

India Biodiesel and Ethanol general scenario

S V Bhave

India Biodiesel and Ethanol general scenario

We are here to discuss DDGS ,sorgum or alternate raw materials

We are forced to do this cause of increasing Biofuel industry.

Since last few years this new commodity of biofuel has started impacting

Our animal feed industry.

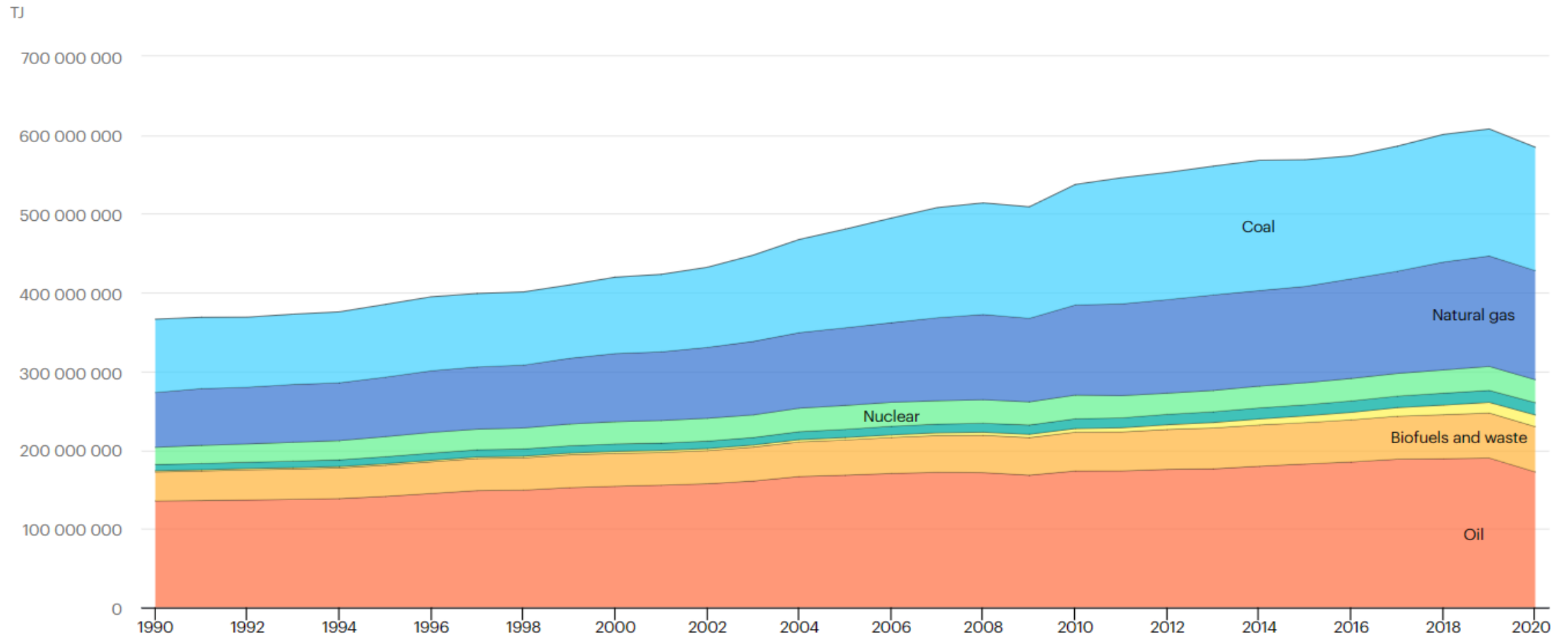
Global climate changes are becoming unpredictable, and we are forced to reduce Fossil fuels and it has created a demand for new kind of renewable energy sources includes wind, solar, hydro and biofuels.

GOI has fixed plan to convert 50% energy requirement on alternate sources by 2030.

My presentation covers biofuel as it impacts food/feed industry.

The world demand for biofuel is increasing

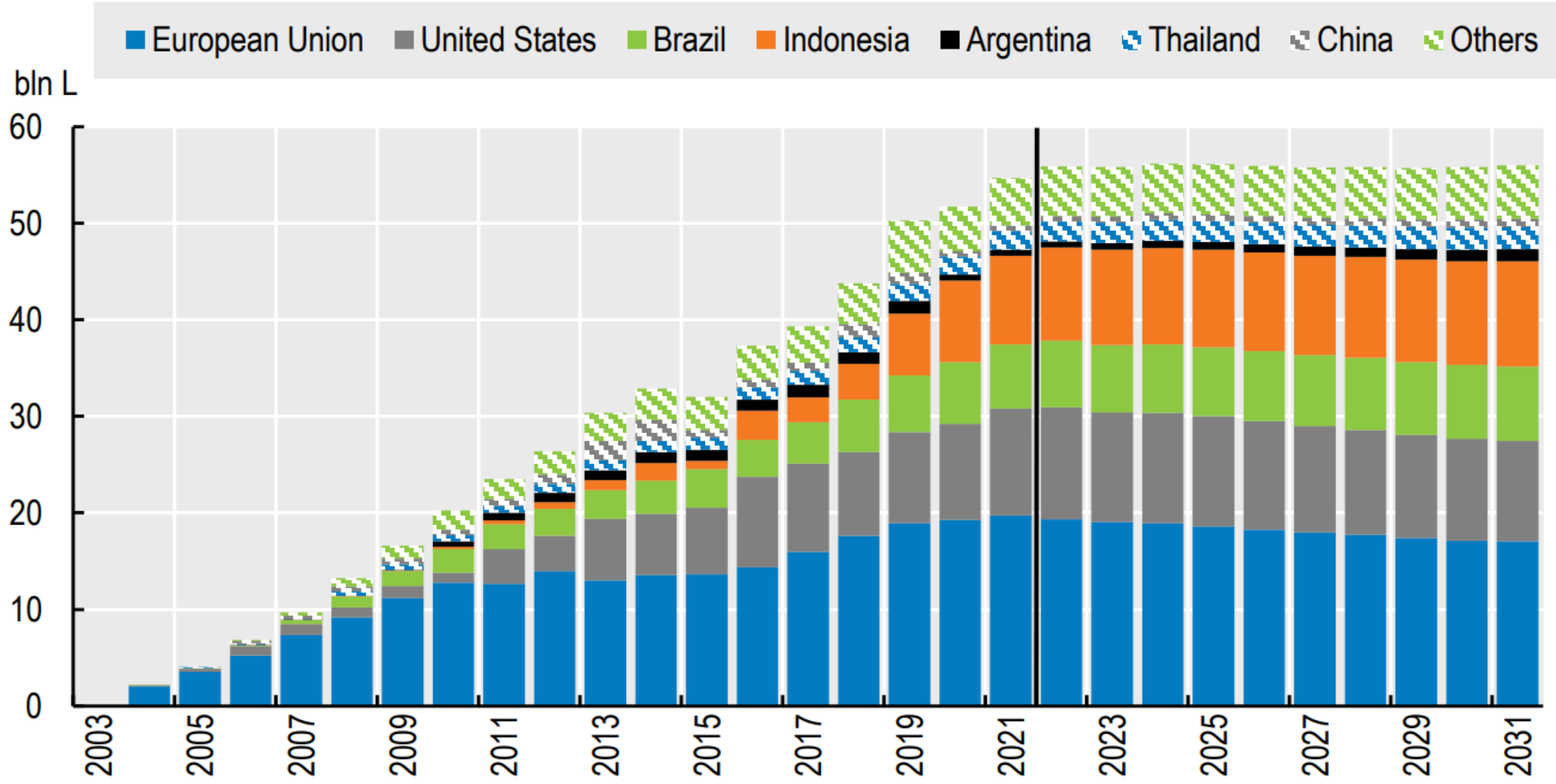
Total energy supply (TES) by source, World 1990-2020



IEA. All rights reserved.

Coal Natural gas Nuclear Hydro Wind, solar, etc. Biofuels and waste Oil

DEVELOPMENT OF THE WORLD BIODIESEL CONSUMPTION



Indian Biofuel scenario 23-24

Indian annual Fuel Demand is approx. 233 Mio MT

Two types of alternate fuels - resources

Biodisel

Edible oil byproducts
stearin,PFAD,Acid oils
yellow grease,UCO

3 MMT

yield

2.25 MMT

2 MMT

1.5 MMT

Ethanol

Maize
Rice
sugarcane

36 MMT

16 MMT

130 MMT

58 MMT

24 MMT

13 MMT

Grand Total

90.75 MMT

Biofuel production considering 100% crop utilization

Indian Biofuel scenario 23-24

Bio Fuel pricing & equation			Cost of Production								
			Input	Cost	Process	Total	Byproduct	Net	Energy	Fuel Price	
			Kgs	Rs/kg	Rs/kg	Cost/kg	Gain	Cost	% Fuel	Rs/kg	
1 Biodiesel	Edible Oil byproducts										
	Stearine / PFAD / Acid oils	1 Litre	1.3	86	24	110	-10	100	88%	95	
	Yellow grease / Used Oils										
							DDGS				
2 Ethanol	Maize		2.65	42.4	32	74.4	-7	67.4	72%	72	
	Rice	1 Litre	2.25	40.5	32	72.5	-7	65.5	72%	72	
	Sugar		1.9	60.8	7	67.8	0	67.8	72%	72	
	Ethanol Makes money		data considering 40% DDGS output								

India Biodiesel and Ethanol general scenario

Historically we use to predict carbohydrate source prices on basis of rains , Sowing, harvesting.

The scenario has changed now maize grains are linked to fuel oil prices.

The farmers or traders have two options either they can sell it food /feed or Ethanol producers.

We all need to change our perspective. The price parity depends on fuel oil Prices.

Biofuel industry is supported by govt. by way of subsidy and incentives

India Biodiesel and Ethanol general scenario

Total world fuel oil production is 4400 mio MT

Against Edible oil production 220 mio MT, approx. 5%

two companies in Spain implementing Biofuel plants which will produce SAF – sustainable aviation fuel. Advantage is price as well as very low carbon Emission.

One of them is CEPSA plant capacity 5 lakh tons per annum biofuel processed From Palmatic acid and oleic acid.

Another company is REPSOL to produce SAF on same technology.

India Biodiesel and Ethanol general scenario

Now the feed industry has to change the nutritional dynamics , check the price Parities with fuel oil prices.

Competition is for raw materials , the farmer of trader has two options Food/feed and ethanol.

Indicative statement by honorable minister Mr.Nitin Gadkari sahab is

Farmer will become annadata as well as urjadata

With various price scenarios the availability grains /maize will keep on changing.

India Biodiesel and Ethanol general scenario

For the world three major issues to address

- 1) Carbon footprint or carbon emission.
- 2) Global warming
- 3) Forex reserves

Animal feed industry is last priority.

Total edible oil production is 5 % of fossil fuel products , even if 30-40 % converted to green fuel

Whether it will change the scenario for above three concerns and then what will Be the status for food and feed industry is a big question mark

Thank you