CLFMA OF INDIA

protein PARADOX

KEVIN ROEPKE
USSEC REGIONAL DIRECTOR

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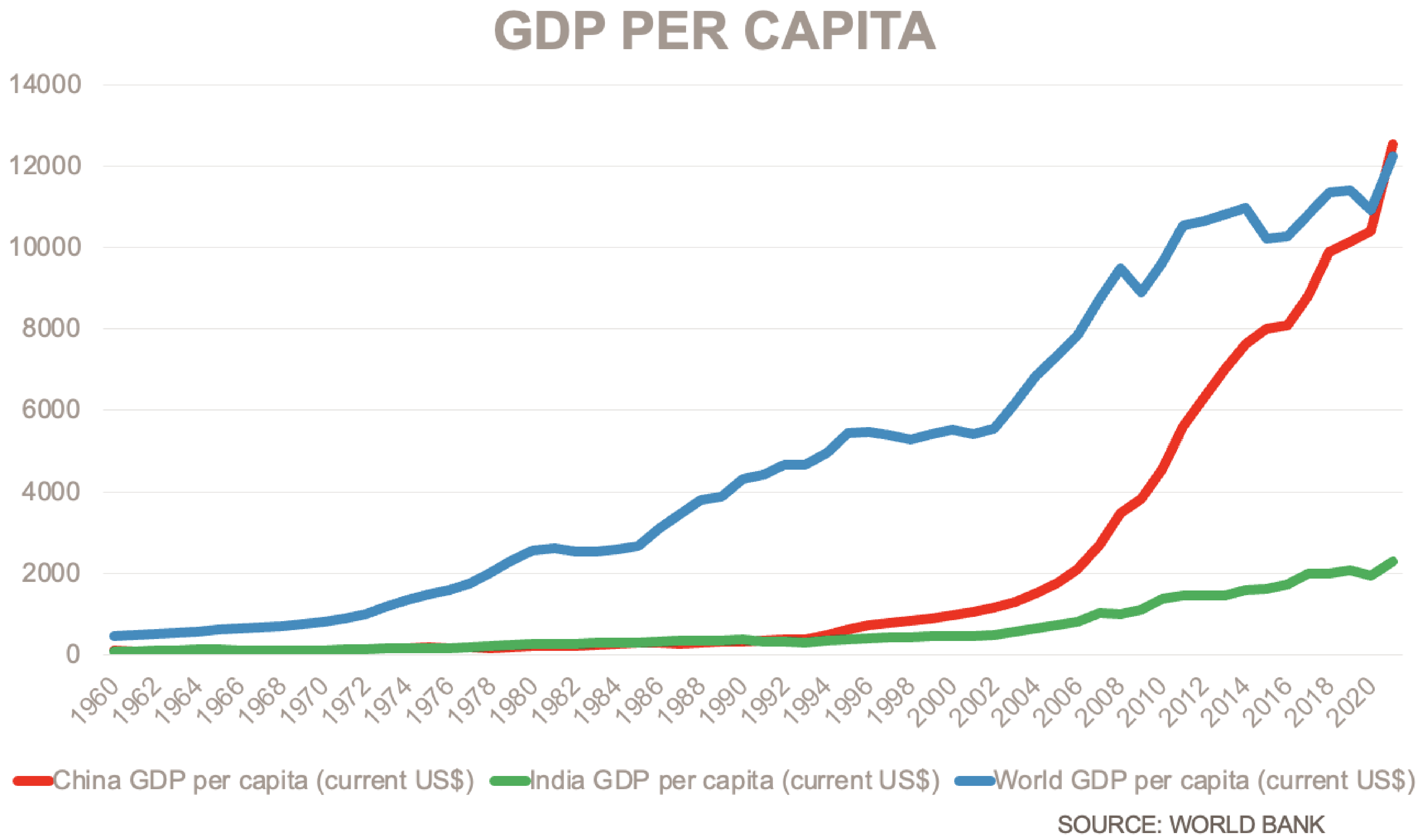
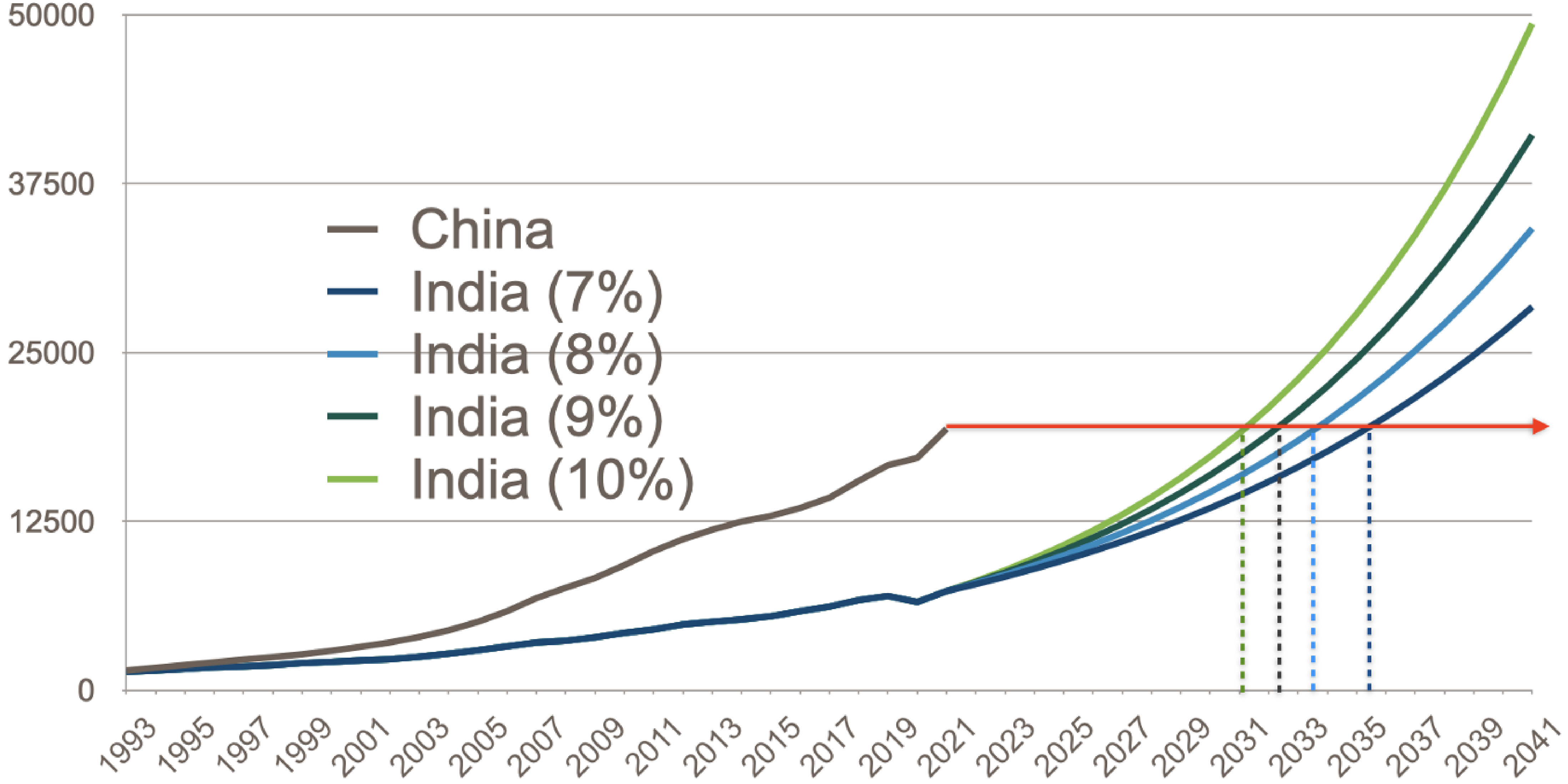

GDP PER CAPITA
14000
12000
10000
8000
6000
4000
2000
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
China GDP per capita (current US$)
India GDP per capita (current US$)
World GDP per capita (current US$)
SOURCE: WORLD BANK

INDIA PPP SCENARIOS ($)

SOURCE: WORLD BANK/USSEC

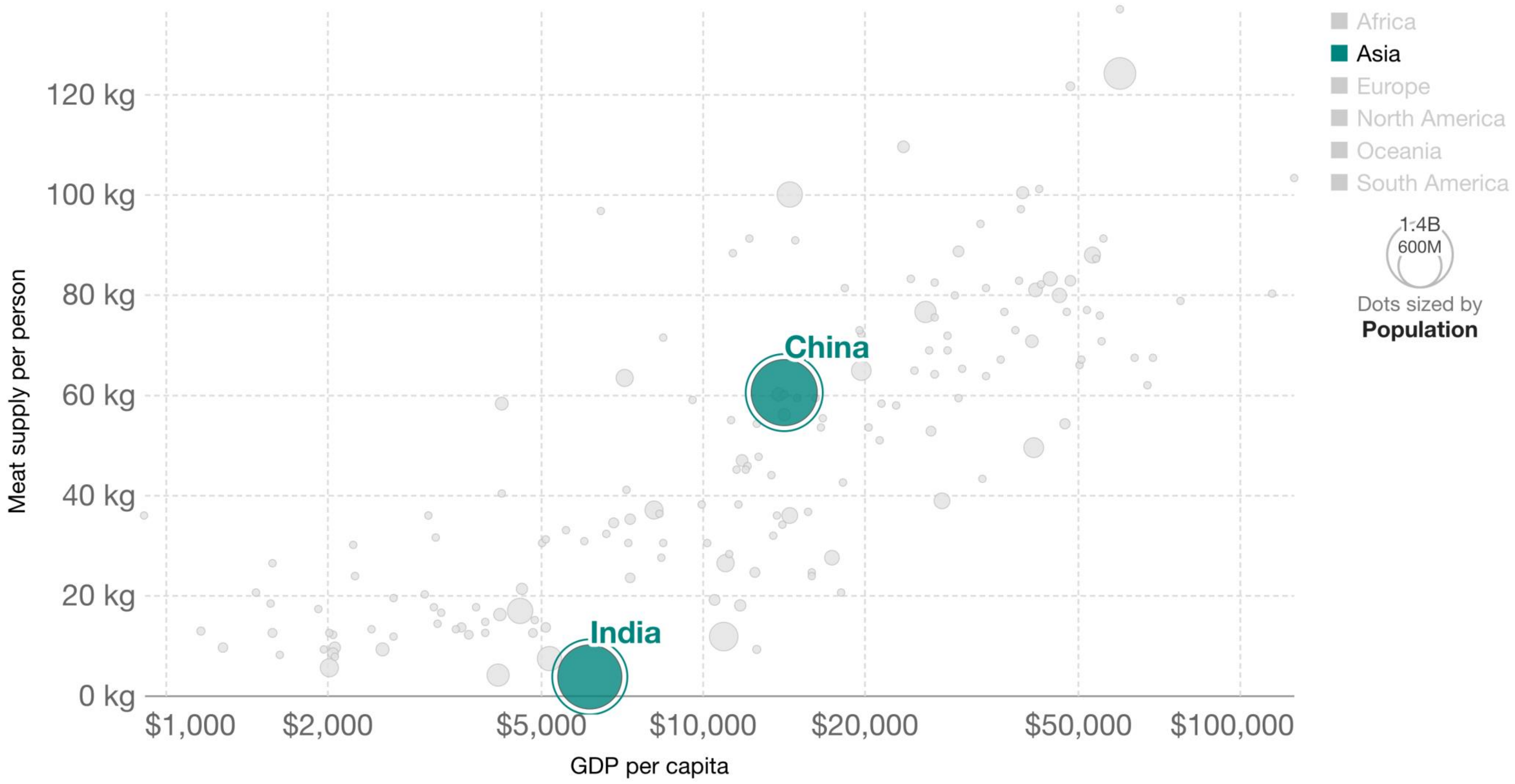


Our World in Data

CLFMA OF INDIA

Meat consumption vs. GDP per capita, 2017

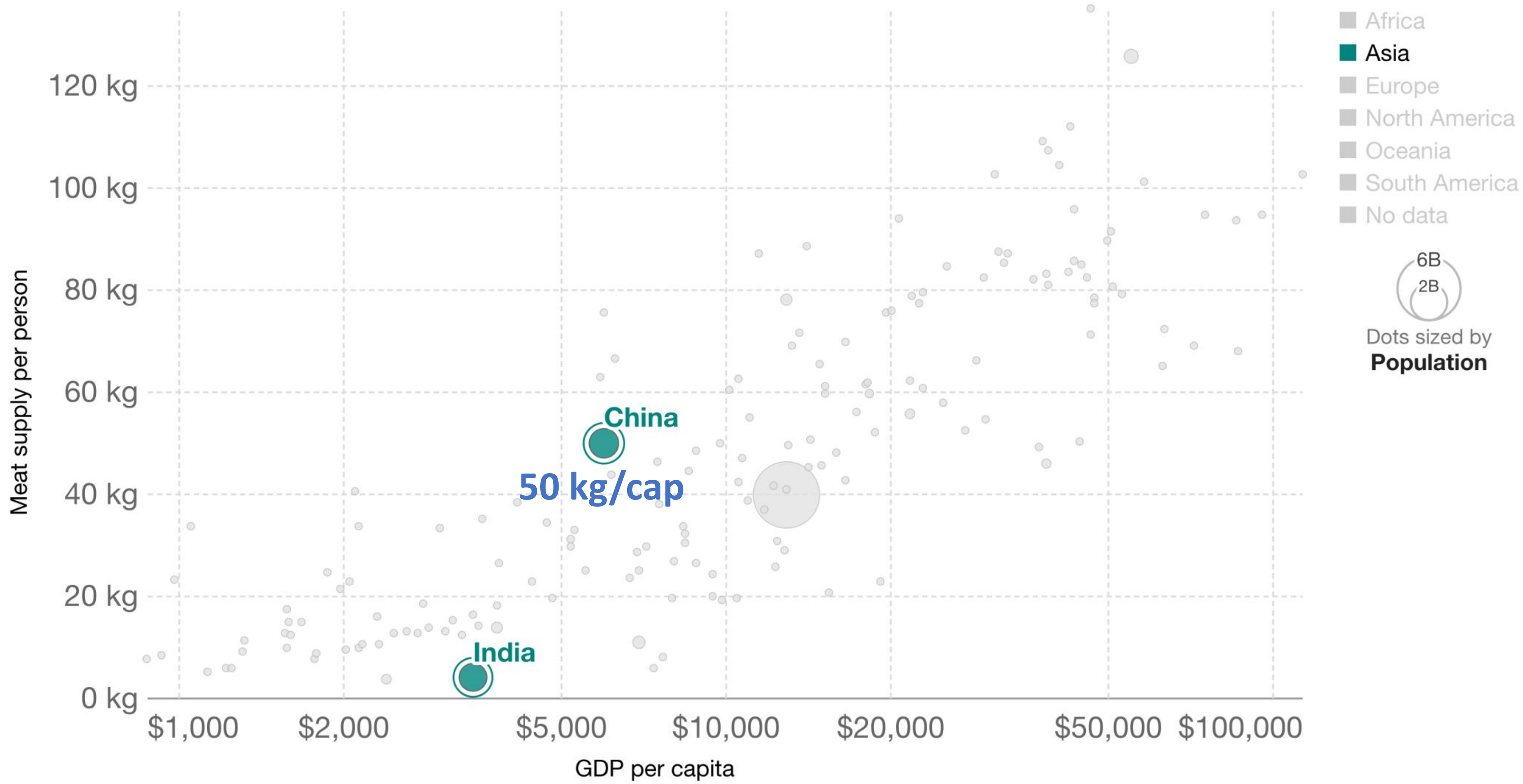
Average meat consumption per capita, measured in kilograms per year versus gross domestic product (GDP) per capita measured in constant international-$. International-$ corrects for price differences across countries. Figures do not include fish or seafood.



Source: Food and Agriculture Organization of the United Nations, Data compiled from multiple sources by World Bank
OurWorldInData.org/meat-production •

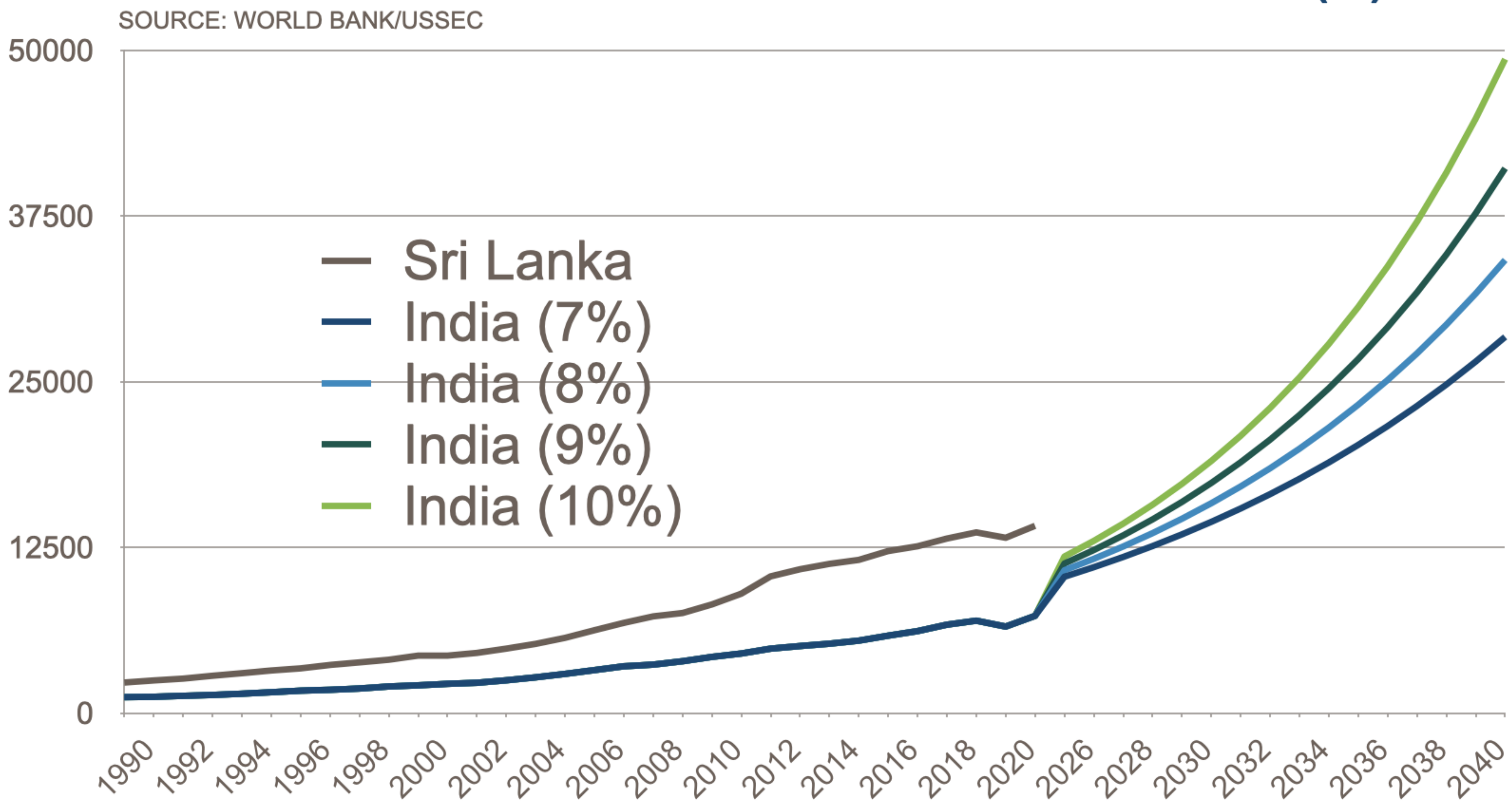
Meat consumption vs. GDP per capita, 2006

Average meat consumption per capita, measured in kilograms per year versus gross domestic product (GDP) per capita measured in constant international-$. International-$ corrects for price differences across countries. Figures do not include fish or seafood.



Source: Food and Agriculture Organization of the United Nations; Data compiled from multiple sources by World Bank
OurWorldInData.org/meat-production • CC BY

INDIA PPP SCENARIOS v SRI LANKA ($)



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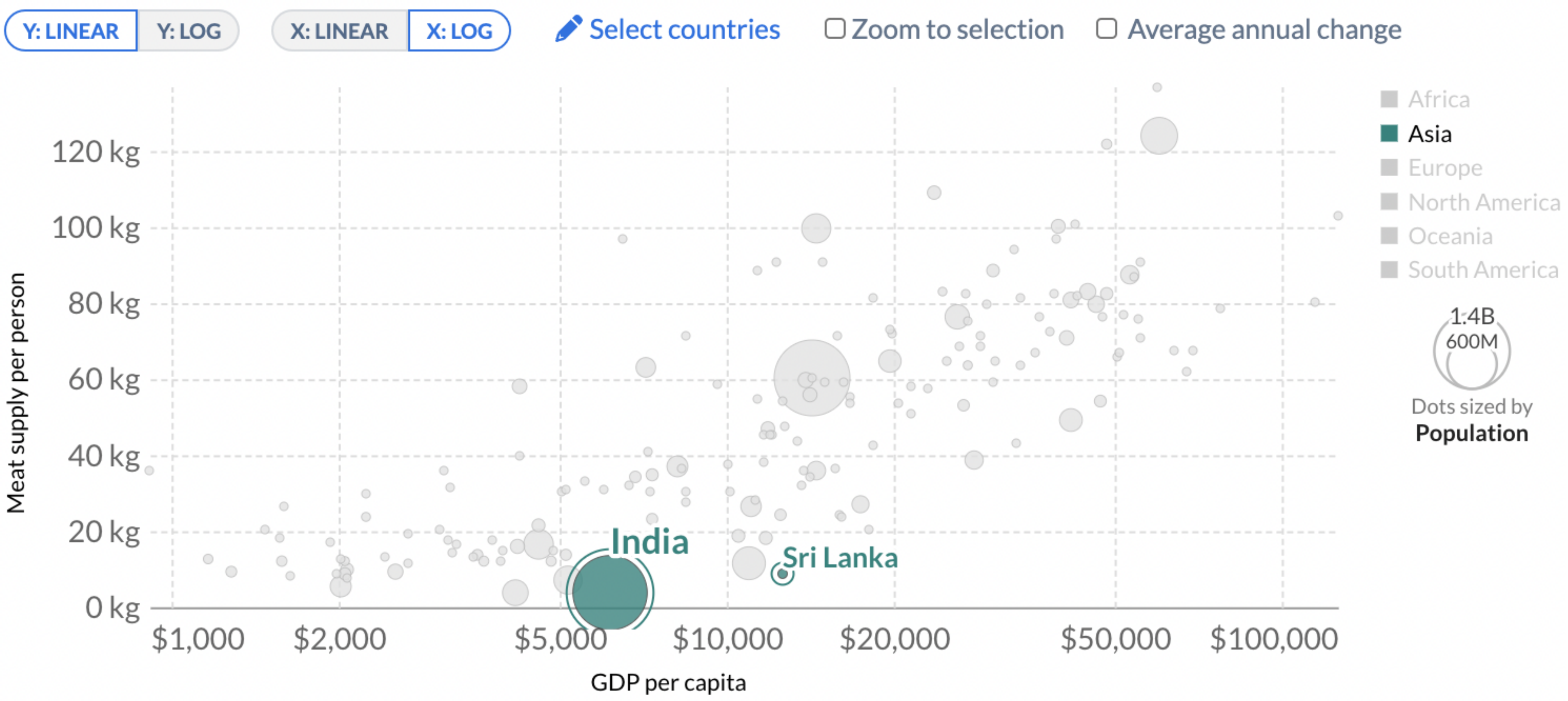

Source: Food and Agriculture Organization of the United Nations; Data compiled from multiple sources by World Bank
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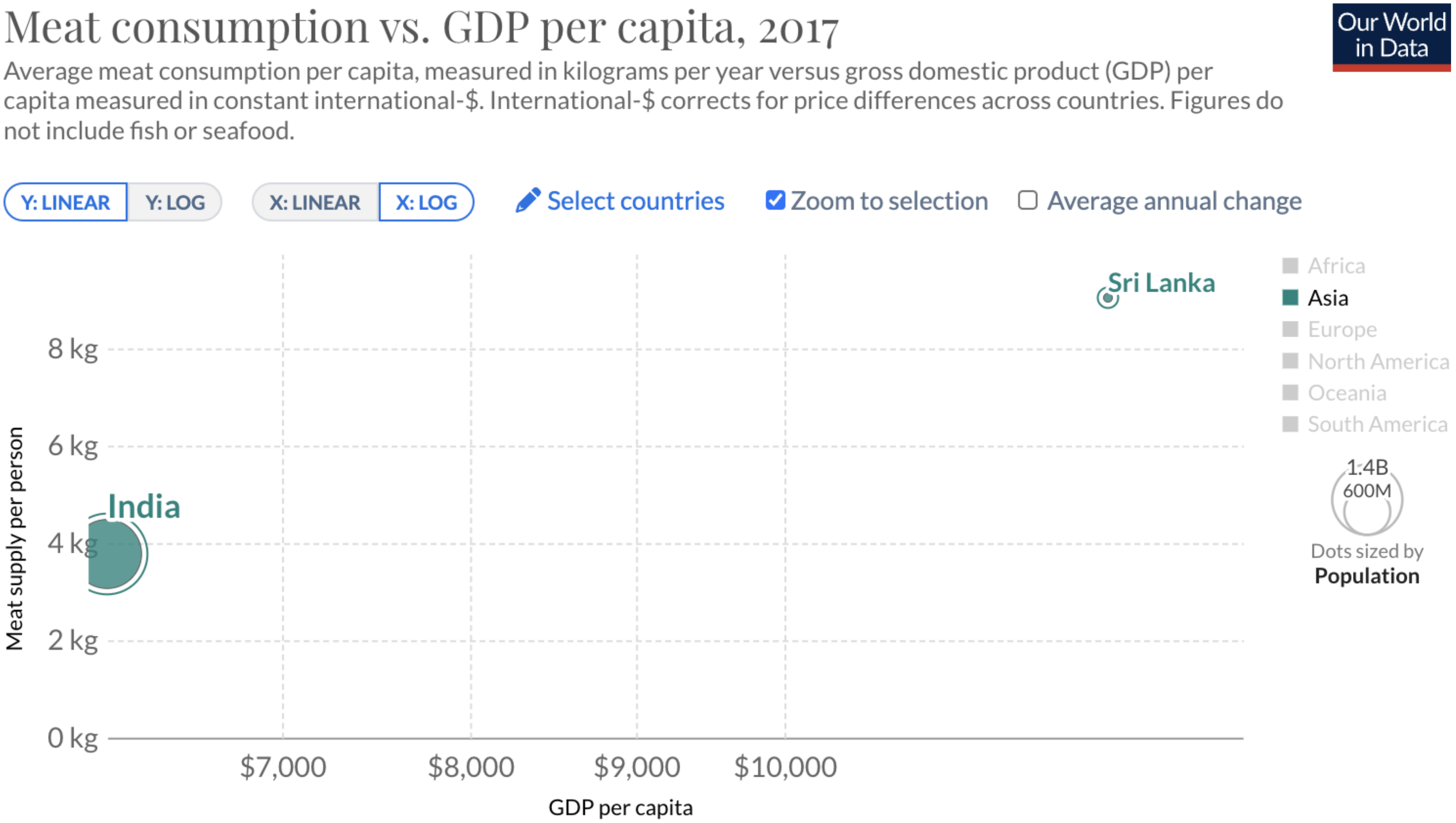

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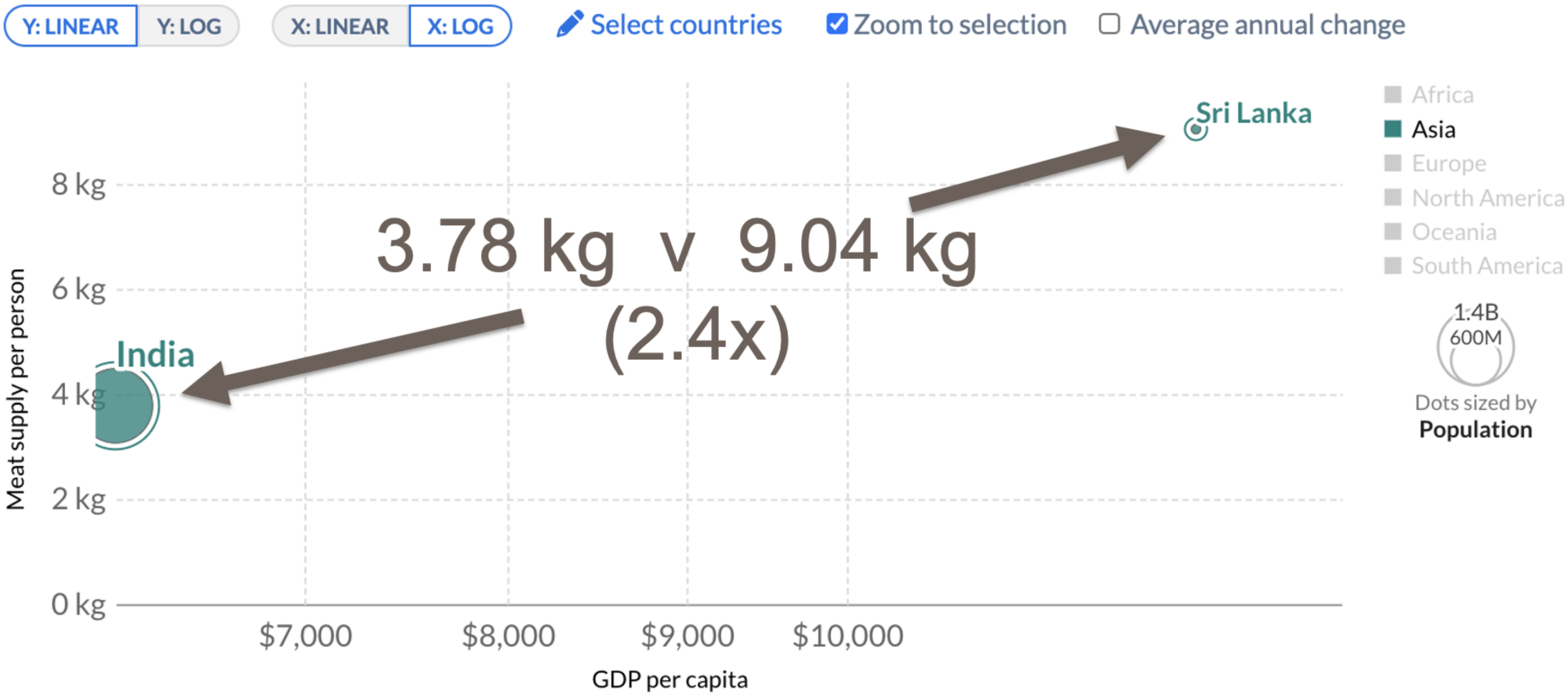

Source: Food and Agriculture Organization of the United Nations; Data compiled from multiple sources by World Bank
OurWorldInData.org/meat-production •

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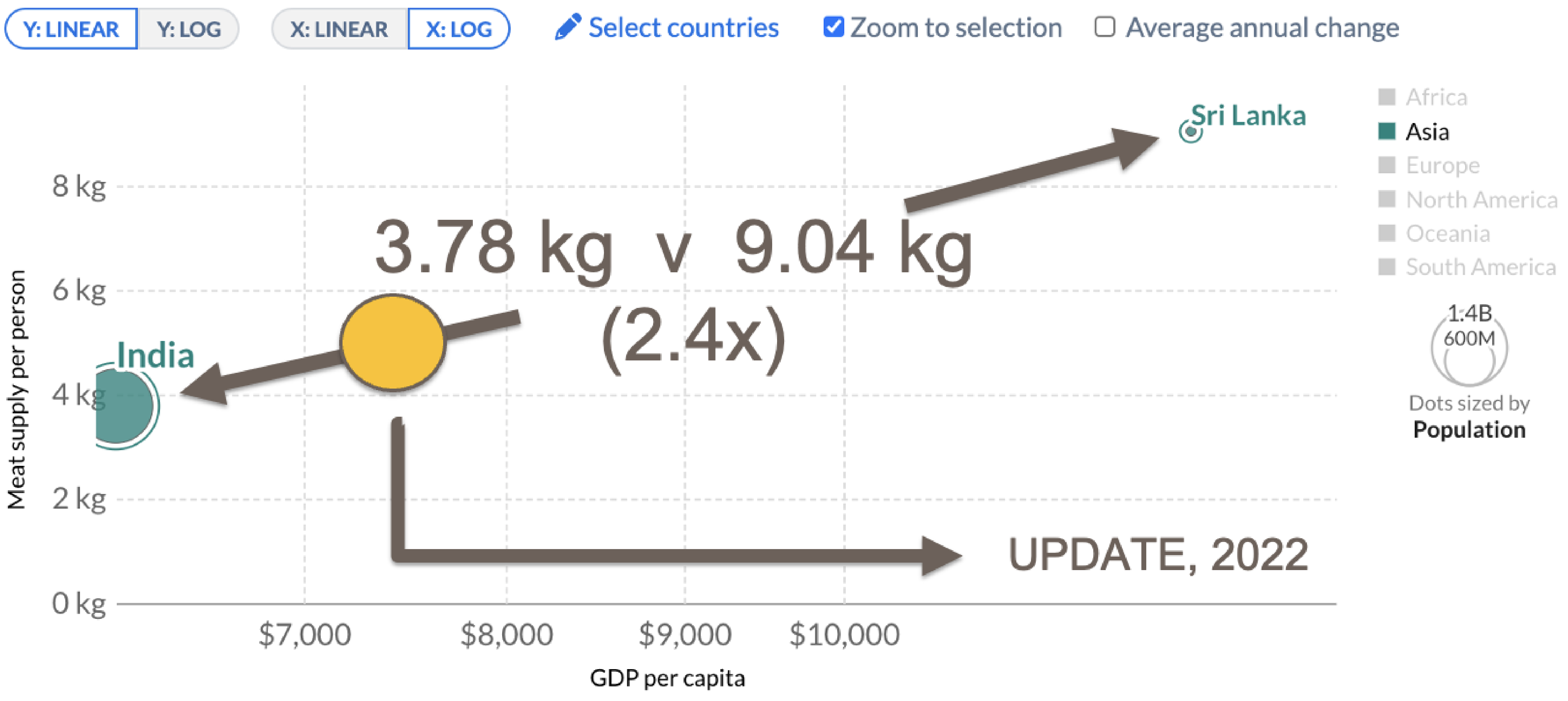
Average meat consumption per capita, measured in kilograms per year versus gross domestic product (GDP) per capita measured in constant international-$. International-$ corrects for price differences across countries. Figures do not include fish or seafood.



Source: Food and Agriculture Organization of the United Nations; Data compiled from multiple sources by World Bank
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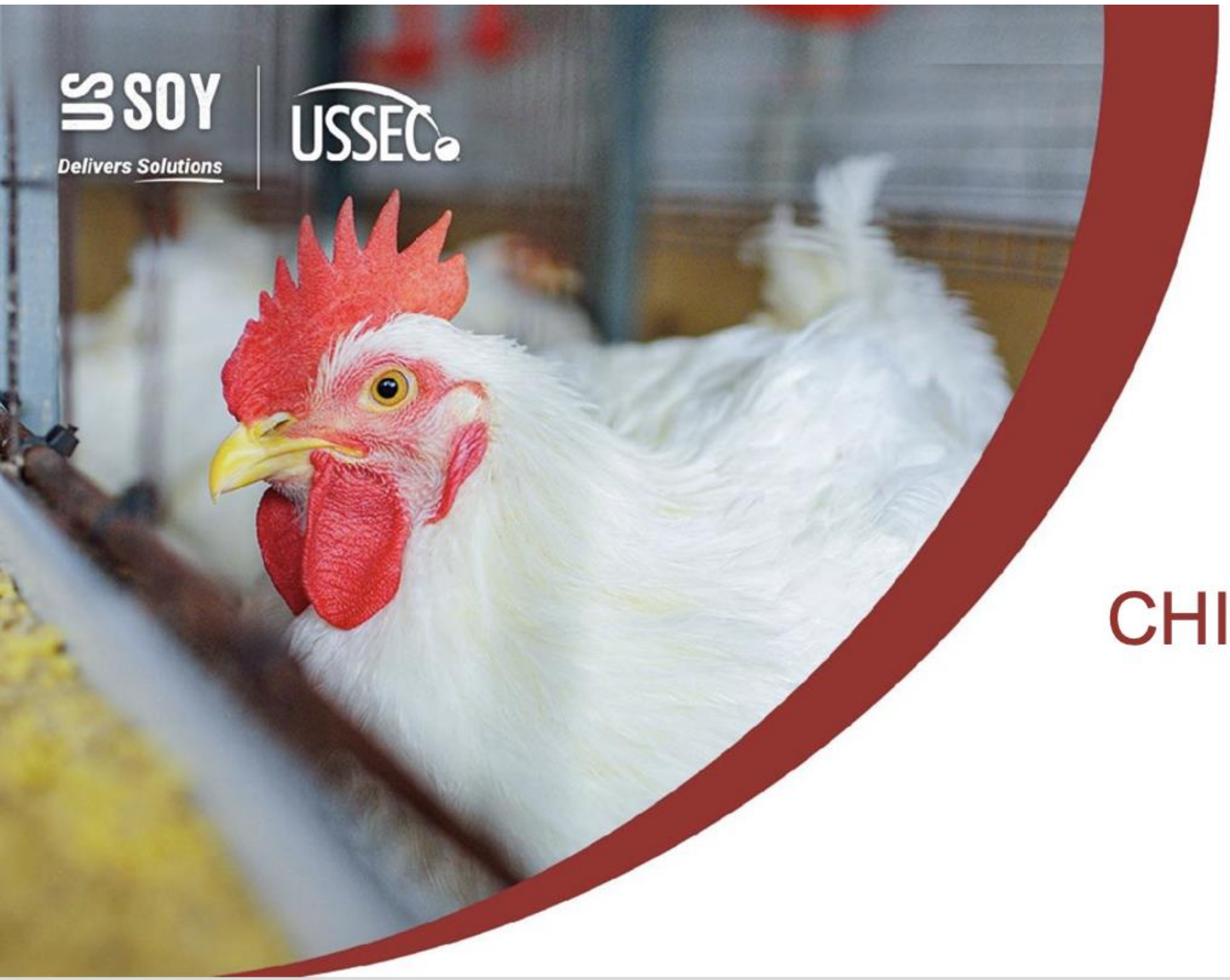
POINT NUMBER 1

INDIA COULD EXPECT TO BE AT THE PPP THAT SRI LANKA IS NOW WITHIN THE NEXT 5-10 YEARS.

IF THAT HOLDS TRUE, THE COMMENSURATE INCREASE IN POULTRY CONSUMPTION WOULD BE 2x! THIS WOULD IMPLY APPROX 10 KG/PER CAPITA

- X FACTOR—INDIA HAS 200 MILLION MUSLIMS THAT ARE OCCASIONALLY SUBSTITUTING POULTRY FOR BEEF
- Y FACTOR—INDIA'S ENORMOUS, BUT DISORGANIZED DAIRY SECTOR PROVIDES A TREMENDOUS OPPORTUNITY FOR ANIMAL FEED



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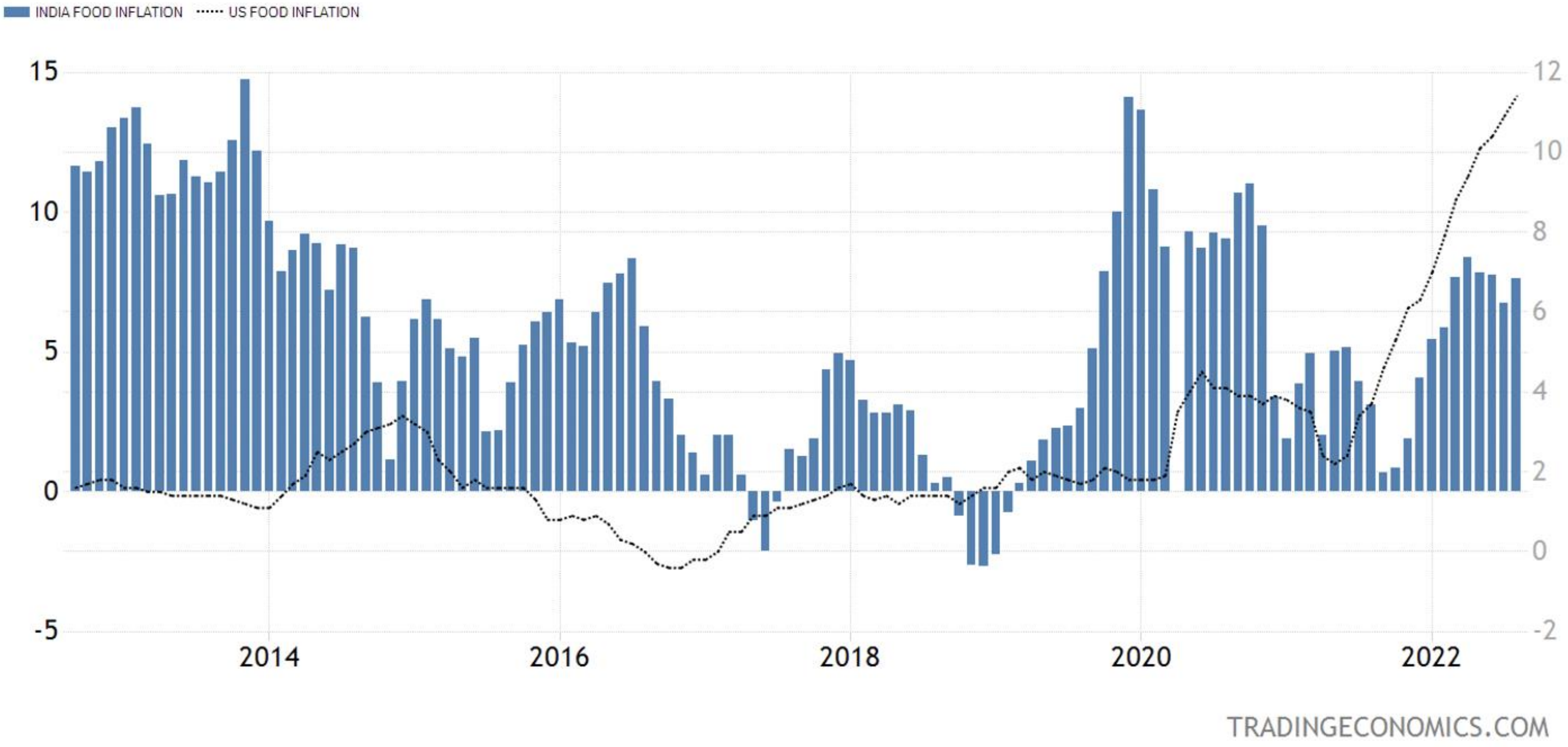
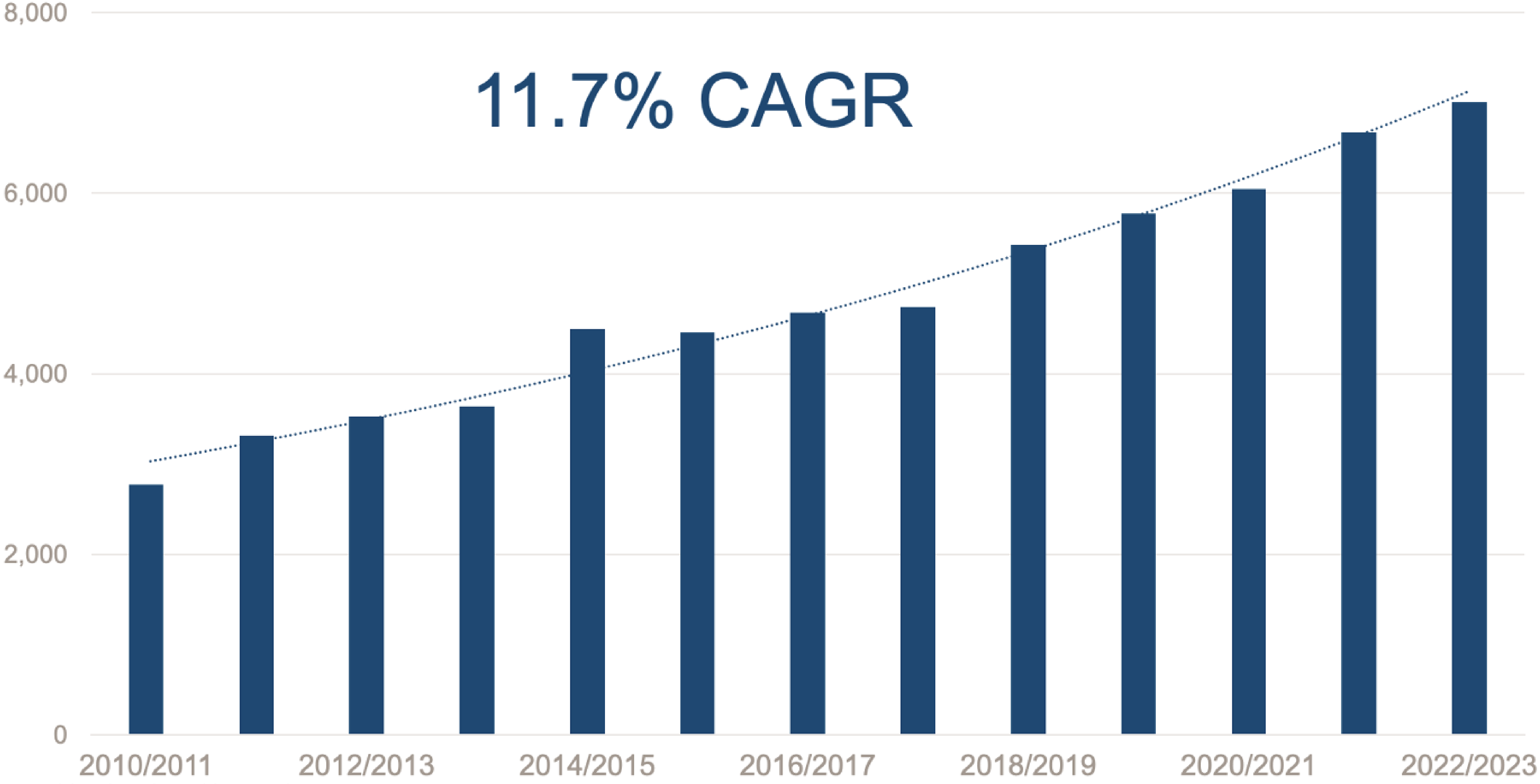
CHICKENOMICS

US vs INDIA FOOD INFLATION



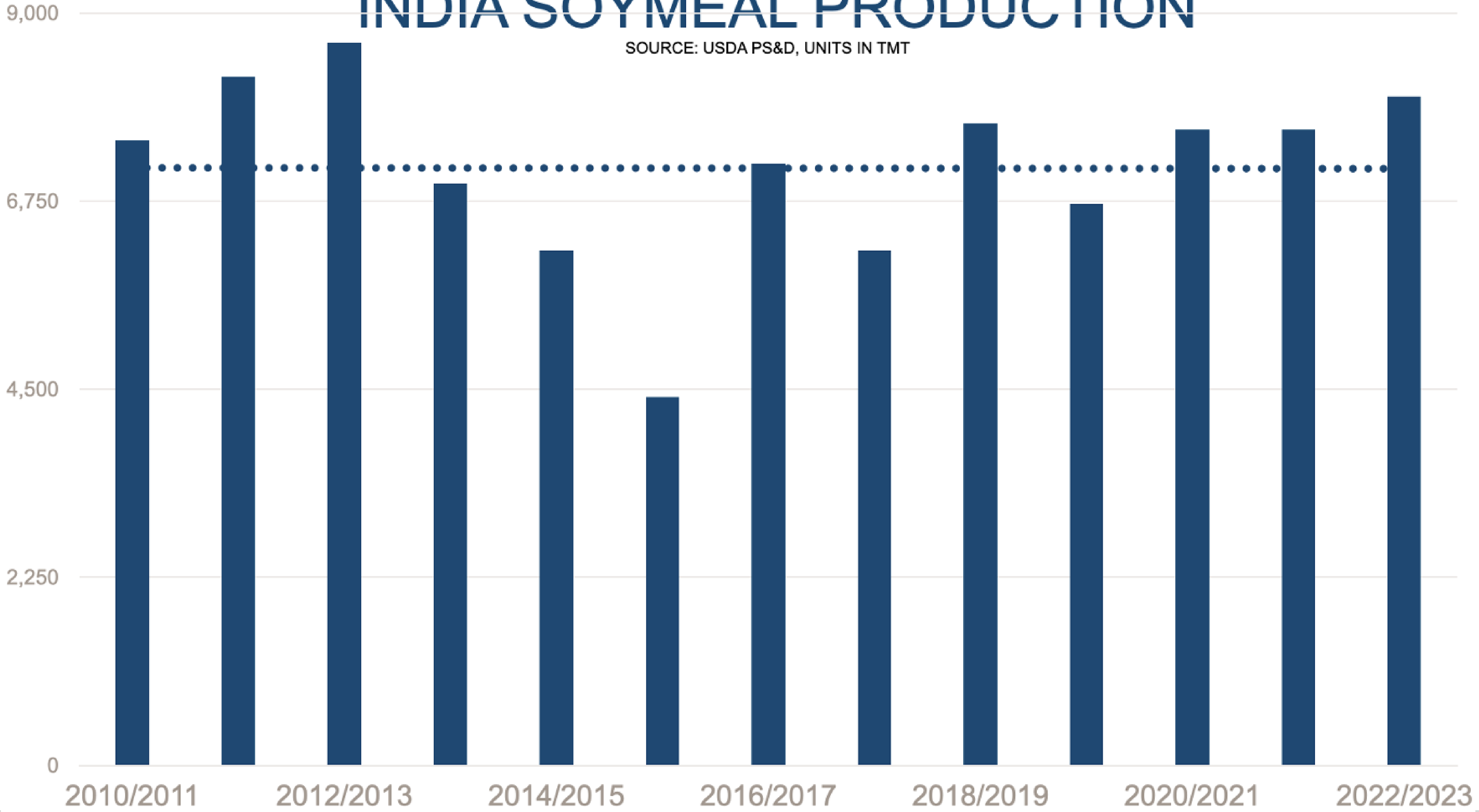
INDIA SOYMEAL CONSUMPTION



SOURCE: USDA PS&D, UNITS IN TMT

INDIA SOYMEAL PRODUCTION

SOURCE: USDA PS&D, UNITS IN TMT



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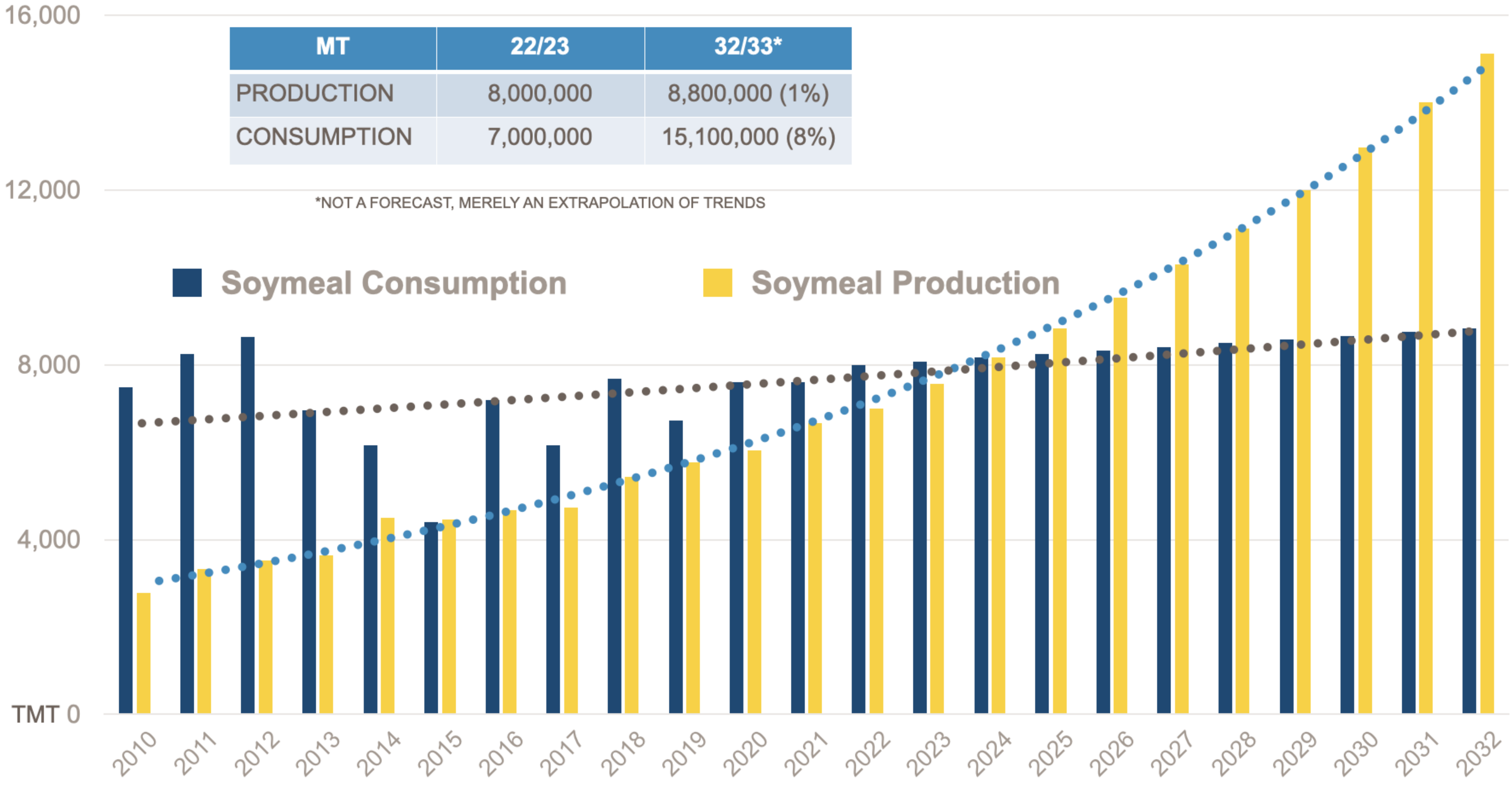
INDIA SOYMEAL CONSUMPTION v PRODUCTION

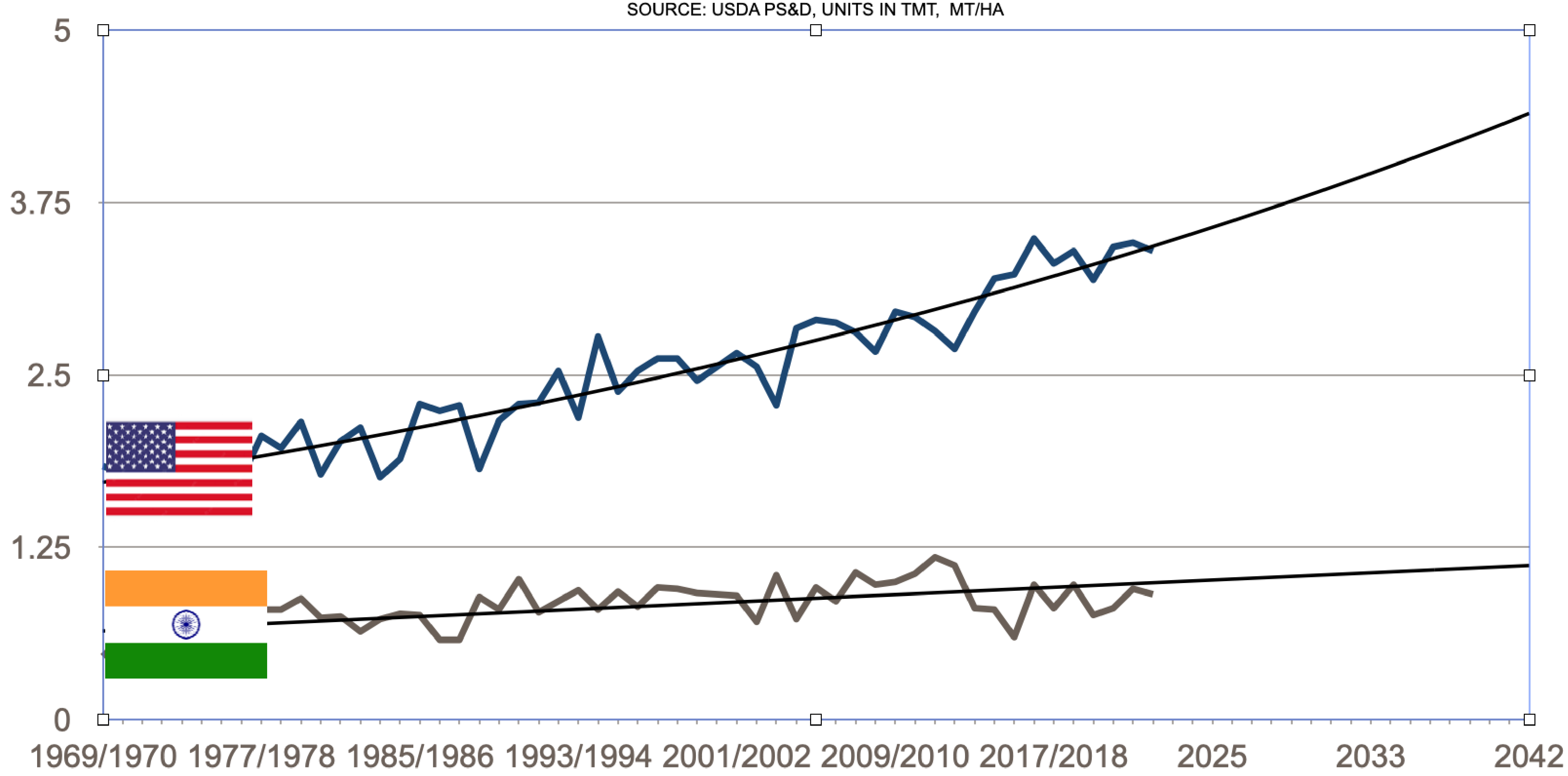
MT	22/23	32/33*
PRODUCTION	8,000,000	8,800,000 (1%)
CONSUMPTION	7,000,000	15,100,000 (8%)

*NOT A FORECAST, MERELY AN EXTRAPOLATION OF TRENDS



SOURCE: USDA PS&D, UNITS IN TMT

INDIA vs US SOYBEAN YIELDS



POINT NUMBER 2

INDIA'S IMPRESSIVE POULTRY AND AQUA SECTORS CONTINUE TO GROW AT REMARKABLE RATES, DRIVING SOYBEAN MEAL CONSUMPTION.

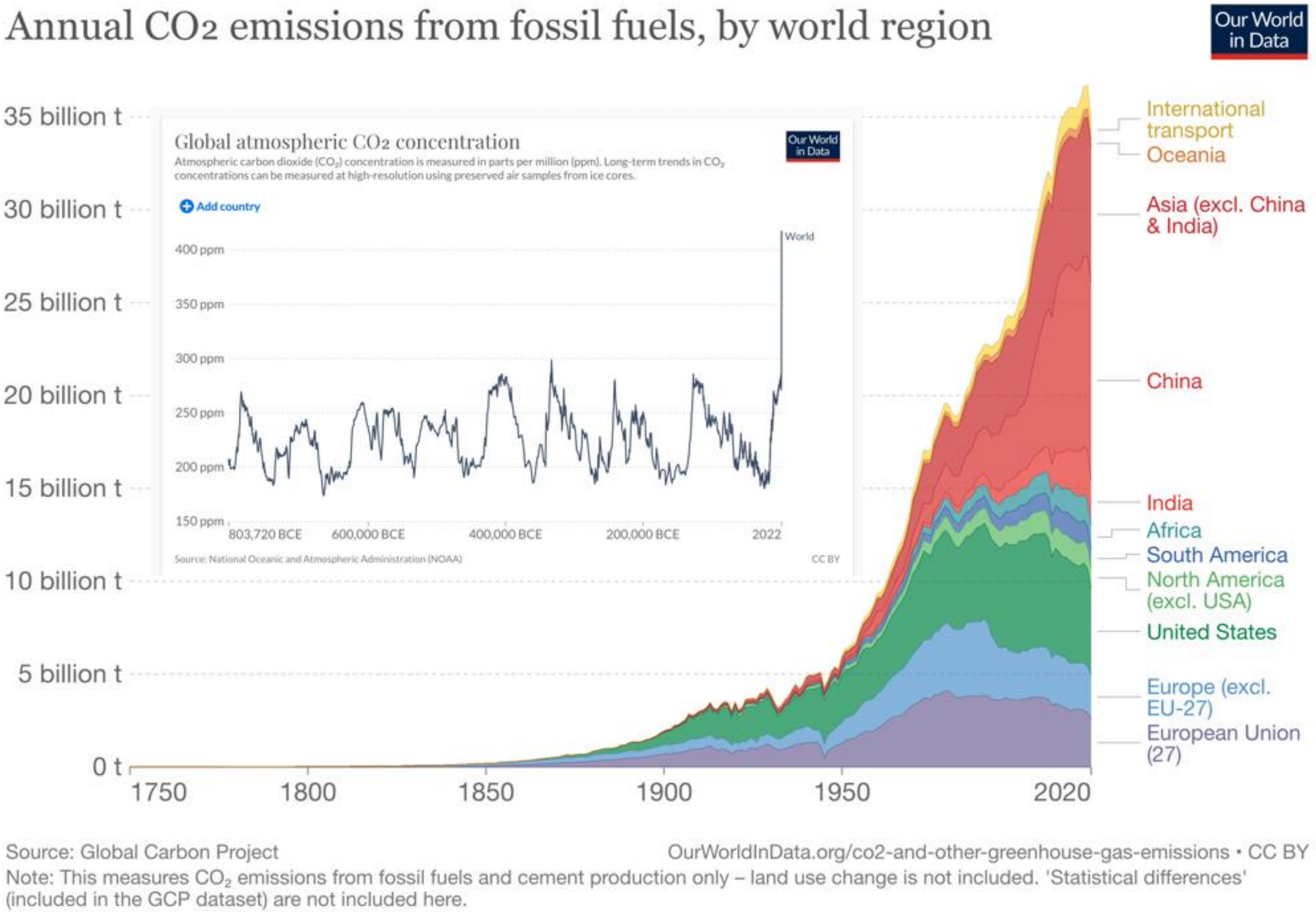
MEANWHILE, STAGNANT YIELDS HAVE RESULTED IN MUCH SLOWER GROWTH FOR INDIAN SOYMEAL PRODUCTION.

THEREFORE, CURRENT TREND LINES SUGGEST INDIA'S SOYMEAL SHORTAGE TO BECOME MORE AND MORE COMMON

RENEWABLE DIESEL

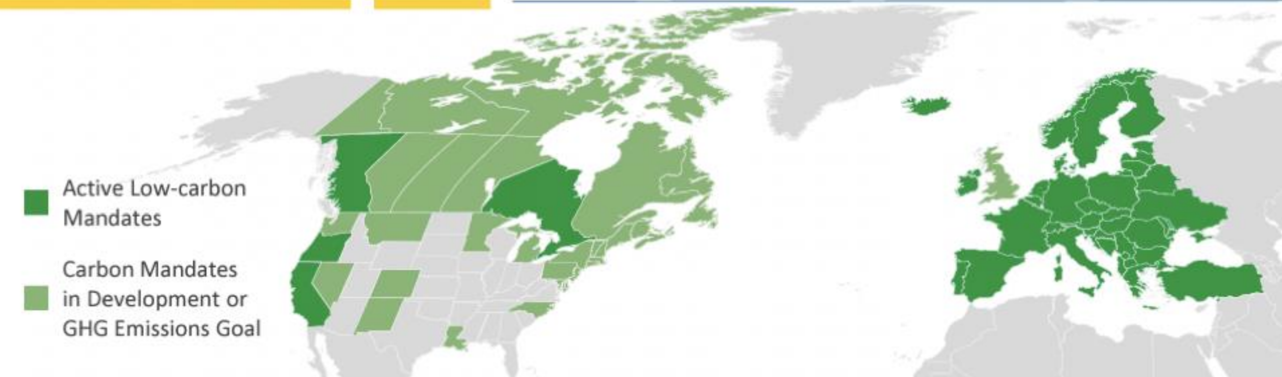
US SOY Delivers Solutions | USSEC

US Soy

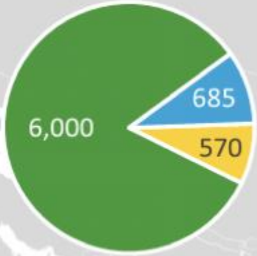


Annual CO2 emissions from fossil fuels, by world region
Our World in Data
35 billion t
30 billion t
25 billion t
20 billion t
15 billion t
10 billion t
5 billion t
0 t
1750
1800
1850
1900
1950
2020
International transport
Oceania
Asia (excl. China & India)
China
India
Africa
South America
North America (excl. USA)
United States
Europe (excl. EU-27)
European Union (27)
Global atmospheric CO2 concentration
Atmospheric carbon dioxide (CO2) concentration is measured in parts per million (ppm). Long-term trends in CO2 concentrations can be measured at high-resolution using preserved air samples from ice cores.
Add country
World
400 ppm
350 ppm
300 ppm
250 ppm
200 ppm
150 ppm
803,720 BCE
600,000 BCE
400,000 BCE
200,000 BCE
2022
Source: National Oceanic and Atmospheric Administration (NOAA)
CC BY
Source: Global Carbon Project
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY
Note: This measures CO2 emissions from fossil fuels and cement production only – land use change is not included. 'Statistical differences' (included in the GCP dataset) are not included here.

Global Low-carbon Fuel Policies Driving Demand Growth for Renewable Diesel



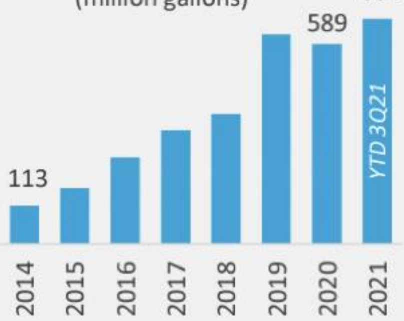
Diesel Demand in Select Markets[1]
~7,300



Current RD and BD Consumption[1]
<500

California Renewable Diesel Consumption

(million gallons)



	2030 GHG Emissions Reduction Target	Net-zero GHG Emissions Target	Primary Transportation Fuel Policy Mechanism	2030 Liquid Fuels Goal
California	40%	Net-zero by 2045	Low Carbon Fuel Standard (LCFS)	Reduce the carbon intensity of transportation fuels by at least 20%
Canada	30%	Net-zero by 2050	Clean Fuel Standard (CFS) – enforcement expected 2022	Reduce the carbon intensity of transportation fuels by ~13%
EU	40%	Net-zero by 2050	Renewable Energy Directive II (RED II)	Replace 14% of transport fuels with renewable energy

Other Policies in Place

- Oregon's Clean Fuels Program requires a 10% carbon intensity reduction by 2025; has proposed a 25% reduction by 2035
- Washington State's legislature has passed an LCFS that requires a 20% carbon intensity reduction by 2038
- British Columbia and Ontario have existing low-carbon fuels policies
- Sweden currently has a 21% GHG reduction requirement for diesel in 2020, increasing to 66% in 2030
- Finland aims for 30% of transport fuels to be biofuels by 2030
- UK requires that 11.9% of transportation fuel meets prescribed sustainability criteria, increasing to 17.4% by 2032

Potential Policies

- New York continues to evaluate an LCFS in order to meet its goal of reducing emissions 85% by 2050
- New Mexico and Minnesota are exploring renewables mandates

LCFS Credit Price

(monthly average, $ per metric ton)

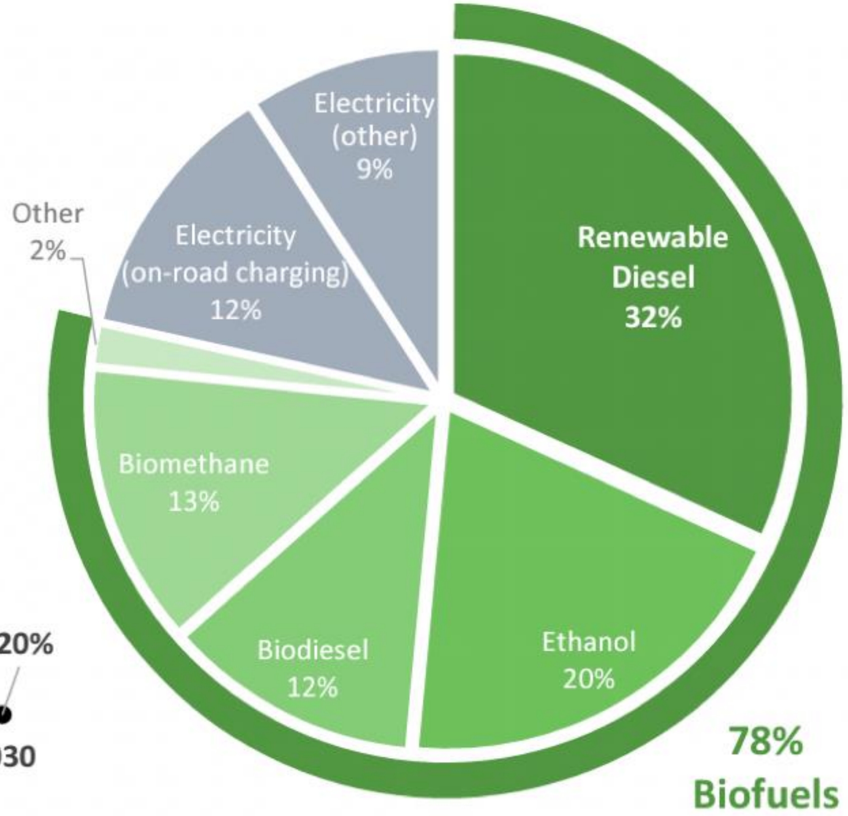
Source: California Air Resources Board. 2021 renewable diesel consumption through 3Q21. LCFS credit price through January 2022.

[1] 2019 diesel demand, inclusive of biofuels, and 2021 Renewable Diesel (RD) and Biodiesel (BD) consumption in Canada, EU, UK, and U.S states with mandates in place or in consideration (CA, OR, WA, NY, NM, and MN only). Data from DOE, CARB, Oregon DEQ, and industry consultants.

Renewable Diesel Driving Low-carbon Results in California

California LCFS Performance
(% reduction in carbon intensity)

LCFS Credit by Fuel Type
(2021)

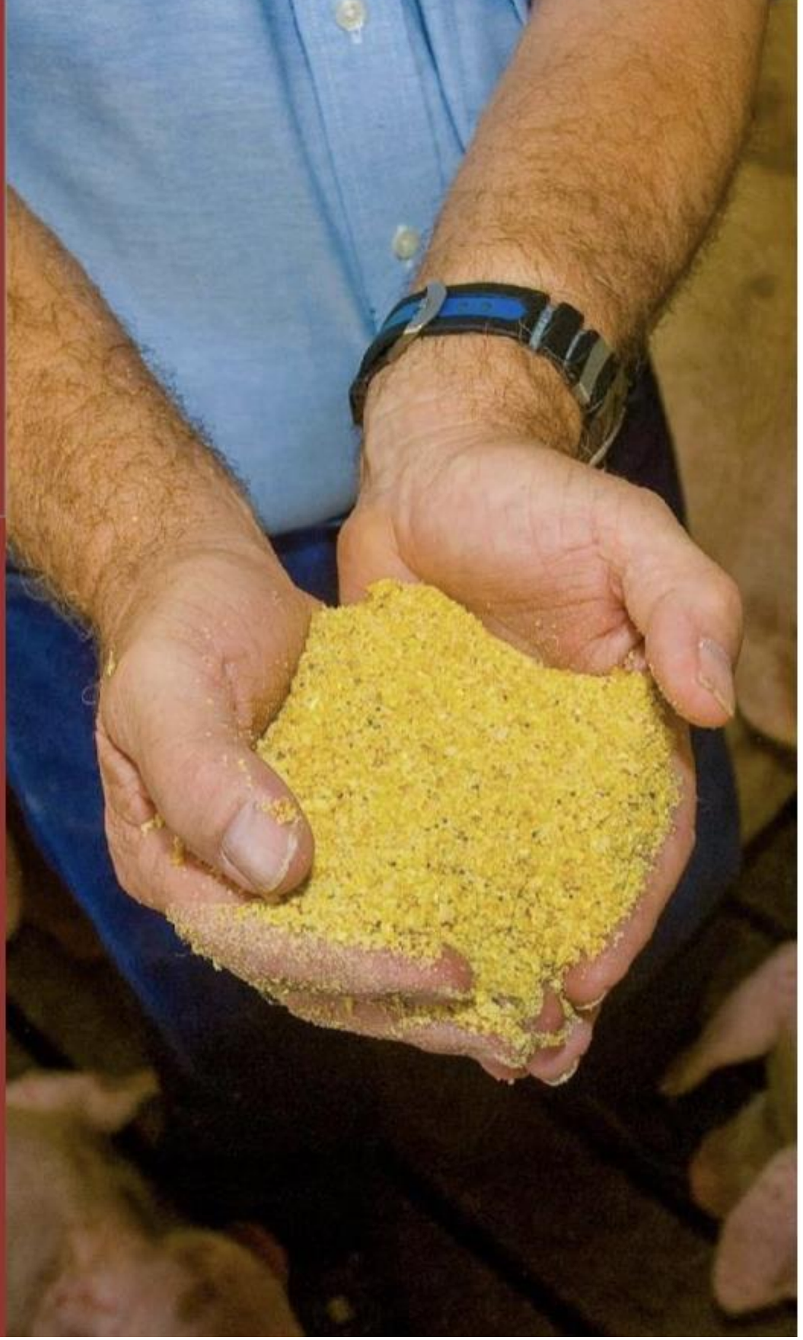


Cost-effective fuel that can be used with existing vehicles

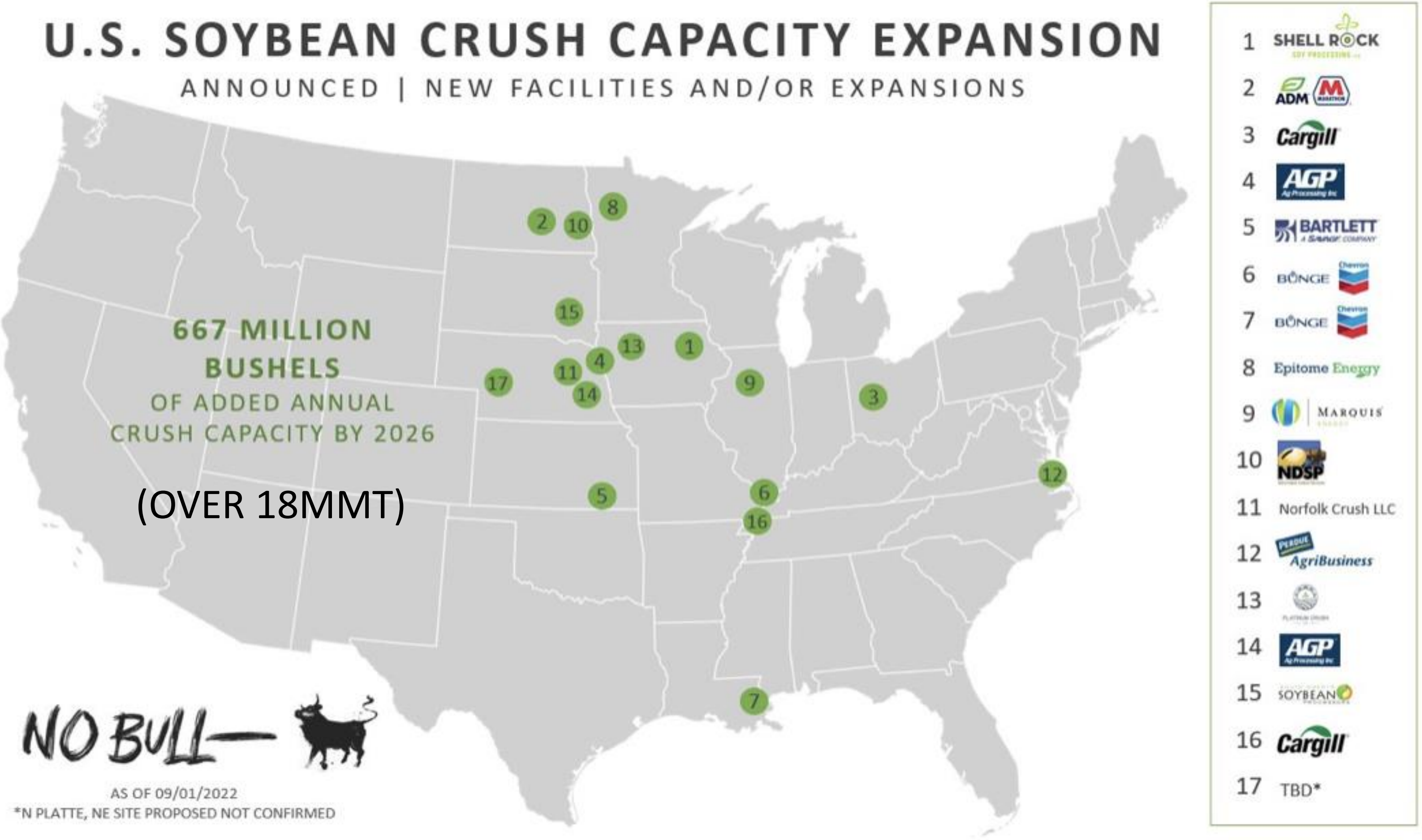
Drop-in fuel that does not require infrastructure investments

Over 3 billion gallons consumed in California since 2011

Source: California Air Resources Board through September 30, 2021. Totals may not crossfoot due to rounding.

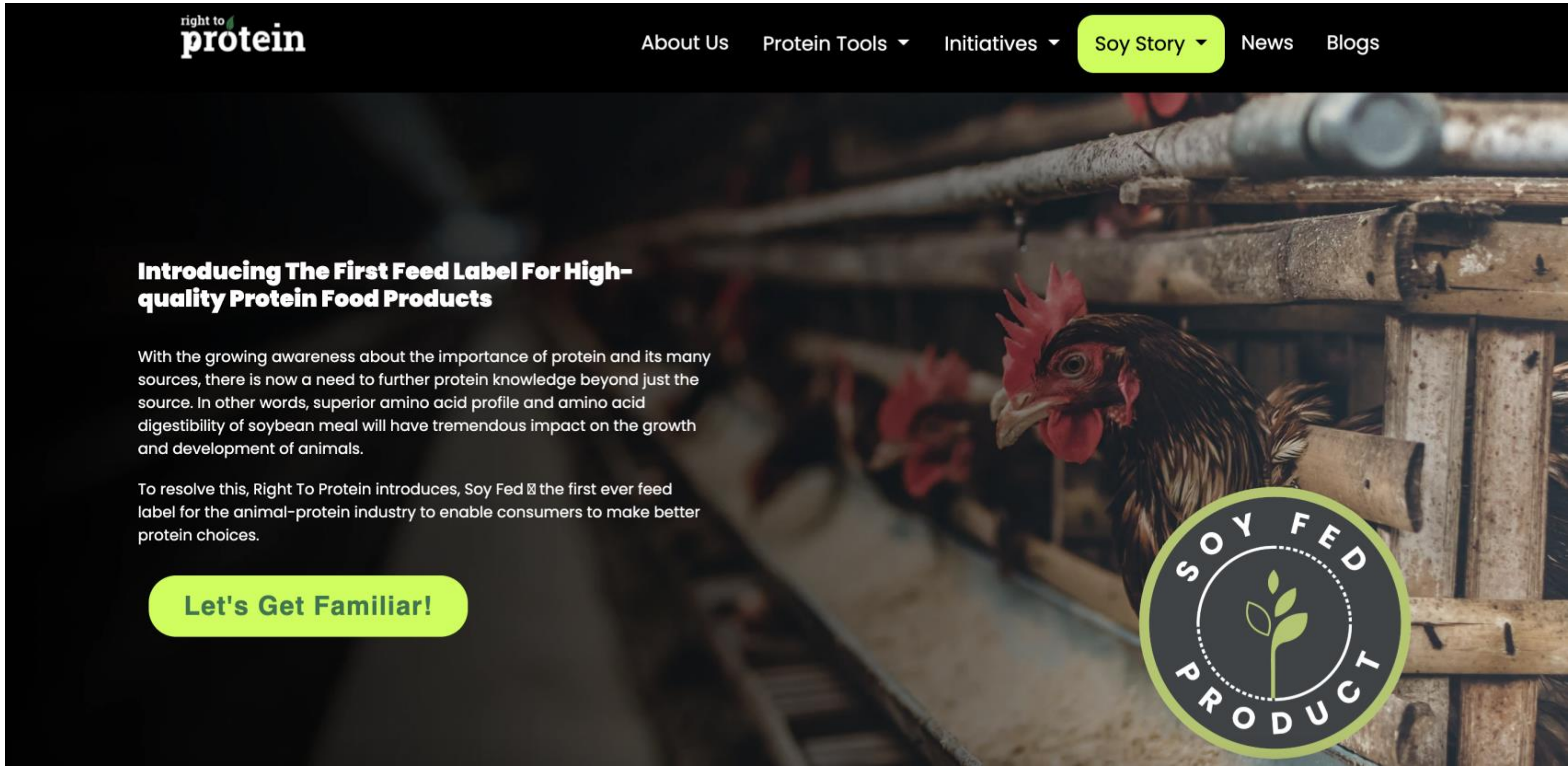


NEW PLANTS/EXPANSIONS?



POINT NUMBER 3

BIOFUEL POLICIES, ALONG WITH BLENDING RESTRICTIONS ARE DRIVING THE USAGE OF RENEWABLE DIESEL, FUELING AN ERA OF CRUSH CAPACITY EXPANSION NEVER SEEN BEFORE, RESULTING IN MUCH MORE EXPORTABLE SOYBEAN MEAL IN THE COMING YEARS right to protein

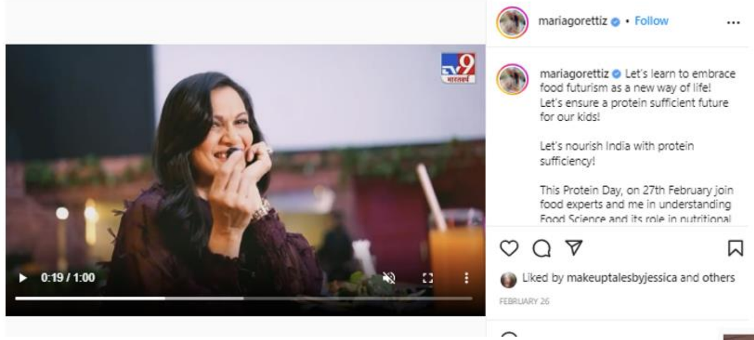


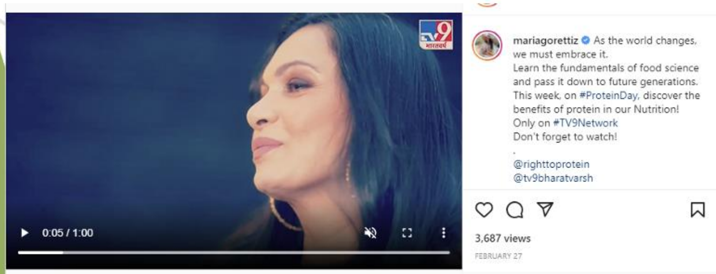
OUTDOOR MEDIA-LED AWARENESS

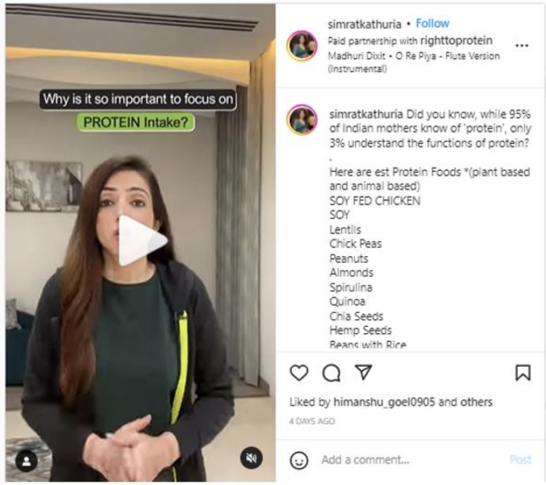
In order to crea
HOME (OOH) pl

Promoting the
Discussion acro
Mumbai – Hyde
Delhi

#PROTEINDAY: INFLUENCER PARTICIPATION







Total Impressions:
216K+

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CALL TO ACTION

WE WOULD INVITE AND WELCOME THE PARTICIPATION OF ALL CLFMA MEMBERS INTO THE DEVELOPMENT OF ACTIVITIES FOR THE RIGHT TO PROTEIN CAMPAIGN.

(FUNDING IS NOT REQUIRED)

THANKS TO CLFMA FOR THE INVITATION!