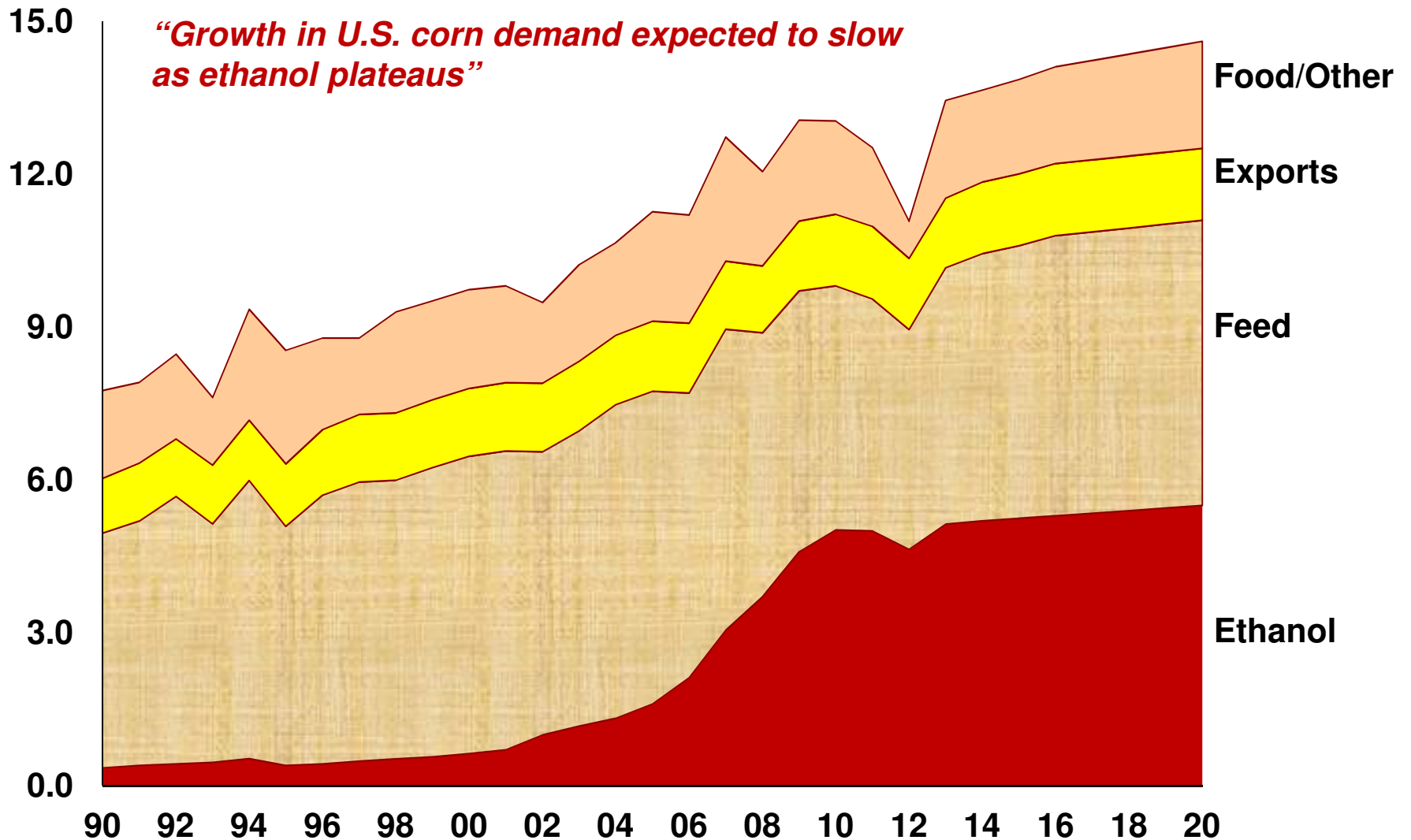


Fertilizer Situation and Outlook

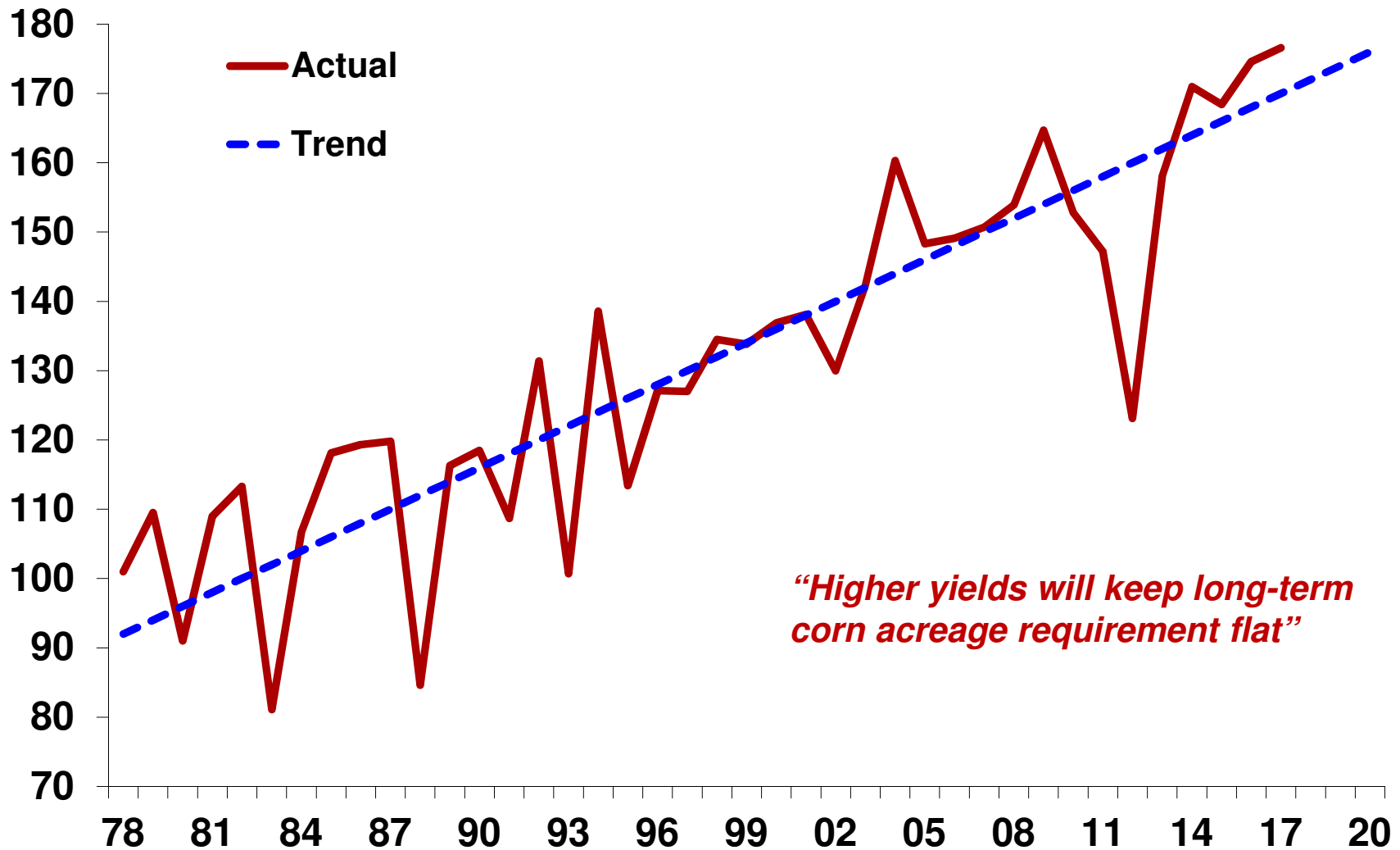
**World Trade & Transport Conference
February 8, 2018
New Orleans, LA**

***David Asbridge
NPK Fertilizer Advisory Service
daveasbr@hotmail.com***

Outlook for U.S. Corn Demand (Billion Bushels)



Increasing Corn Yields Expected to Offset the Growth in Demand (Bu/Acre)

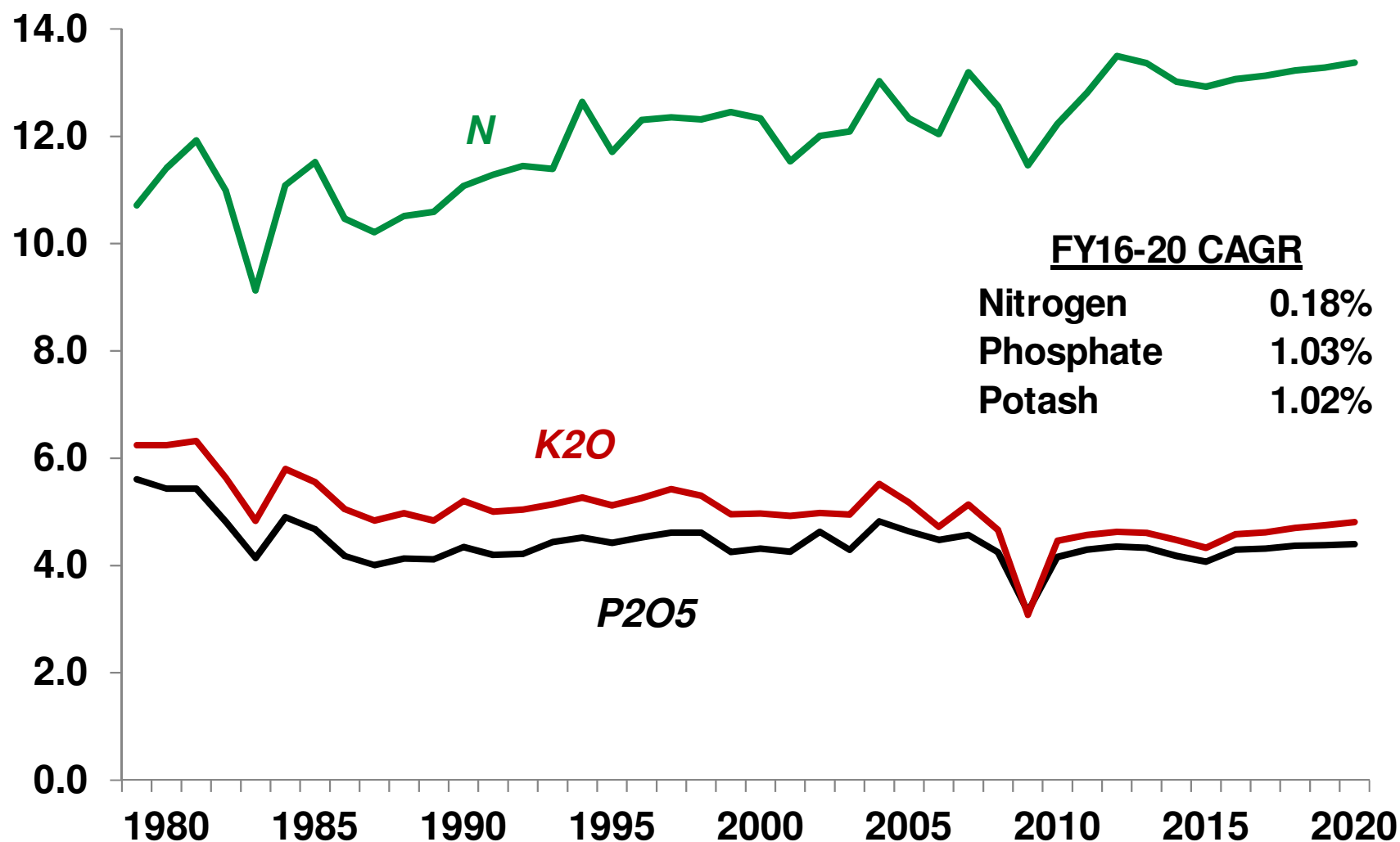


Source: USDA, NPKFAS

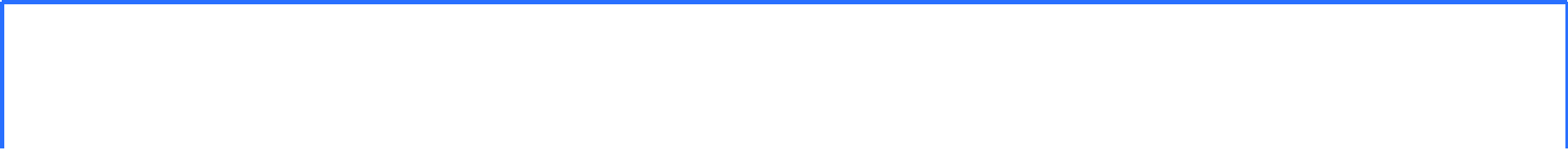
Longer-Term Acreage is Expected to Remain Relatively Flat

Marketing Year	U.S. Acreage (mmac)						Change	2020
	2014	2015	2016	2017	2018			
Corn	90.6	88.0	94.0	90.2	91.0	0.8		91.0
Soybeans	83.3	82.7	83.4	90.1	89.0	-1.1		89.0
Wheat	56.8	55.0	50.1	46.0	44.0	-2.0		48.0
Cotton	11.0	8.6	10.1	12.6	11.0	-1.6		10.0
4 Major Crops	241.7	234.3	237.6	238.9	235.0	-3.9		238.0
Other	84.7	84.2	85.9	86.0	85.0	-1.0		85.0
Total	326.4	318.5	323.4	324.9	320.0	-4.9		323.5

U.S. Fertilizer Consumption (MM Nutrient Tons)



Source: USDA, NPKFAS

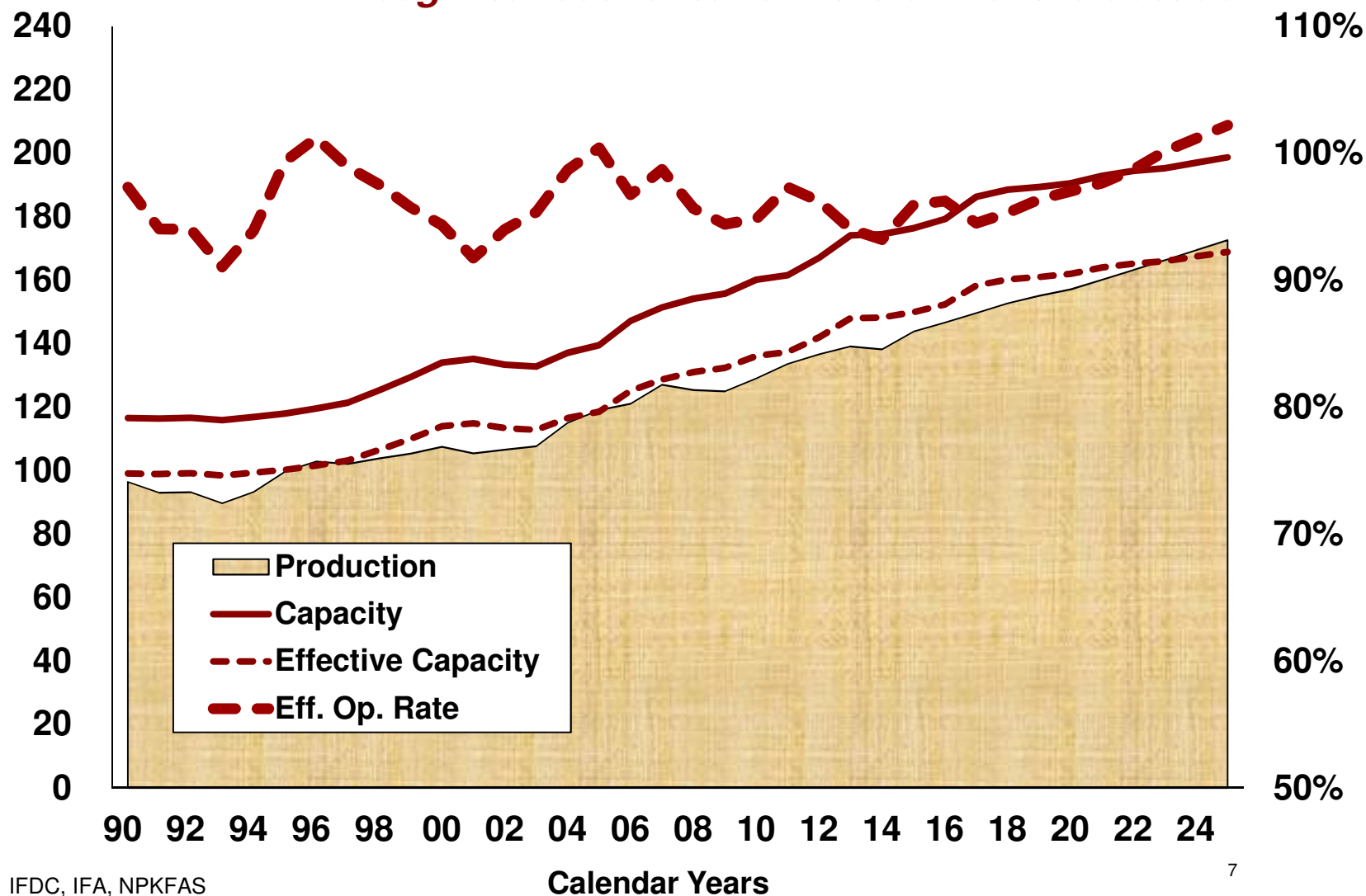


Nitrogen Outlook

World Nitrogen Supply/Demand

(Million Tonnes N)

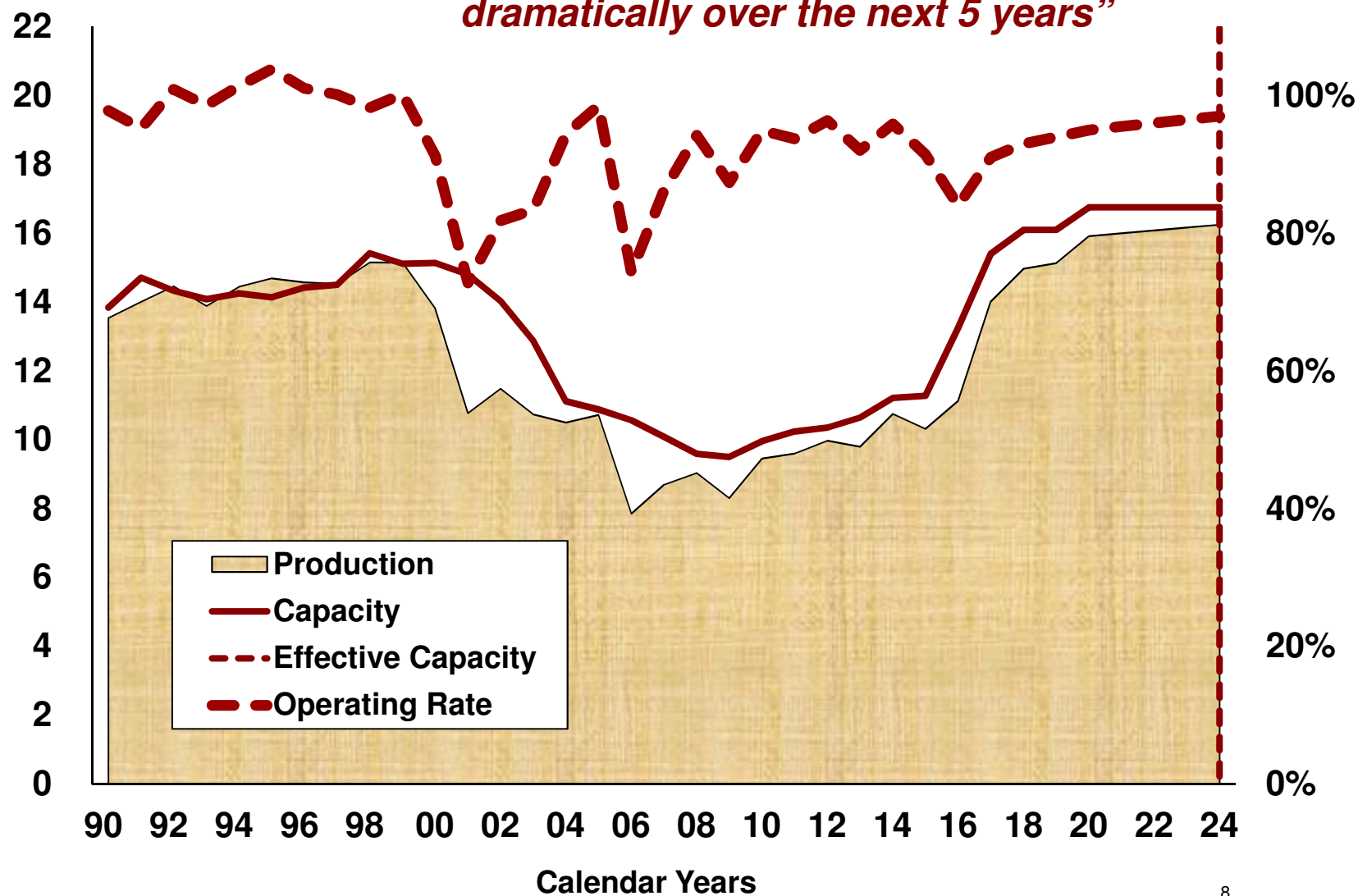
“World N balance is currently in a down cycle, but will begin to recover toward the end of the decade”



U.S. Nitrogen Supply/Demand

(Million Tonnes N)

“Capacity is set to expand dramatically over the next 5 years”



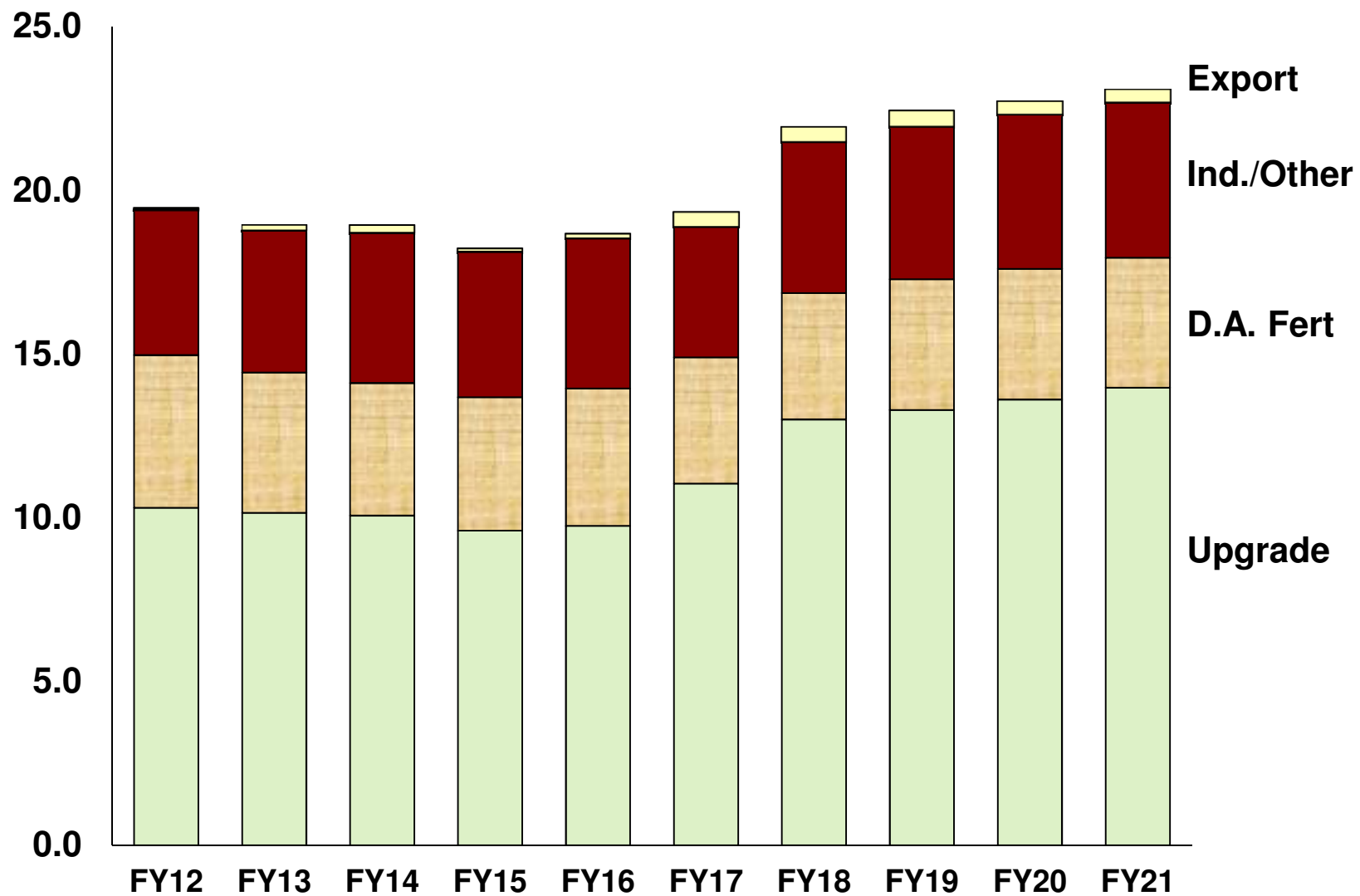
Expected U.S. Nitrogen Projects by 2020

(000 Product Tons/Year)

Company	Location		Capacity		
			Ammonia	Urea	UAN
Definite/Under Construction					
CF	Donaldsonville	LA	1,274	1,348	1,768
CF	Port Neal	IA	849	1,348	0
OCI	Wever	IA	850	800	1,658
Dyno Nobel	Waggaman	LA	875	0	0
Simplot	Rock Springs	ID	210	0	0
Yara/BASF	Freeport	LA	840	0	0
LSB	El Dorado	AR	525	0	0
Under Construction			5,423	3,496	3,426
Exp/Conv./Debottlenecks					
Dakota Gas	Beulah	ND	0	400	0
Koch	Enid	OK	0	1,000	0
Koch	Beatrice	NE	46	0	0
Mosaic	Faustina	LA	100	0	0
OCI	Beaumont	LA	40	0	0
Agrium	Borger	TX	0	612	0
Rentech	E. Dubuque	IL	70	20	0
PCS Lima	Lima	OH	88	80	0
Total Exp/Conv./Deb.			343	2,112	0
Total Expected/Under Construction			5,766	5,608	3,426

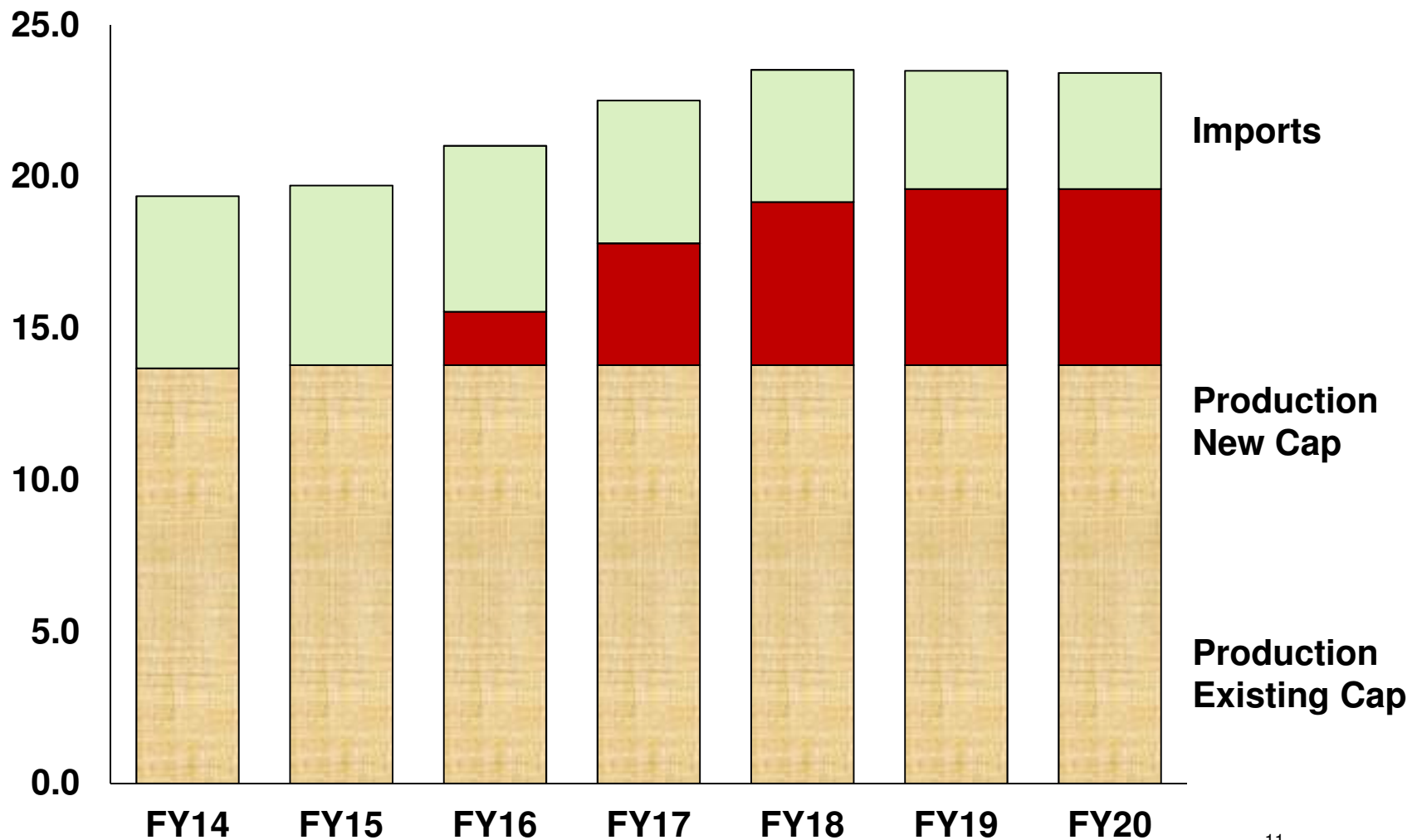
Source: IFDC, IFA, Company Websites,

U.S. Ammonia Demand ***(MM Product Tons)***



U.S. Ammonia Supply ***(MM Product Tons)***

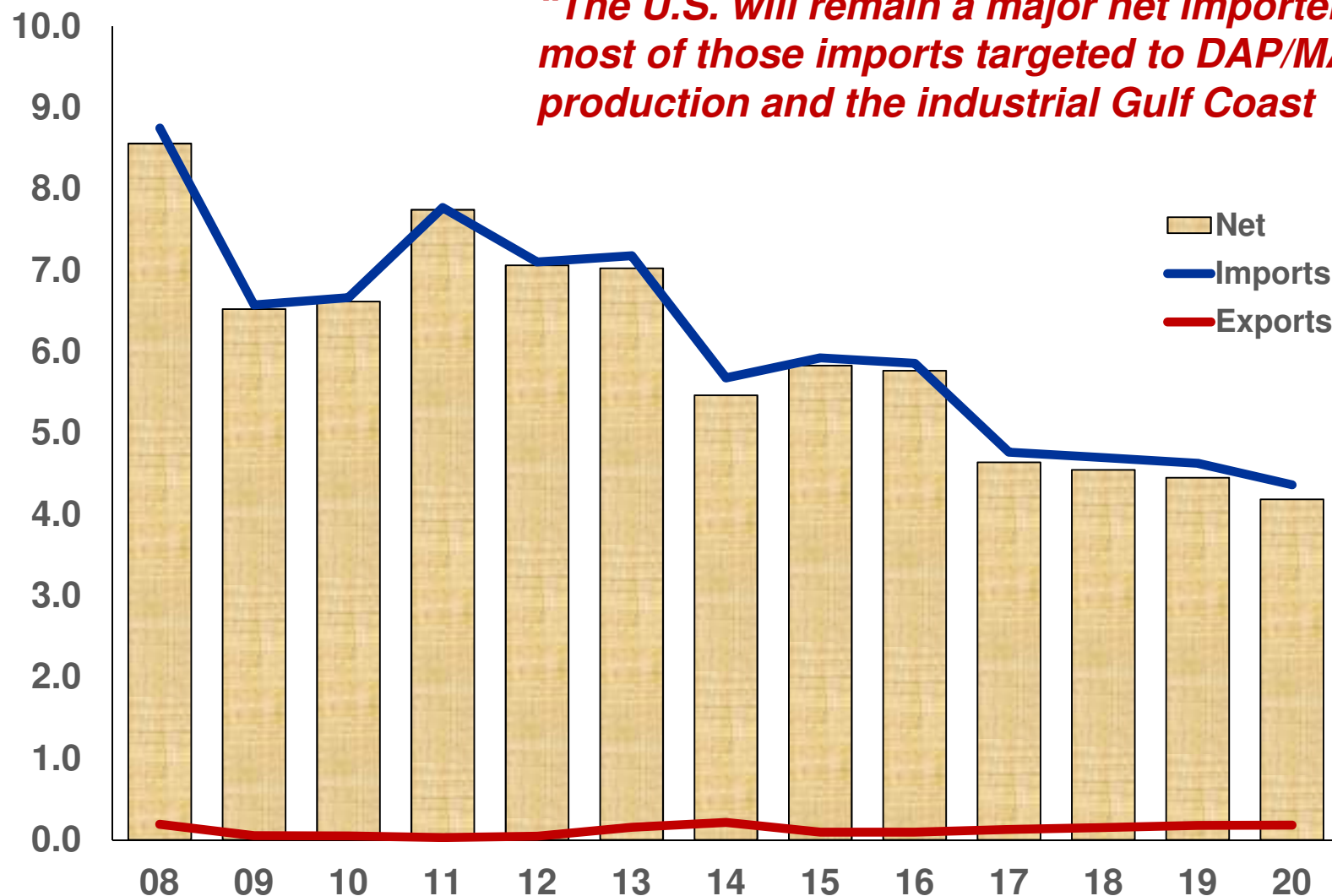
“Despite new capacity the U.S. will remain a major net importer”



U.S. Ammonia Net Trade

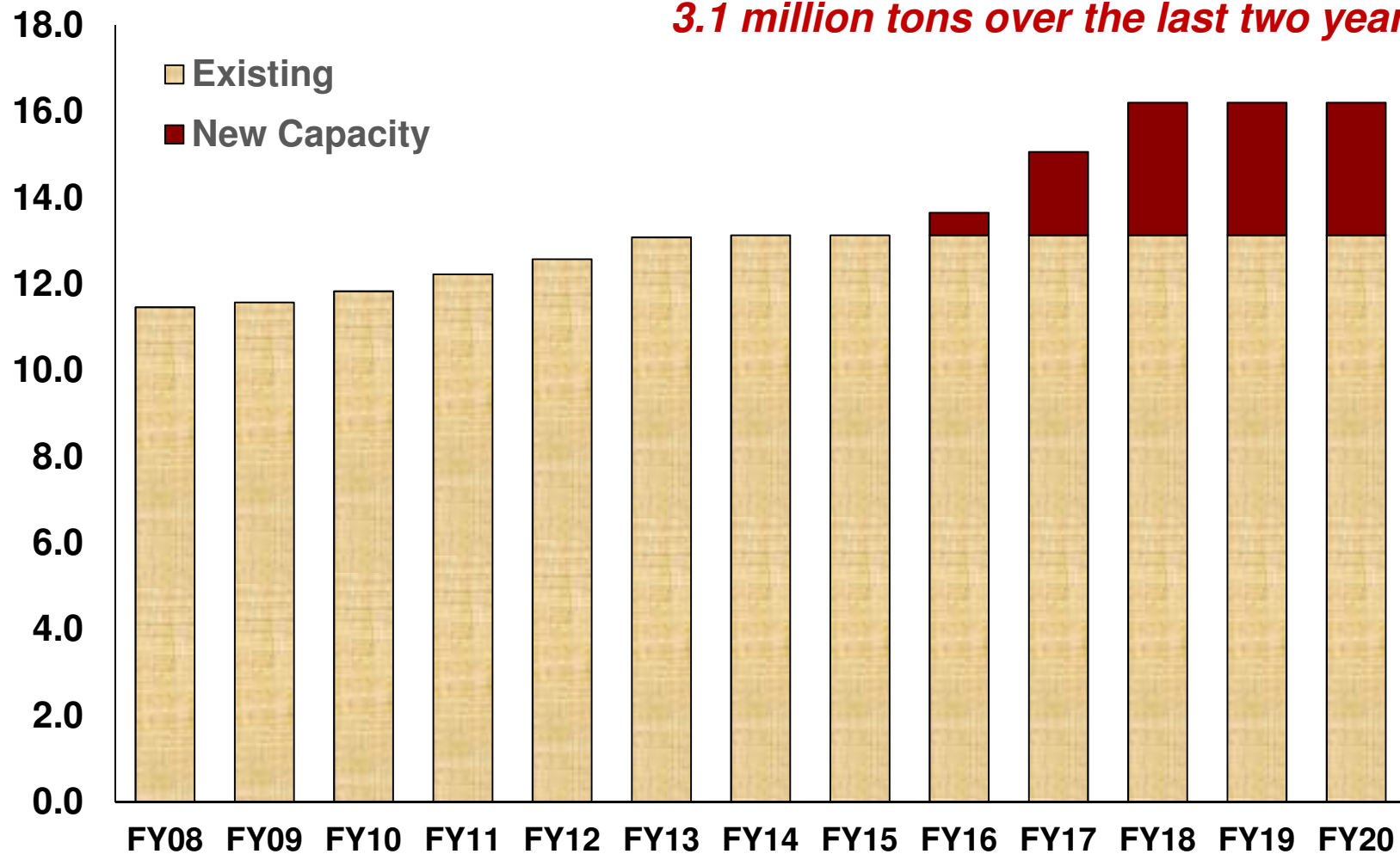
(MM Product Tons)

“The U.S. will remain a major net importer with most of those imports targeted to DAP/MAP production and the industrial Gulf Coast



U.S. UAN 32% Capacity ***(MM Product Tons)***

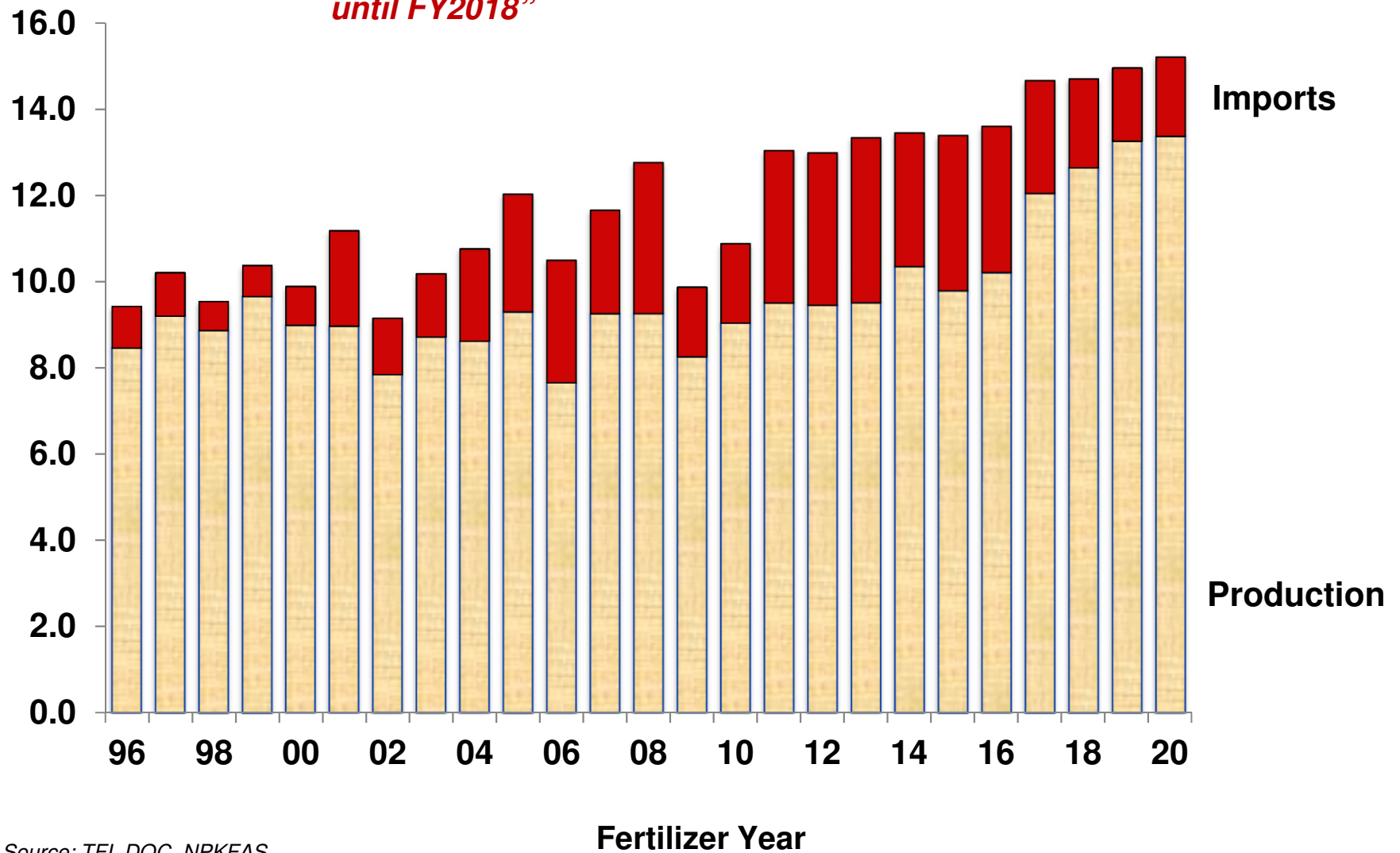
***“U.S. UAN capacity has increased by
3.1 million tons over the last two years”***



U.S. UAN Supply

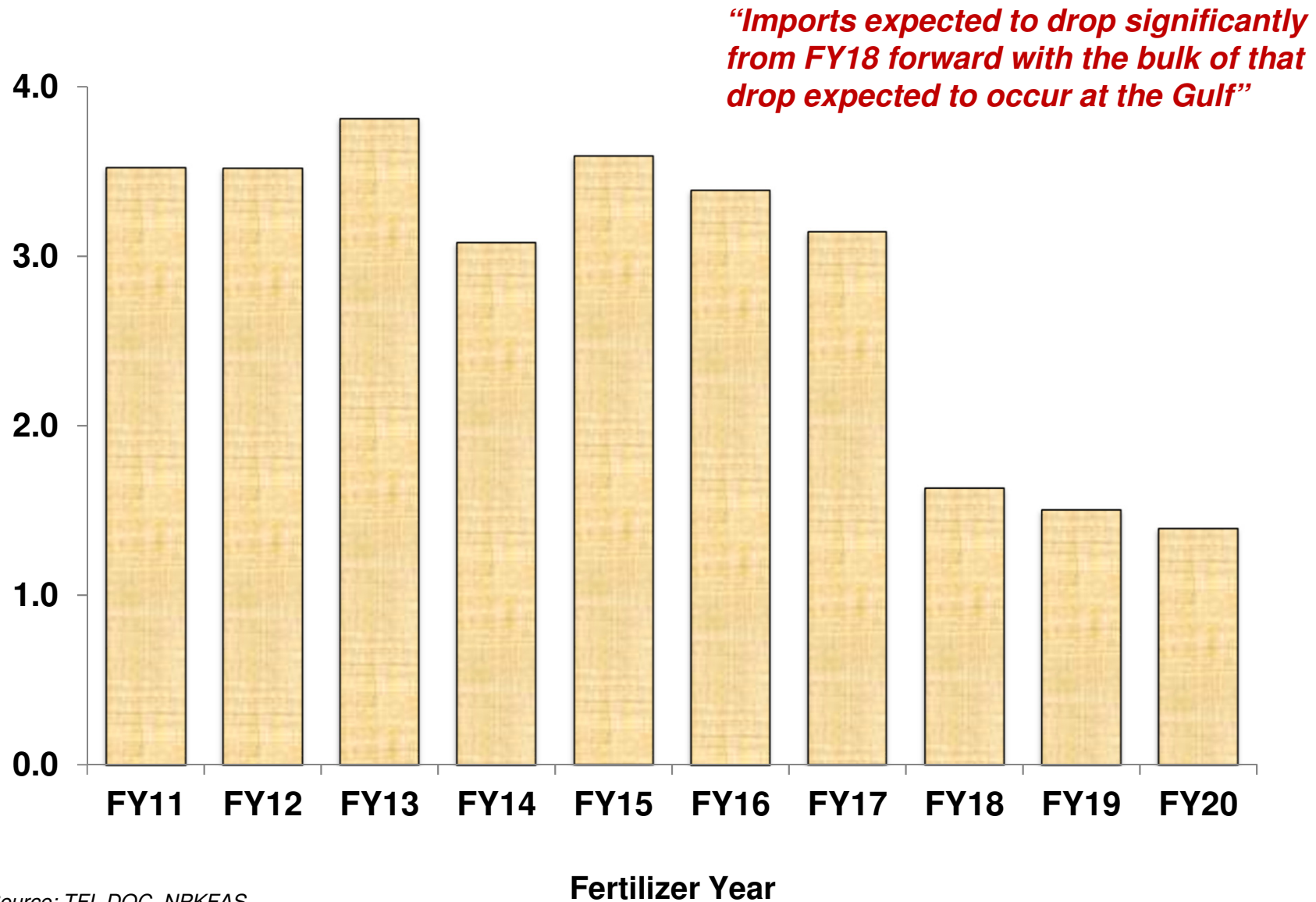
(MM Tons)

“Imports expected to drop significantly, but not until FY2018”



Source: TFI, DOC, NPKFAS

U.S. UAN Imports (MM Tons)



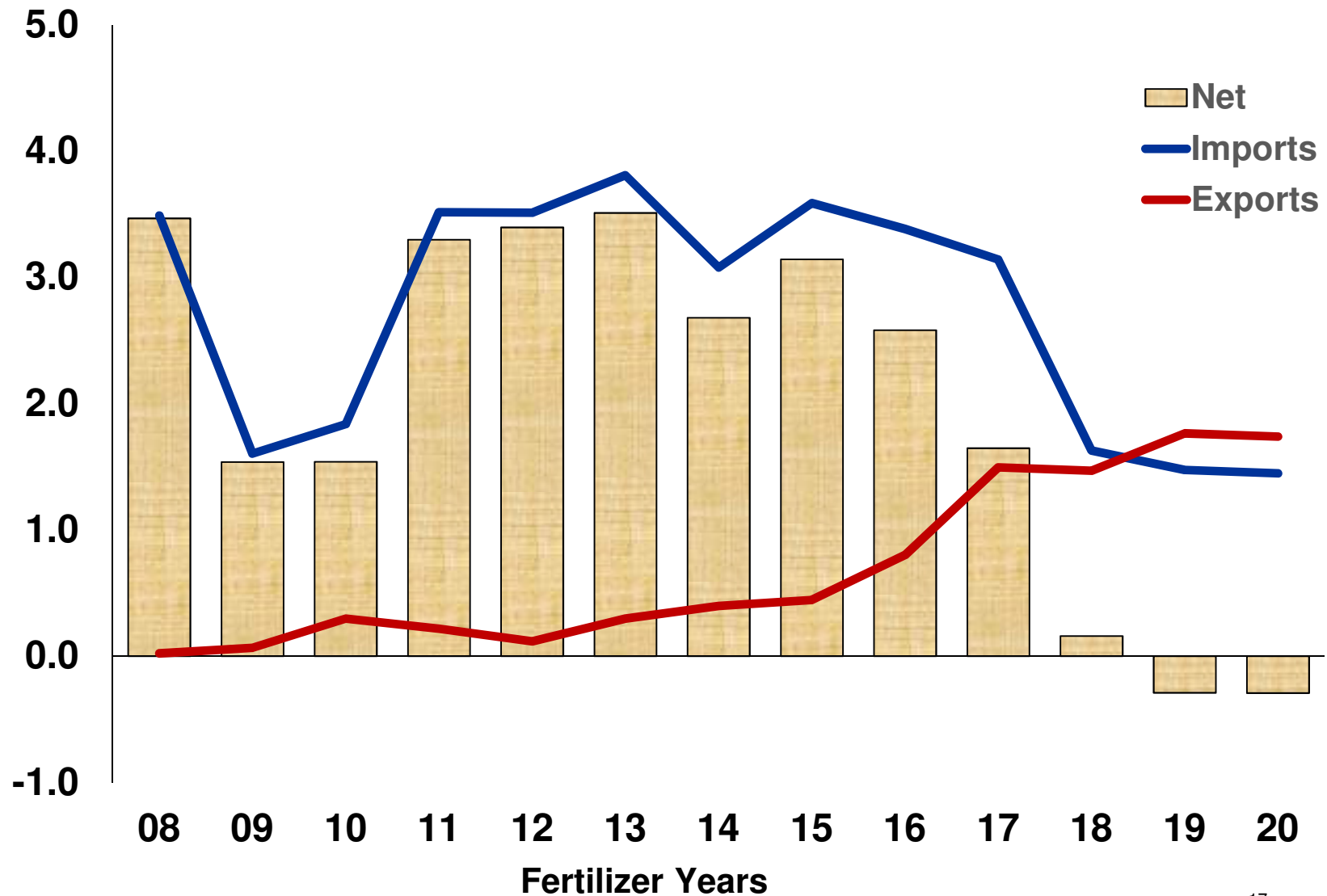
Source: TFI, DOC, NPKFAS

U.S. UAN Supply Demand ***(000 Tons – 32% Equivalent)***

“Producers expected to keep supply/demand in balance by shifting production between urea and UAN and continuing to export.”

	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>Change FY17-18</u> <u>Volume</u>	<u>%</u>
Supply						
Production	9,789	10,204	11,255	12,413	1,158	-90.7%
Imports	3,588	3,384	3,142	1,629	-1,513	-192.9%
Beg. Inv.	784	878	886	1,056	170	-83.9%
Total	14,161	14,465	15,284	15,099	-185	-1.2%
Demand						
Domestic	12,838	12,778	12,732	12,737	5	0.0%
Exports	445	802	1,495	1,469	-26	-1.7%
Total	13,284	13,579	14,227	14,206	-21	-0.1%
End. Inv.	878	886	1056	892	-164	-15.5%

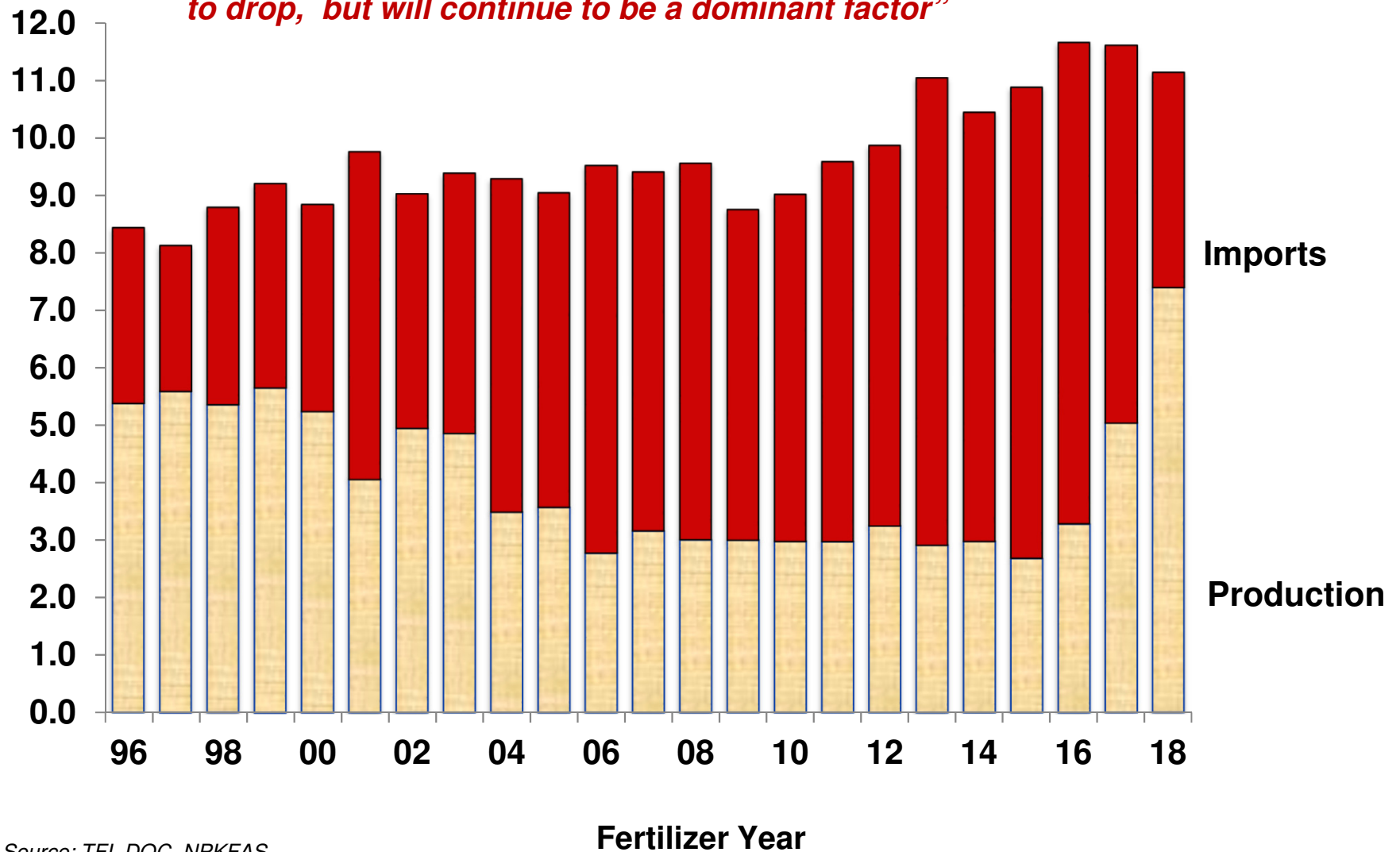
U.S. UAN Trade Balance ***(MM Tons – 32%)***



U.S. Dry Fertilizer Urea Supply

(MM Tons)

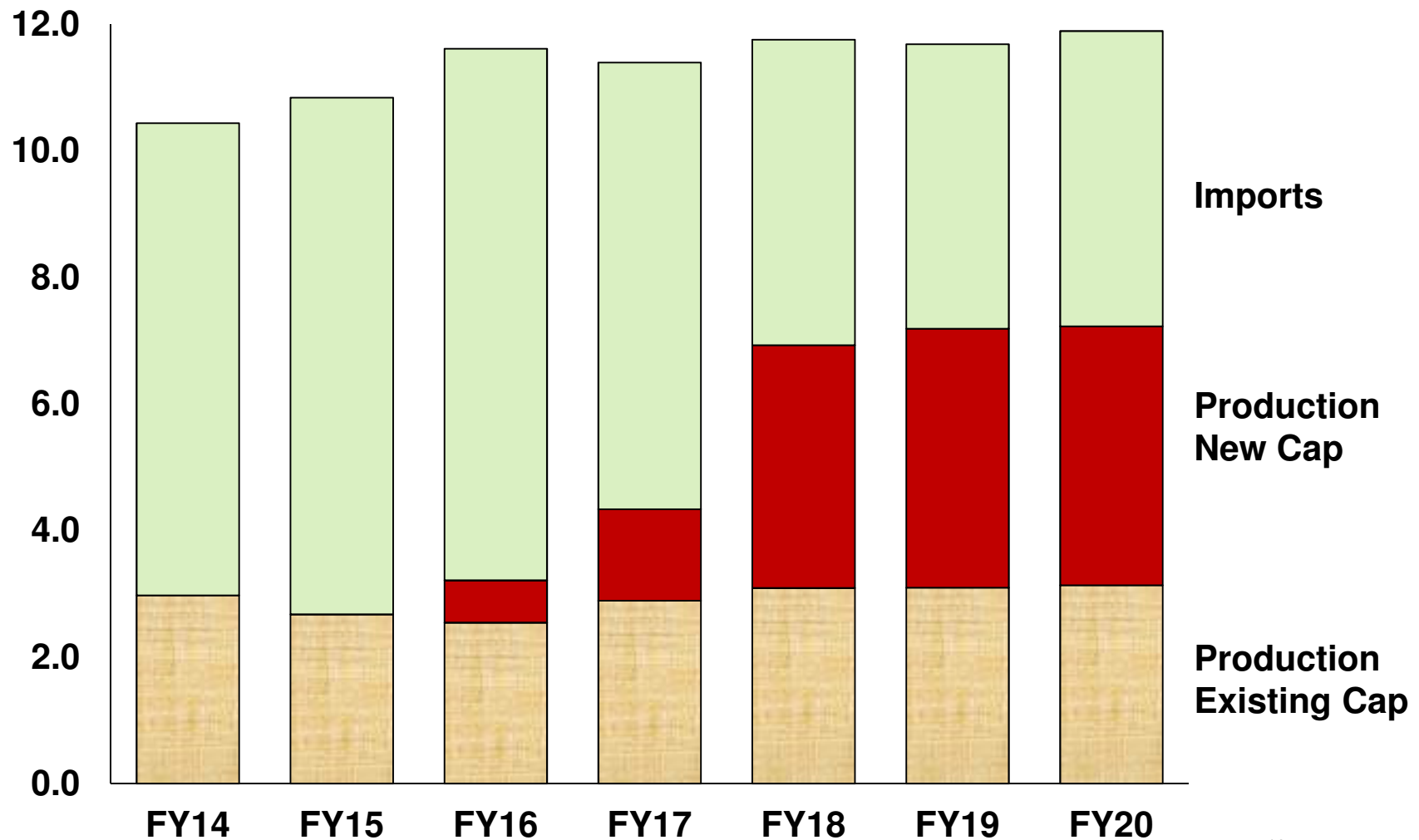
“Imports as a percent of U.S. dry urea fertilizer supply set to drop, but will continue to be a dominant factor”



Source: TFI, DOC, NPKFAS

U.S. Total Dry Urea Supply ***(MM Product Tons)***

“Despite new capacity the U.S. will remain a major net importer”



U.S. Dry Urea Supply/Demand Outlook for FY17 ***(000 Tons)***

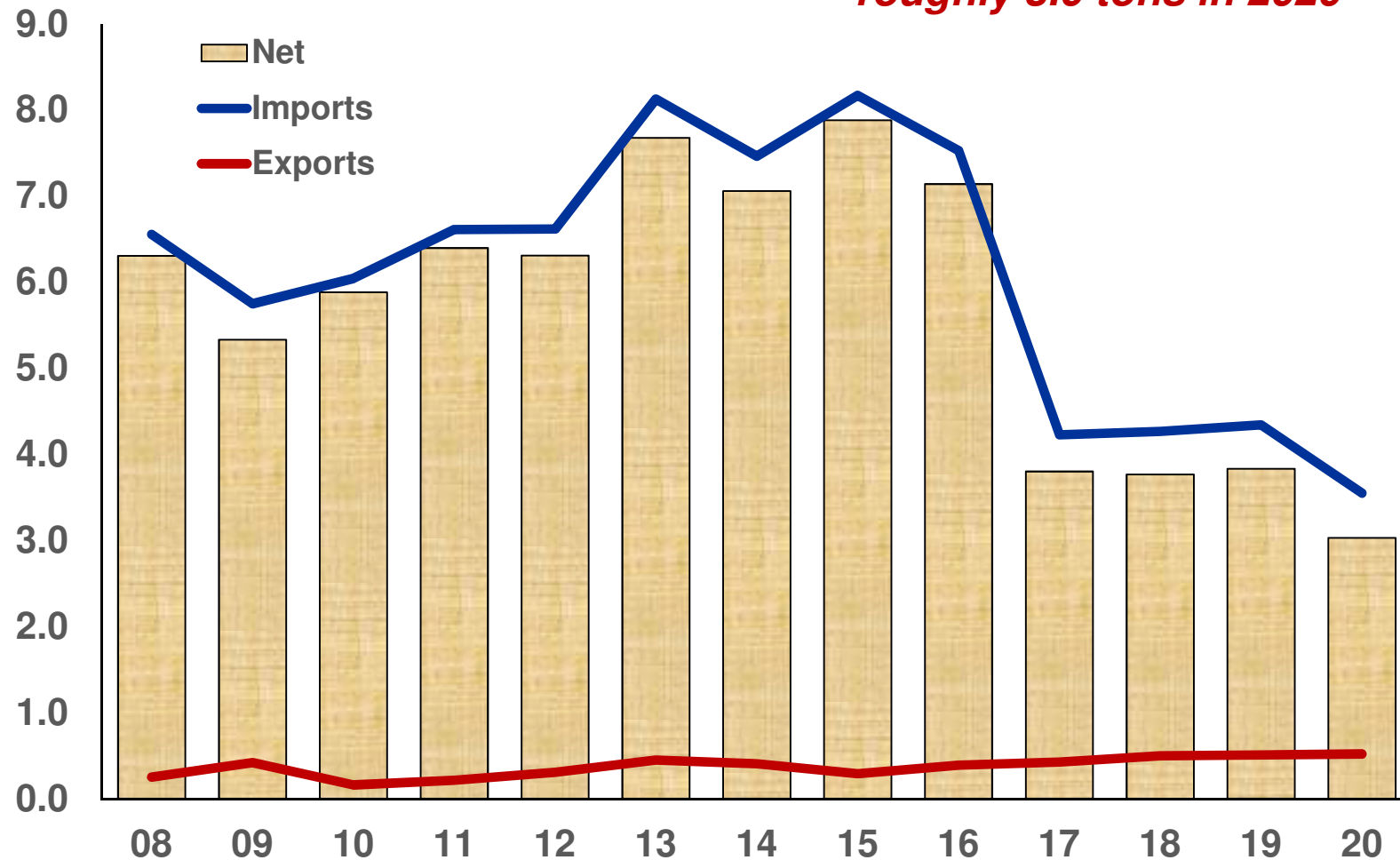
“Higher U.S. production is offsetting imports, but the U.S. will still have to imports roughly 40 % of its dry urea supply.”

	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>Change FY17-18</u> <u>Volume</u>	<u>%</u>
Supply						
Production	2,676	3,214	4,470	6,682	2,211	49.5%
Imports	8,171	8,404	7,050	5,056	-1,994	-28.3%
Beg. Inv.	120	137	171	296	125	73.1%
Total	10,966	11,755	11,692	12,034	342	2.9%
Demand						
Domestic	10,539	11,350	10,989	10,900	-89	-0.8%
Exports	290	234	407	898	491	120.7%
Total	10,829	11,584	11,396	11,798	402	3.5%
End. Inv.	137	171	296	236	-60	-20.2%

U.S. Urea Net Trade

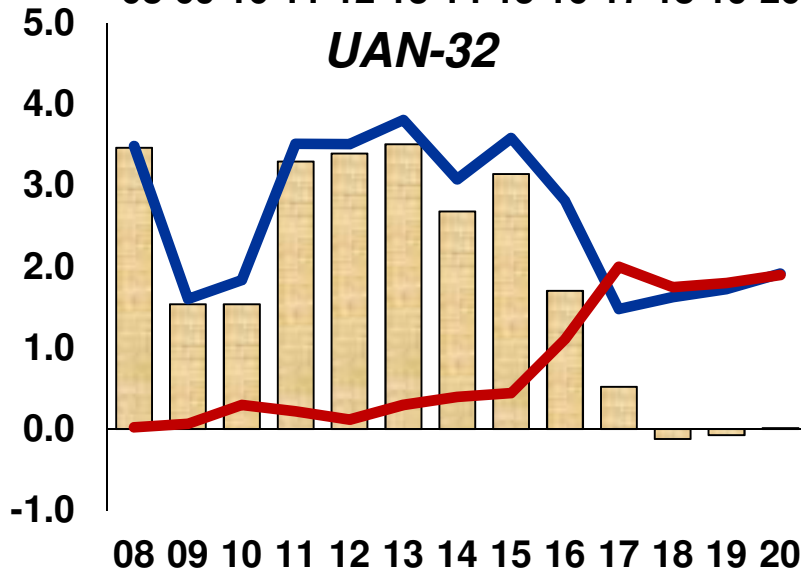
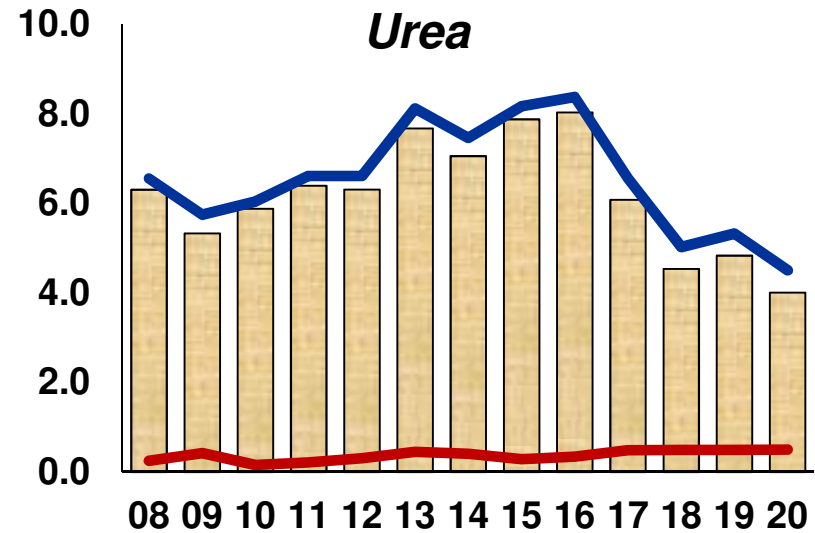
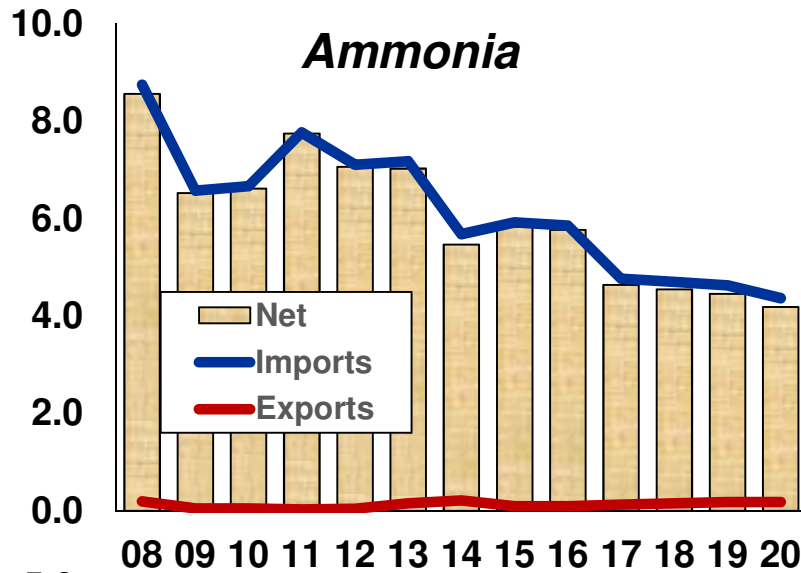
(MM Product Tons)

“New capacity will reduced U.S. import requirements from 7.5 to roughly 3.0 tons in 2020”



U.S. Nitrogen Net Trade

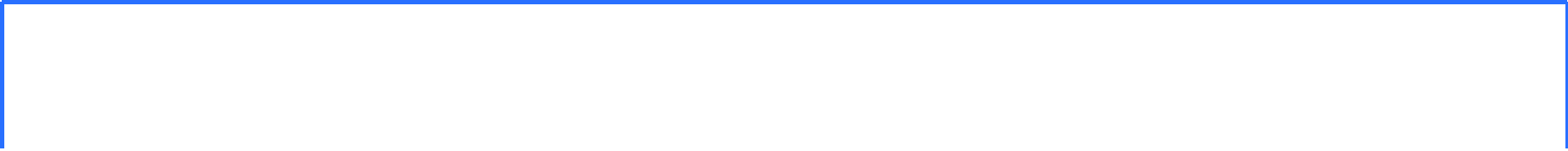
(MM Product Tons)



Total Nitrogen

	Imports	Exports	Net Trade
FY12	10.53	1.87	8.66
FY13	11.49	1.77	9.71
FY14	11.31	1.83	9.48
FY15	10.53	1.64	8.89
FY16	10.04	1.84	8.20
FY17	8.73	2.15	6.59
FY20	6.56	2.23	4.33

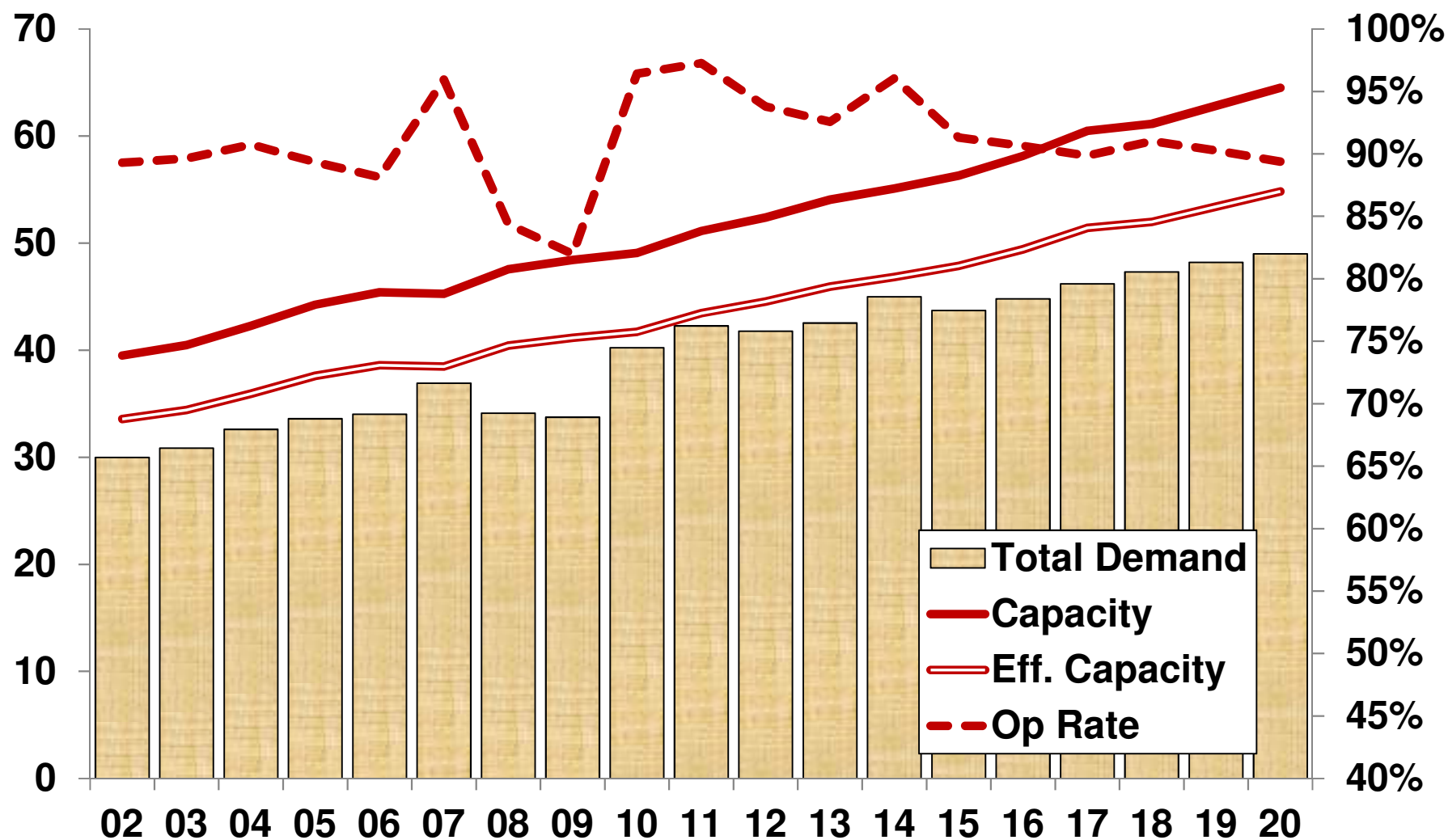
Source: USCOC, NPKFAS



Phosphate Outlook

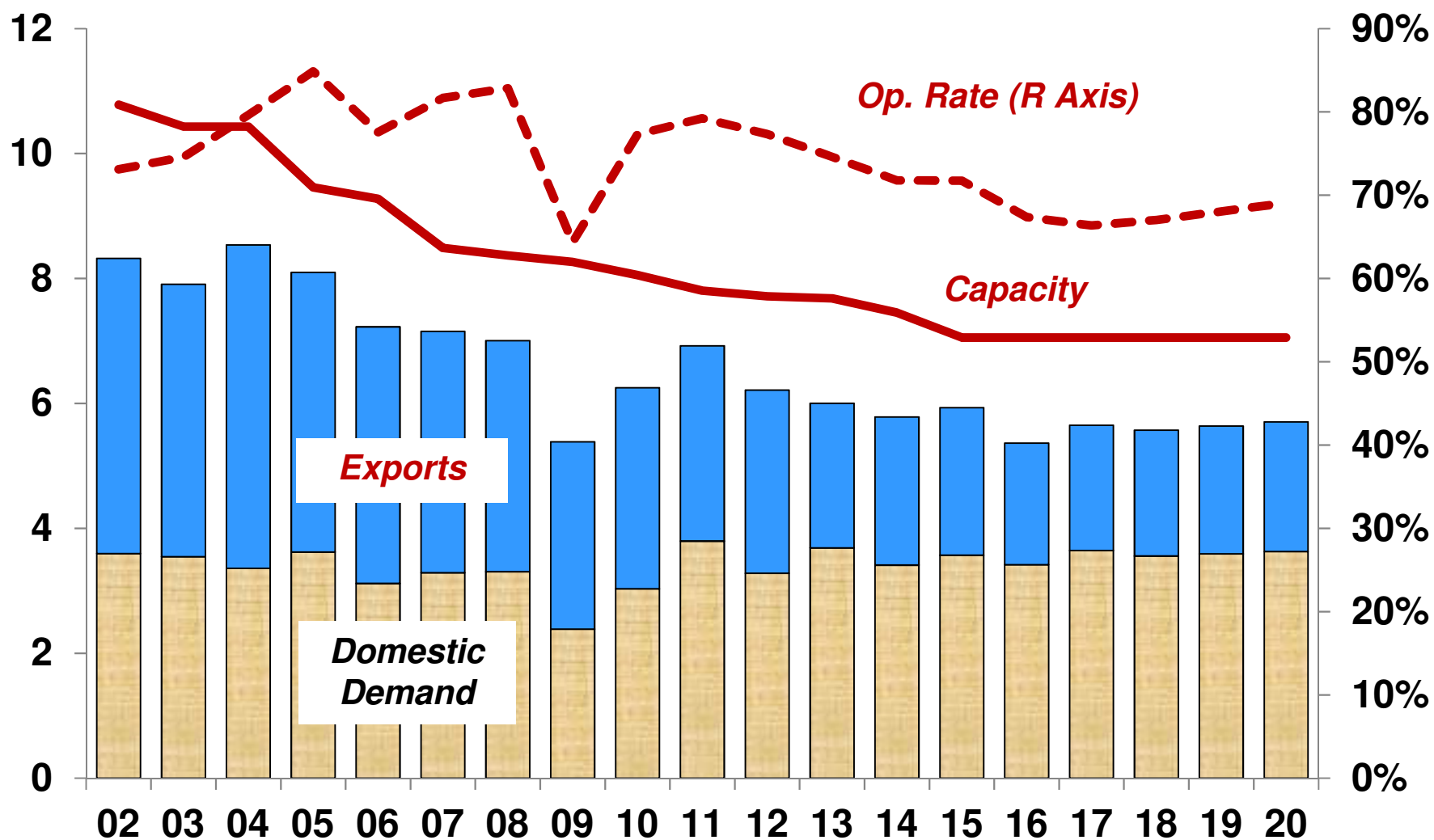
World Phos Acid Supply/Demand

(MM Tonnes P2O5)



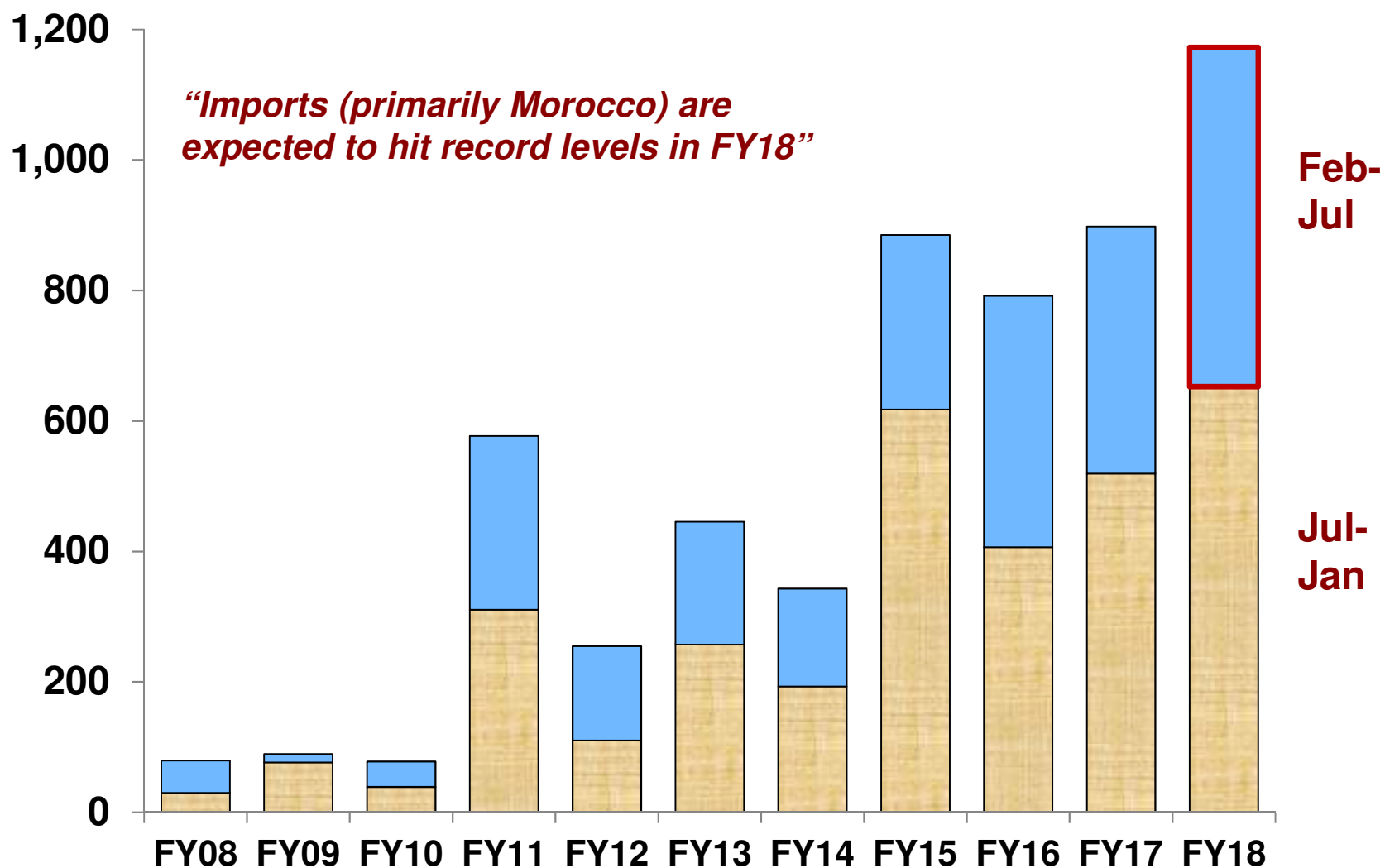
U.S. DAP/MAP Supply/Demand

(MM Tonnes P2O5)



U.S. DAP/MAP Imports

(000 Nutrient Tons)

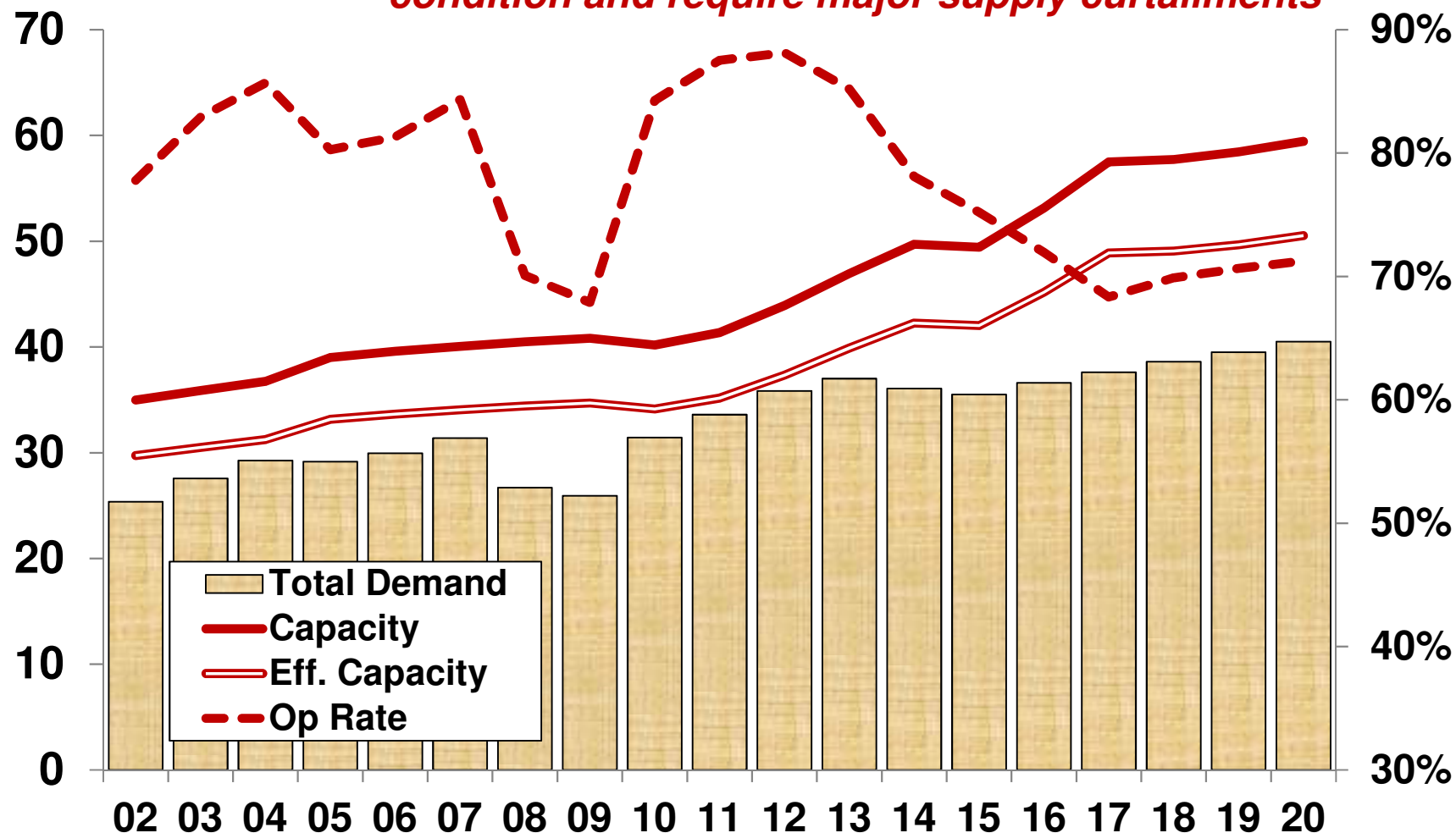


Potash Outlook

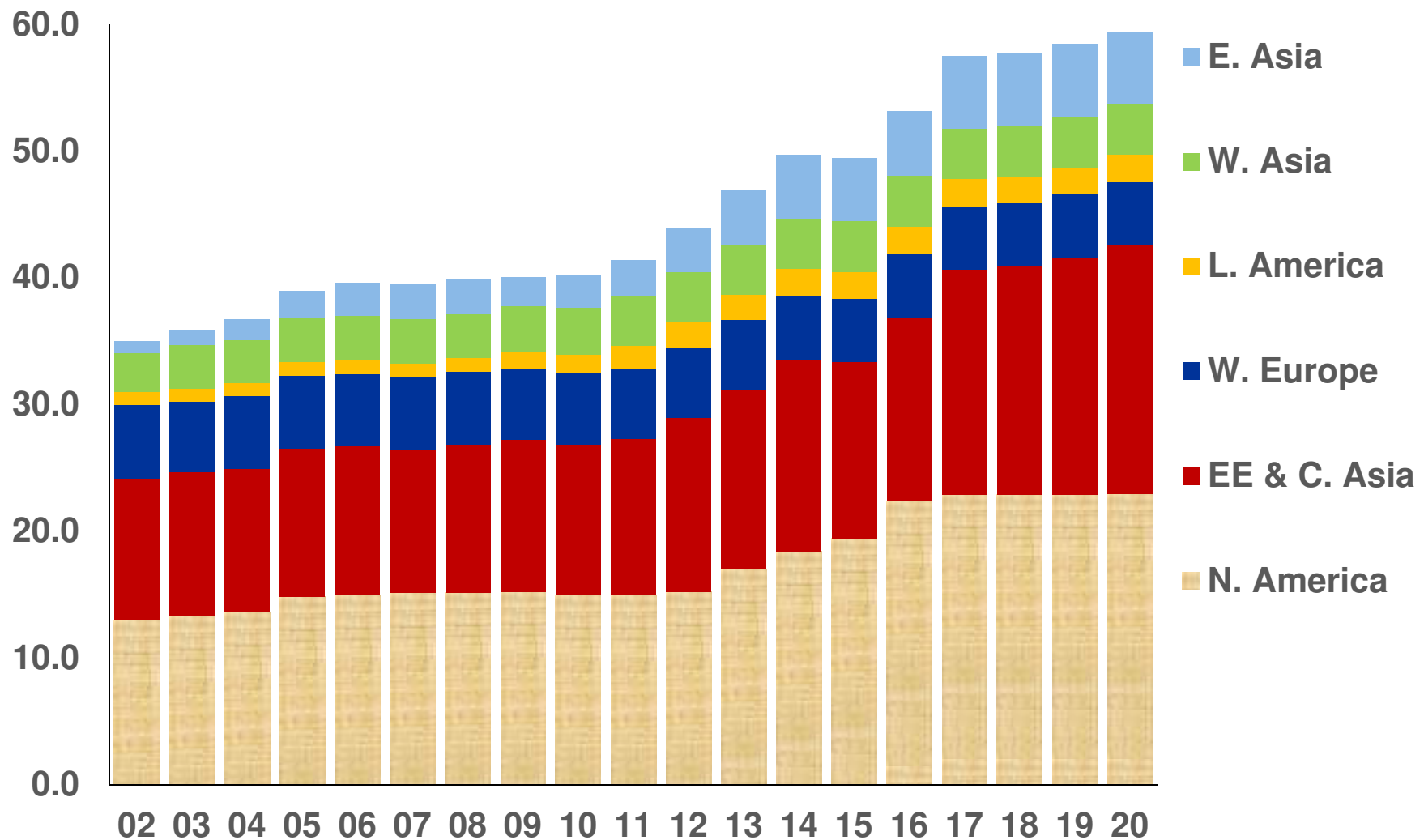
World Potash Supply/Demand

(MM Tonnes K₂O)

“World S/D expected to remain in an oversupply condition and require major supply curtailments”



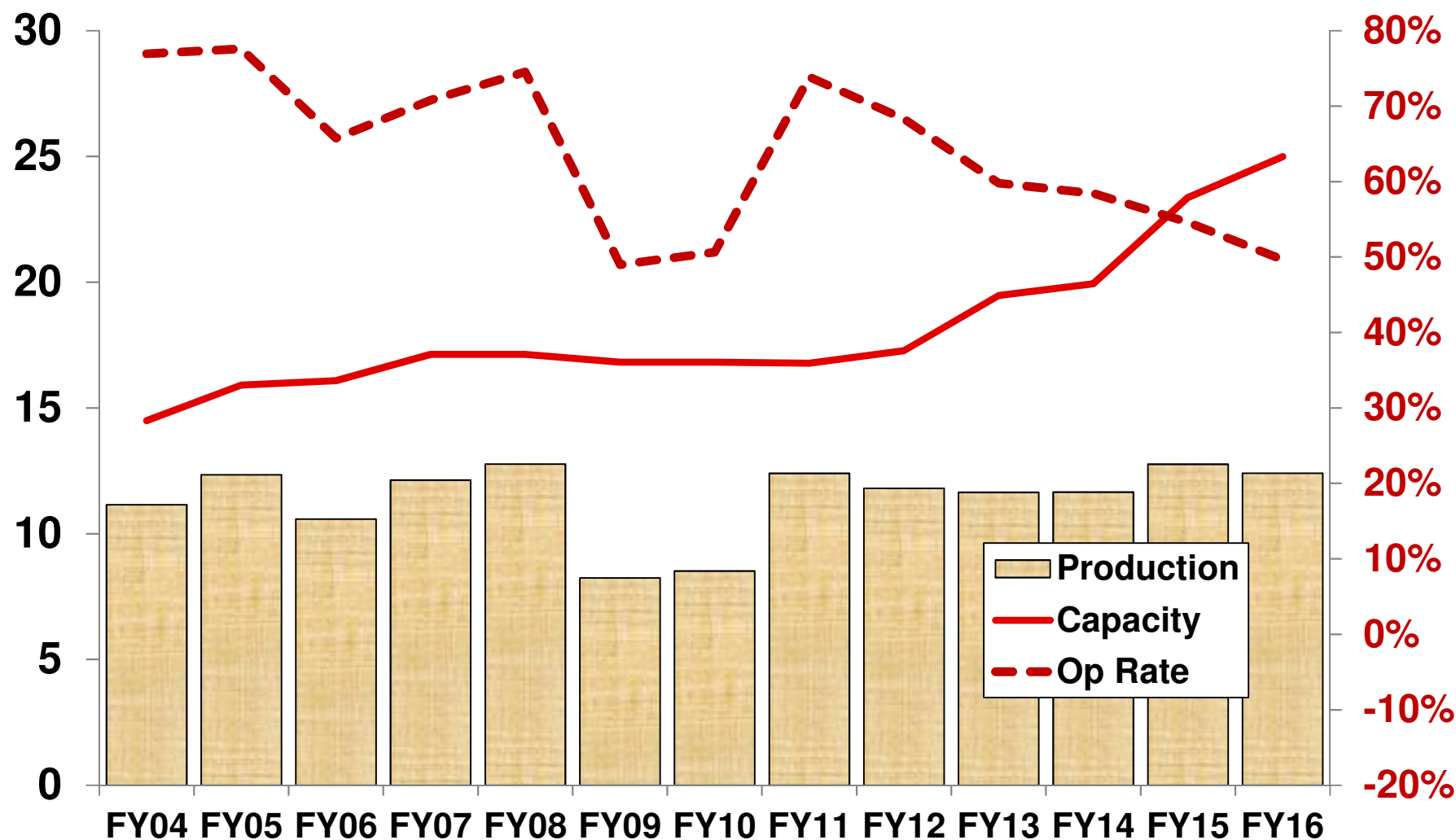
World Potash Mine Capacity (MM Tonnes K₂O)



Source: IFA, NPKFAS

N.A. Potash Production & Capacity

(MM Tons K₂O)



N.A. Potash Supply/Demand

(MM Tons K2O)

	FY15	FY16	FY17	FY18	Change FY17-18
Production	12,761	12,273	13,215	14,420	1,205
Imports	1151	642	1148	888	-260
Total	13,912	12,915	14,363	15,308	945
Demand					
Domestic	8,249	6,638	8,632	8,834	202
Export	5833	5298	6039	6248	210
Total	14,082	11,936	14,671	15,082	411
End. Inv.	1,414	2,393	2,085	2,310	225

QUESTIONS?

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