownfield	1,500	-
Belneftekhim	Turkmenistan	Conventional	1400	2015

Source: INSTITUTIONAL EQUITY RESEARCH, Agriculture, Chemicals And Fertilizers 2015 Outlook, Macquarie Research, KPMG research

### Sulfuric acid capacity expansion projects

Company	Country	Investment	Capacity	Launch data	Other details
Caustic JSC and Kazatomprom	Kazakhstan	-	-	2015-2018	Sulfuric acid plant.

Source: KPMG research

# Mineral Fertilizer and nitrogen compounds

## Market overview – Top 20 Productions

### Top 20 producers countries based on 2012 production volume (000 ton)

1	China	59,472
2	USA	16,070
3	India	16,061
4	Russian Federation	14,762
5	Canada	13,542
6	Belarus	5,842
7	Germany	4,411
8	Indonesia	4,202
9	Brazil	3,293
10	Ukraine	3,147
11	Morocco	3,108
12	Egypt	2,947
13	Israel	2,833
14	Saudi Arabia	2,749
15	Pakistan	2,633
16	Iran	2,168
17	Qatar	2,095
18	Poland	1,917
19	Spain	1,760
20	Jordan	1,549

Source: IFA

### Top 20 companies based on sales

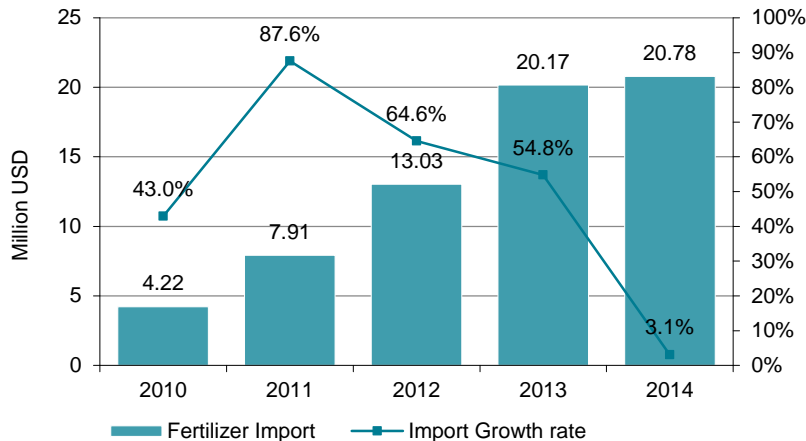
Rank	Company Name	Location
1	Agrium Inc.	Canada
2	Yara International ASA	Norway
3	The Mosaic Co.	United States
4	Yunnan Yuntianhua Co. Ltd.	China
5	Potash Corp. of Saskatchewan Inc.	Canada
6	North Huajin Chemical Industries Co. Ltd.	China
7	Sinofert Holdings Ltd.	Hong Kong
8	CF Industries Holdings Inc.	United States
9	K+S AG	Germany
10	Grupa Azoty SA	Poland
11	Uralkali JSC	Russian Federation
12	Incitec Pivot Ltd.	Australia
13	Fertilizantes Heringer SA	Brazil
14	Sociedad Quimica y Minera de Chile SA	Chile
15	Acron JSC	Russian Federation
16	Kingenta Ecological Engineering Group Co. Ltd.	China
17	Luxi Chemical Group Co. Ltd.	China
18	China BlueChemical Ltd.	China
19	Anhui Huilong Agricultural Means of Production Co. Ltd.	China
20	Nissan Chemical Industries Ltd.	Japan

Source: FactSet Research Systems Inc.

Note: Top 20 companies ranking is based on the Dow Jones Industry Classification, sub sector - Fertilizers  
Products assortment of different companies were not analyzed separately.

In 2014 Georgia imported USD 20.8 million of fertilizers majority of which was mixture of nitrogen, phosphorous or potassium fertilizers.

### Import of fertilizer in 2010 - 2014



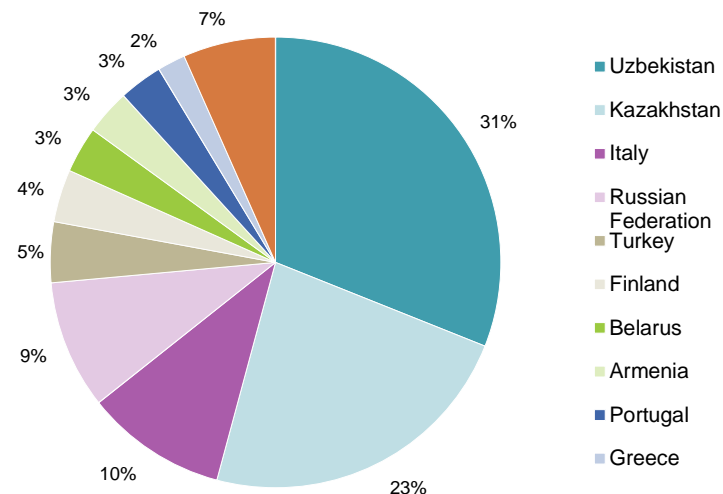
Source: ITC

In 2014 the import of fertilizers in Georgia increased by 3.1% and was USD 20.8 million. During 2010 – 2014 the fertilizer import recorded 49% CAGR.

In 2014 Uzbekistan accounted for 31% of the total import of fertilizers to Georgia. Kazakhstan was the second largest exporter of fertilizers to Georgia accounting for 23% of the import.

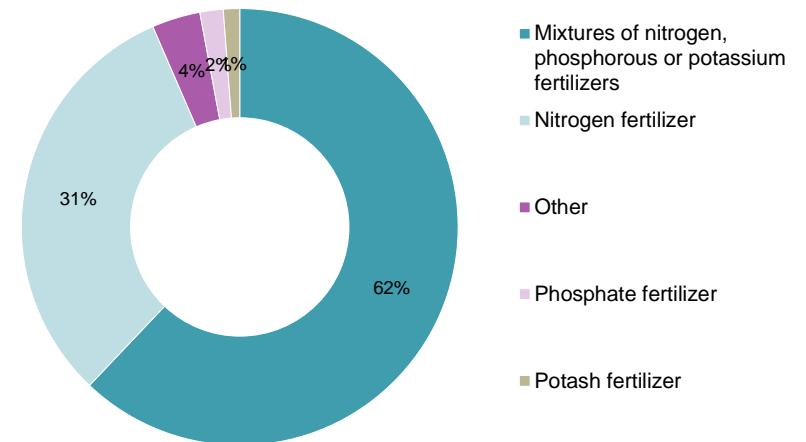
In 2013 the mixture of nitrogen, phosphorous or potassium fertilizers were the main type of fertilizers imported to Georgia accounting for 62% of the import. Nitrogen fertilizer was the second largest group of imported fertilizers (31%).

### Fertilizer importer structure by countries, 2014



Source: ITC

### Fertilizer import structure by product type in 2014



Source: ITC

**In 2014 Georgia exported USD 137.7 million of fertilizers.**

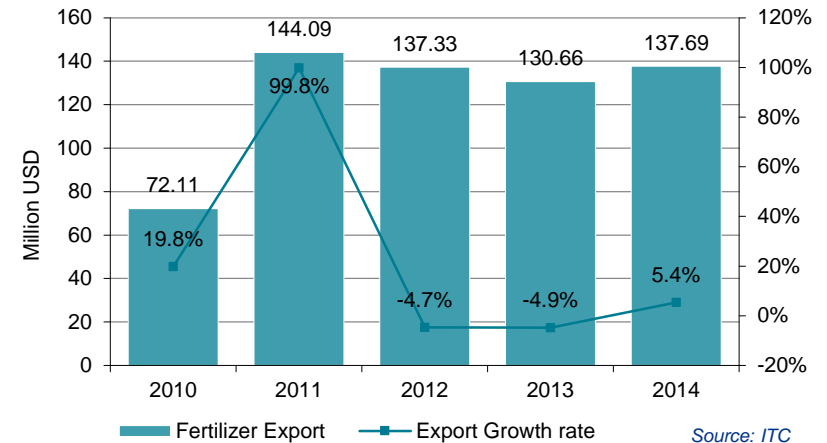
**Georgia exports mainly nitrogen fertilizer.**

In 2014 the export of fertilizers from Georgia increased by 5.4% and was USD 137.7 million. During the 2010 – 2014 the fertilizer export recorded 17.6% CAGR.

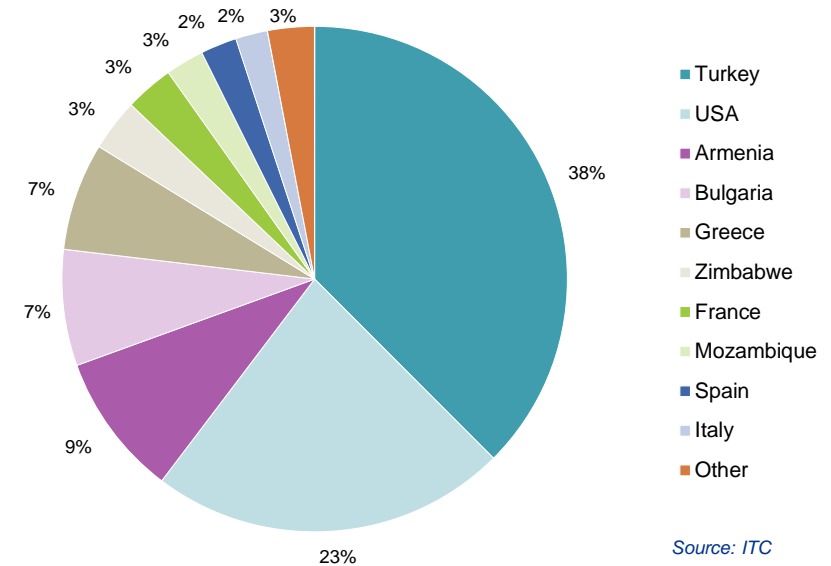
In 2014 the largest export country for Georgia fertilizers was Turkey. It accounted for 38% of Georgia’s export. The second largest destination of export for Georgian fertilizers was USA accounting for 23% of the export, followed by Armenia and Bulgaria accounting for 9% and 7% respectively.

In 2014 Georgia export of fertilizers included mainly nitrogen based fertilizers (99.9% of fertilizers export).

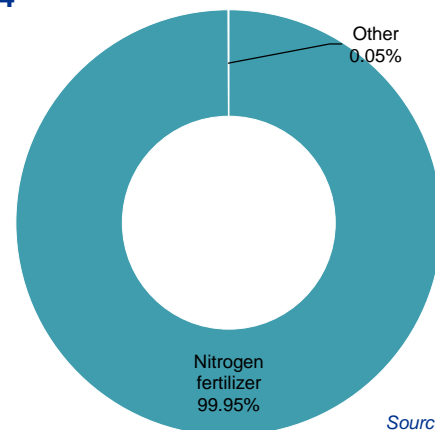
### Export of fertilizer in 2010 - 2014



### Fertilizer export structure by countries, 2014

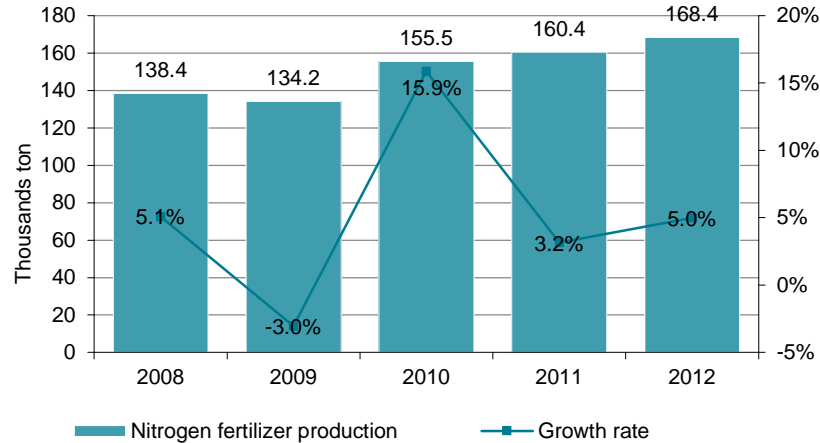


### Fertilizer Export structure by product type in 2014



*Georgia produces only nitrogen based fertilizers.*

### Production of fertilizer (nitrogen based) in 2008 - 2012



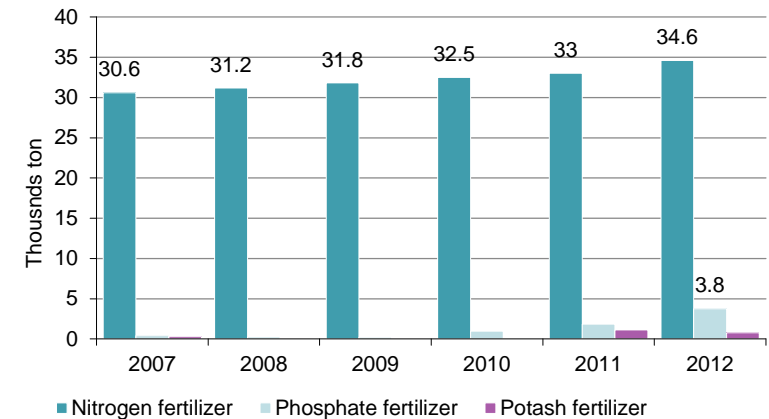
Source: IFA

In 2012 (latest available data at the date of research), around 39 thousands ton of fertilizer was consumed in Georgia which compared with the consumption of prior year has increased by 8.8%.

Nitrogen based fertilizer accounted for 88.4% of the fertilizer consumption in 2012.

According to IFA data in 2012 (latest available data at the date of research) 168.4 thousands ton of nitrogen fertilizer was produced. Compared with the last year production increased by 3.2%.

### Fertilizer consumption in 2008 - 2012



Source: FAO, IFA, KPMG research



# Mineral Fertilizer and nitrogen compounds

## Raw materials in the selected Region/Countries - Natural gas

Among the selected countries Turkmenistan and Kazakhstan have the largest reserves of natural gas

Natural gas is a raw material for a number of chemical industries including production of fertilizers, industrial gases and organic chemicals.

According to CIA World Factbook the EU 28 total reserves of natural gas is estimated to be 1,994 billion cubic meters which is approximately 1% of world estimated reserves (194,900 billion cubic meters, 2013 estimates).

According to the 2013 estimates Turkmenistan has the largest reserve of natural gas among the Central Asian countries (17,500 billion cubic meters).

According to BP statistical review among the selected countries the largest producers of natural gas in 2013 were Netherlands, Turkmenistan and Uzbekistan.

### Production of Natural Gas (billion cubic meters)

	2008	2009	2010	2011	2012	2013
Netherlands	66.6	62.7	70.5	64.2	63.9	68.7
Turkmenistan	66.1	36.4	42.4	59.5	62.3	62.3
Uzbekistan	62.2	60	59.6	57	56.9	55.2
United Kingdom	69.6	59.7	57.1	45.2	38.9	36.5
Ukraine	19	19.3	18.5	18.7	18.6	19.3
Kazakhstan	16.9	16.4	15.9	17.5	18.4	18.5
Azerbaijan	14.8	14.8	15.1	14.8	15.6	16.2
Romania	11.4	11.3	10.9	10.9	10.9	11
Germany	13	12.2	10.6	10	9	8.2
Italy	8.5	7.3	7.7	7.7	7.9	7.1
Denmark	10.1	8.4	8.2	6.6	5.8	4.8
Poland	4.1	4.1	4.1	4.3	4.3	4.2

Source: BP Statistical Review of World Energy June 2014

### Proved Natural Gas Reserves

Country	Reserves (million cubic meters)
<b>EU 28</b>	
Netherlands	1,230,000
United Kingdom	246,000
Germany	125,000
Romania	105,500
Total EU 28	1,993,563
<b>Central Asia</b>	
Turkmenistan	17,500,000
Kazakhstan	2,407,000
Uzbekistan	1,841,000
Kyrgyzstan	5,663
Tajikistan	5,663
Total Central Asia	21,759,326
<b>Other countries</b>	
Georgia	8,495
Turkey	6,173
Ukraine	1,104,000

Source: CIA World Factbook

## Mineral Fertilizer and nitrogen compounds

### Raw materials in the selected Region/Countries - Natural gas

#### Consumption of Natural Gas (billion cubic meters)

	2008	2009	2010	2011	2012	2013
Germany	81.2	78	83.3	74.5	78.4	83.6
United Kingdom	93.4	87	94.2	78.1	73.7	73.1
Italy	77.8	71.5	76.2	71.4	68.7	64.2
Turkey	37.5	35.7	39	44.7	45.3	45.6
Uzbekistan	48.7	43.5	45.5	49.1	46.9	45.2
Ukraine	60	46.8	52.2	53.7	49.5	45
France	43.8	41.8	46.9	40.5	42.2	42.8
Netherlands	38.6	38.9	43.6	38.1	36.4	37.1
Spain	38.6	34.6	34.6	32.2	31.3	29
Turkmenistan	20.5	19.9	22.6	23.4	26.4	22.3
Belgium	16.5	16.8	18.8	16.6	16.9	16.8
Poland	14.9	14.4	15.5	15.7	16.6	16.7
Romania	15.9	13.3	13.6	13.9	13.5	12.5
Kazakhstan	8.9	8.6	9	9.6	10.4	11.4
Azerbaijan	9.2	7.8	7.4	8.1	8.5	8.6
Hungary	14	12.7	12.6	10.3	10.2	8.6
Austria	9.5	9.3	10.1	9.5	9	8.5
Czech Republic	8.7	8.2	9.3	8.4	8.2	8.4
Slovakia	5.7	4.9	5.6	5.2	4.9	5.4
Republic of Ireland	5	4.7	5.2	4.6	4.5	4.5
Portugal	4.7	4.7	5.1	5.2	4.5	4.1
Denmark	4.6	4.4	5	4.2	3.9	3.7
Greece	3.9	3.3	3.6	4.4	4.1	3.6
Switzerland	3.1	3	3.3	3	3.3	3.6
Finland	4	3.6	3.9	3.5	3.1	2.8
Lithuania	3.2	2.7	3.1	3.4	3.3	2.7
Bulgaria	3.2	2.3	2.6	2.9	2.7	2.6
Sweden	0.9	1.1	1.6	1.3	1.1	1.1
Armenia	1.9	1.6	1.7	2.1	2.5	N/A
Georgia	1.7	1.7	1.7	1.5	1.8	N/A
Kyrgyzstan	0.8	0.7	0.5	0.4	0.4	N/A
Tajikistan	0.4	0.2	0.2	0.2	0.2	N/A

Source: BP Statistical Review of World Energy June 2014, International Energy Statistics, KMPG analysis

*The largest consumers of Natural Gas among the selected countries in 2013 were Germany and United Kingdom*

## Raw materials in the selected Region/Countries - Natural gas

### Natural gas in (gaseous state) export and import, export and import unit value

	Value exported in 2013 (USD thousand)	Trade balance in 2013 (USD thousand)	Quantity exported in 2013	Quantity Unit	Unit value (USD/unit)
World	225,627,704		453,849,591	Tons	497
Netherlands	23,271,137	13,358,049	38,043,214	Tons	612
Germany	14,059,268	-36,169,784	28,705,184	Tons	490
Belgium	10,063,419	-7,075,332	20,174,584	Tons	499
United Kingdom	3,373,790	-5,912,391	6,554,196	Tons	515
France	2,202,720	-16,171,627	4,415,890	Tons	499
Other EU	2,676,986	-40,762,913	4,352,180	Tons	n/a
Turkmenistan	9,000,705	9,000,705	18,711,500	Tons	481
Kazakhstan	1,956,818	1,466,640	16,550,235	Tons	118
Uzbekistan	1,166,014	1,166,014	3,762,509	Tons	310
Azerbaijan	701,980	701,978	2,187,892	Tons	321
Armenia	10,340	-561,426	40,223	Tons	257

	Value imported in 2013 (USD thousand)	Trade balance in 2013 (USD thousand)	Quantity imported in 2013	Quantity Unit	Unit value (USD/unit)
World	229,527,999		412,705,190	Tons	556
Germany	50,229,052	-36,169,784	98,087,015	Tons	512
Italy	24,837,440	-24,706,141	40,625,550	Tons	611
France	18,374,347	-16,171,627	30,481,122	Tons	603
Belgium	17,138,751	-7,075,332	28,431,398	Tons	603
Other EU	52,993,664	-23,803,050	83,544,964	Tons	n/a
Ukraine	11,538,192	-11,538,192	18,909,096	Tons	610
Armenia	571,766	-561,426	1,718,171	Tons	333
Kazakhstan	490,178	1,466,640	3,915,784	Tons	125
Georgia	288,392	-288,392	1,447,920	Tons	199
Kyrgyzstan	64,158	-64,158	106,432	Tons	603

Source: ITC

*The largest exporters of Natural Gas in gaseous state among the selected countries in 2013 were Netherlands and Germany*

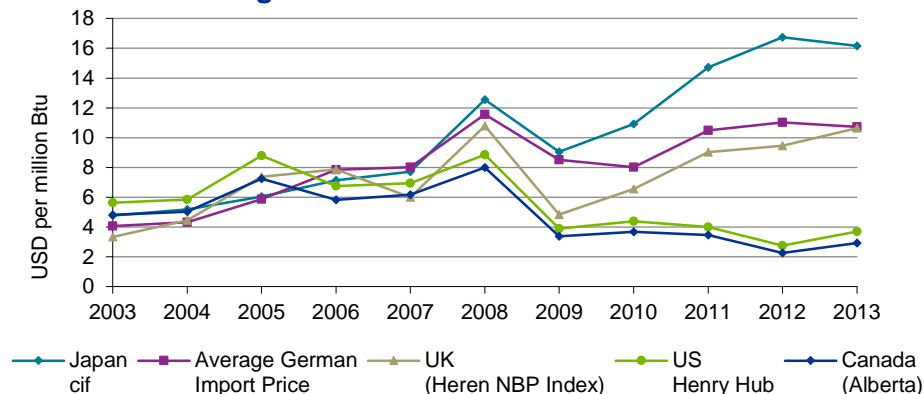
*The largest importers of Natural Gas in gaseous state among the selected countries in 2013 were Germany and Italy*

## Raw materials in the selected Region/Countries - Natural gas

In the 2003-2013 period the German import price of natural gas has increased while the price in the US has decreased.

The availability of domestic reserve of natural gas is decisive factor for the price thus the countries with natural gas reserves have competitive advantage in industries which use natural gases heavily (e.g. nitrogen fertilizer production).

Price of Natural gas for various countries



Source: BP Statistical Review of World Energy June 2014, International Energy Statistics, KPMG analysis

According to CIA World Factbook the EU 28 total reserves of natural gas is estimated to be 1,994 billion cubic meters which is approximately 1% of world estimated reserves (194,900 billion cubic meters, 2013 estimates).

According to the 2013 estimates Turkmenistan has the biggest reserve of natural gas among the Central Asian countries (17,500 billion cubic meters).

### Proved Natural Gas Reserves

Country	Reserves (million cubic meters)
<b>EU 28</b>	
Netherlands	1,230,000
United Kingdom	246,000
Germany	125,000
Romania	105,500
Total EU 28	1,993,563
<b>Central Asia</b>	
Turkmenistan	17,500,000
Kazakhstan	2,407,000
Uzbekistan	1,841,000
Kyrgyzstan	5,663
Tajikistan	5,663
Total Central Asia	21,759,326
<b>Other countries</b>	
Georgia	8,495
Turkey	6,173
Ukraine	1,104,000

Source: CIA World Factbook



According to the Mineral Commodity Summaries 2015, Germany has the biggest reserves of potash rock among EU countries. According to available information there is no potash rock reserves in Central Asia and South Caucasus .

According to the Investmentmine webpage the current price of potash is USD 305.2 per ton (as at 3 March 2015).

Among Central Asia countries only Kazakhstan has reserves of phosphate rock. The estimated reserves of phosphate rock is around 260 million ton or 0.39% of world reserves. The mine production of phosphate rock in 2014 in Kazakhstan was around 1,600 thousand ton. There is no reserves of phosphate rock in the EU countries and the countries of South Caucasus.

According to the Investmentmine webpage the current price of phosphate rock is USD 115 per ton (as at 3 March 2015).

Phosphate rock is mined from underground ore deposits and used in production of additional phosphoric acid

After the potash ore is mined, the potassium chloride is separated from other salts mixed in the ore using the various methods (e.g. flotation). For detailed information regarding trade of potash (potassium chloride is included in potash group) please see the mineral fertilizer sector.

### Potash Reserves

	Ore Reserves (000 ton)	K2O equivalent (000 ton)
Belarus	3,300,000	750,000
Germany	-	150,000
Spain	-	20,000
UK	-	70,000

Source: US Geological Survey, KPMG research  
 Note: Some countries only publish data as K2O equivalent

### Potash Mine production

	2013 (000 ton)	2014 (000 ton)
Belarus	4,240	4,300
Germany	3,200	3,000
Spain	420	420
UK	470	470

Source: US Geological Survey, KPMG research

## Mineral Fertilizer and nitrogen compounds

### Raw materials in the selected Region/Countries

The largest exporters of phosphoric acid and polyphosphoric acids (supplier countries) among the selected countries were Belgium and Netherlands

#### Phosphoric acid and polyphosphoric acids export and import, export and import unit value

	Value exported in 2013 (USD thousand)	Trade balance in 2013 (USD thousand)	Quantity exported in 2013	Quantity Unit	Unit value (USD/unit)
World	4,122,013		6,052,579	Tons	681
Belgium	265,897	30,063	190,134	Tons	1,398
Netherlands	146,095	-30,026	69,476	Tons	2,103
Finland	47,845	46,327	45,075	Tons	1,061
Poland	40,213	30,728	44,539	Tons	903
Other EU	69,766	-747,198	74,313	Tons	n/a
Kazakhstan	5,827	4,807	6,753	Tons	863
Turkey	1,086	-150,832	764	Tons	1,421
Kyrgyzstan	62	-39	36	Tons	1,722
Georgia	4	-318	4	Tons	1,000
Ukraine	4	-3,845	3	Tons	1,333
	Value imported in 2013 (USD thousand)	Trade balance in 2013 (USD thousand)	Quantity imported in 2013	Quantity Unit	Unit value (USD/unit)
World	4,412,489		0	No quantity	
Belgium	235,834	30,063	219,695	Tons	1,073
Germany	211,471	-189,567	211,817	Tons	998
France	183,653	-180,676	301,592	Tons	609
Netherlands	176,121	-30,026	258,717	Tons	681
Spain	167,861	-162,362	339,405	Tons	495
Other EU	266,211	-138,767	361,369	Tons	n/a
Turkey	151,918	-150,832	235,636	Tons	645
Ukraine	3,849	-3,845	4,897	Tons	786
Kazakhstan	1,020	4,807	618	Tons	1,650
Georgia	322	-318	194	Tons	1,660
Azerbaijan	219	-219	250	Tons	876
Uzbekistan	125	-125	94	Tons	1,330
Kyrgyzstan	101	-39	73	Tons	1,384
Turkmenistan	60	-60	33	Tons	1,818
Armenia	42	-42	30	Tons	1,400

Source: ITC

\*Note: There was no available information for phosphoric acid trade separately



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