

India's Trade Prospects in Petrochemical Products

Focus on Regional Market

Presentation for

Petrochemical Conclave

hosted by

IndianOil

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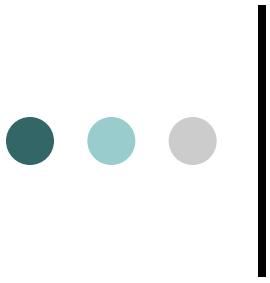
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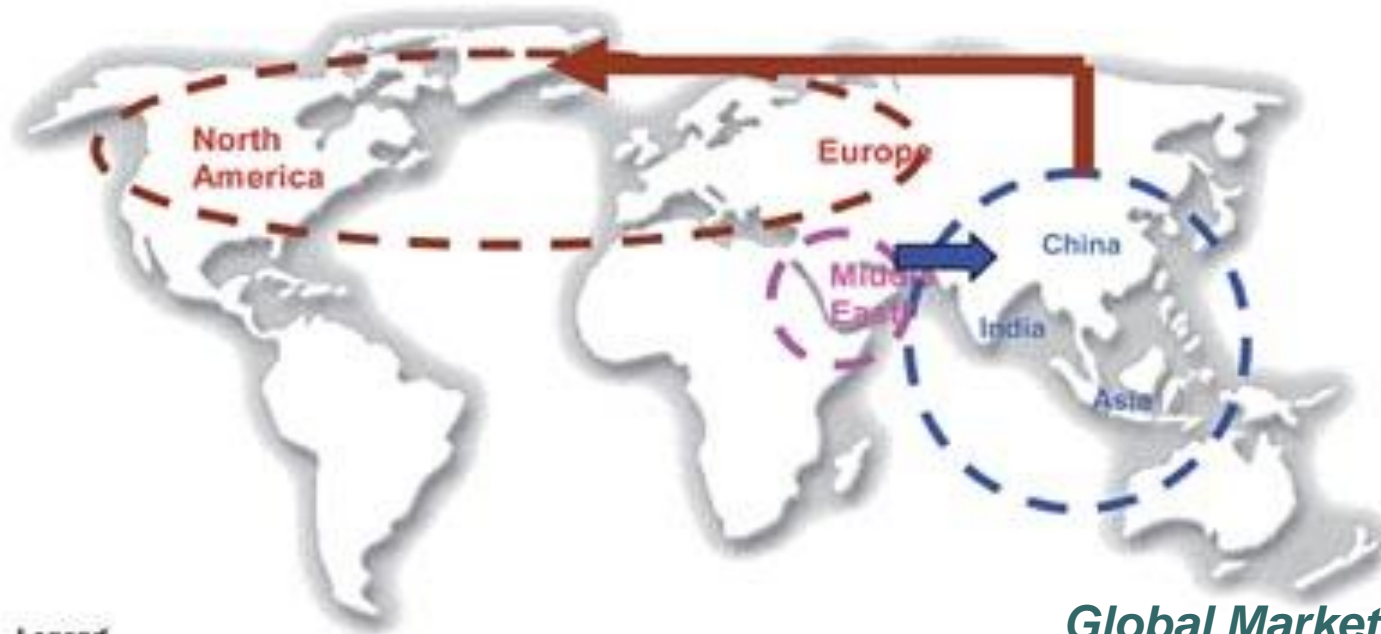


Global Scenario

Current Trend

- The world petrochemical industry has changed drastically in last few decades.
- Western countries were the major producers and exporters earlier. However, world-scale construction of petrochemical facilities in other parts of the world has been on the rise. Since , many such countries (e.g. Saudi Arabia) have smaller domestic demand, a significant share of petrochemical production is earmarked for the export market
- Other countries, such as Singapore, Korea Rep, and Taiwan, also expanded capacity to support growing regional economies
- Some other countries are driven by the desire for self-sufficiency because of their rapidly growing populations (e.g., Thailand, Malaysia, India and China).
- Today Western Economies and Japan are major importers of petrochem products. As a consequence, the petrochemical industries in the United States, Western Europe and Japan have experienced lower growth rates. In 2010, these three regions accounted for only 37% of world primary petrochemicals production

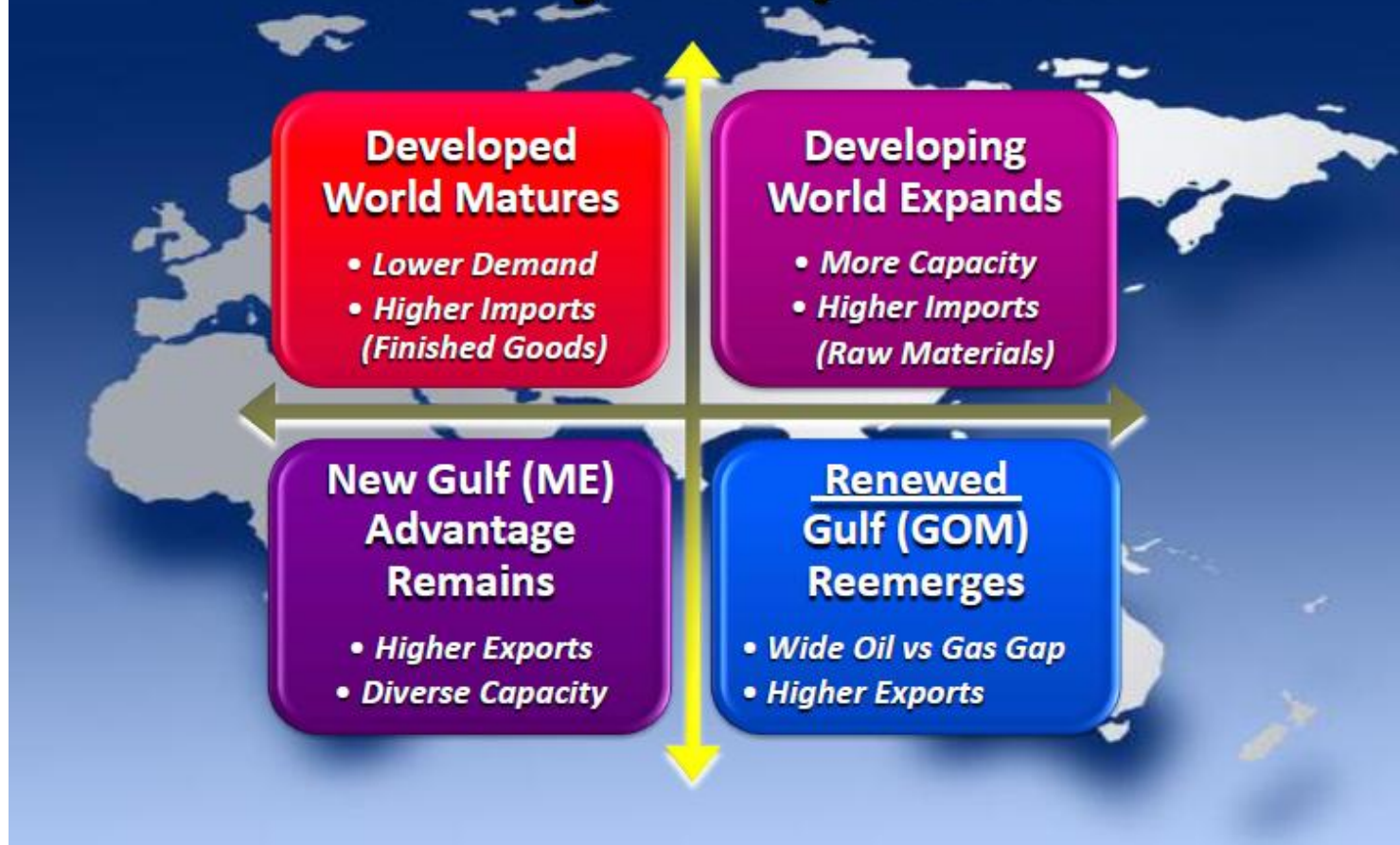
| Emerging Supply chain



Global Markets are focused on emerging economies and are absorbing a “spread out” wave of new supply. Large divergence in cost position is inflating profits for some as the rest are forced (by the market) to maintain strict price discipline.

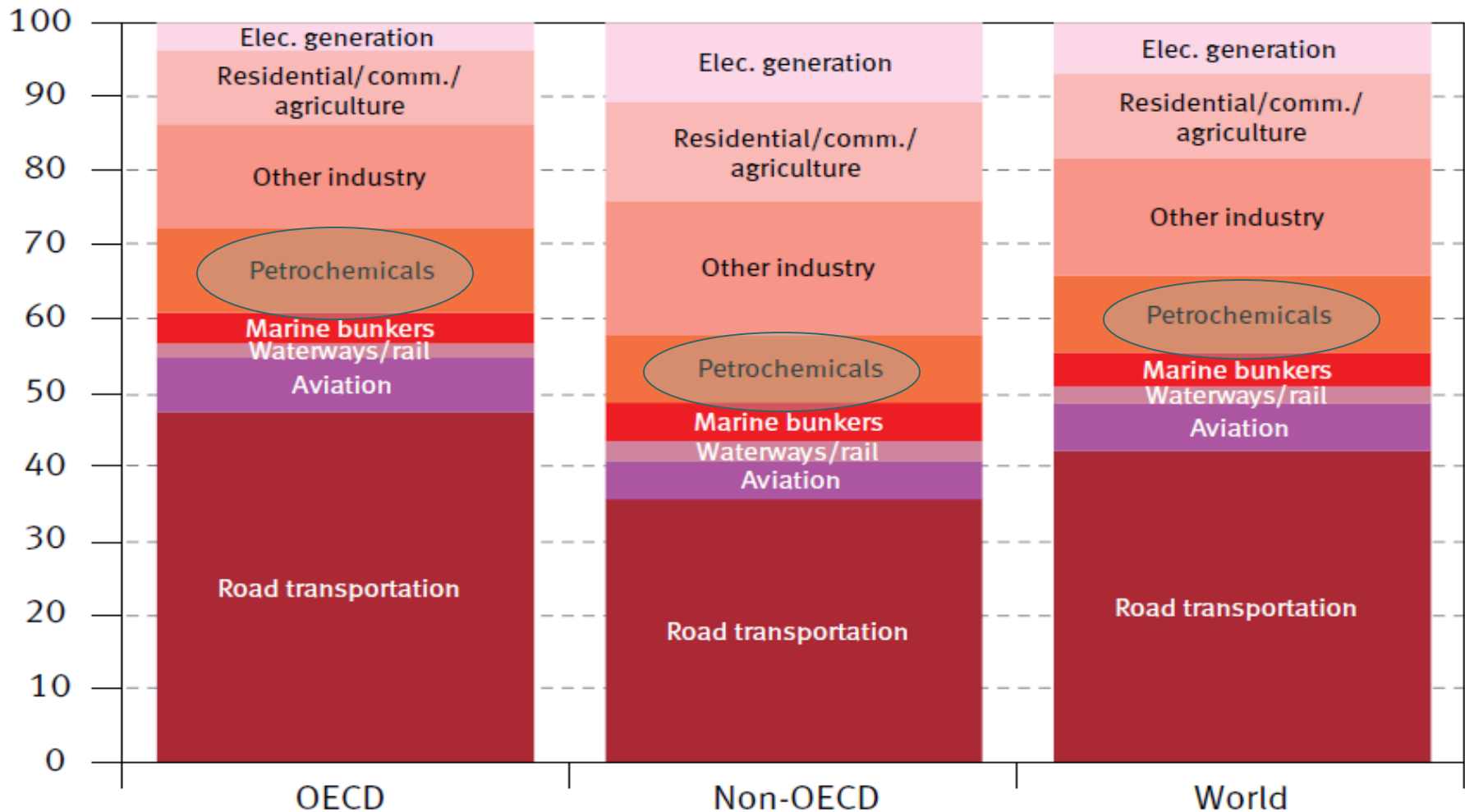
- Gary Adams, President -CMAI

“Global Chemicals” Summary Perspectives

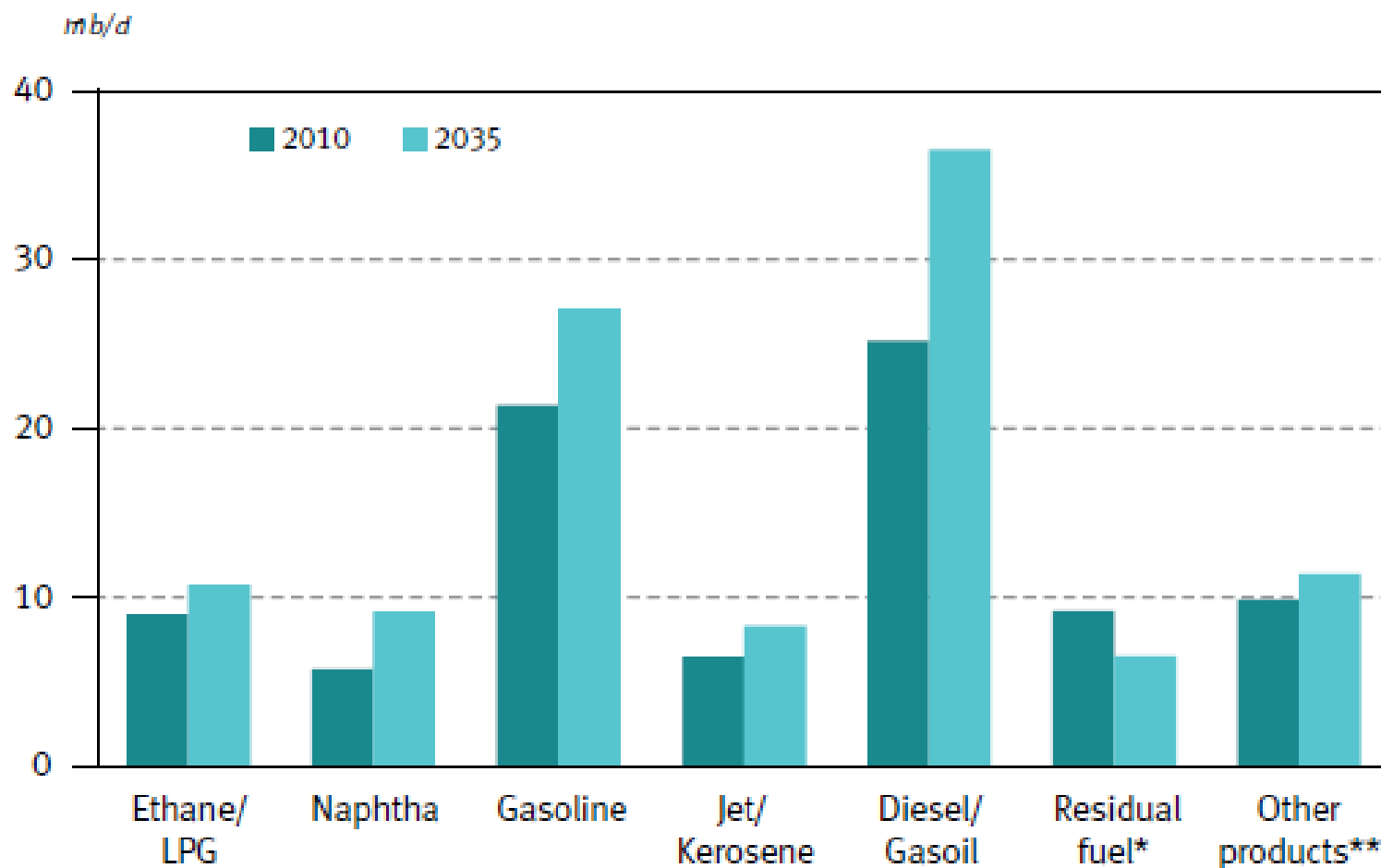


- Gary Adams, President -CMAI

Distribution of Oil Demand



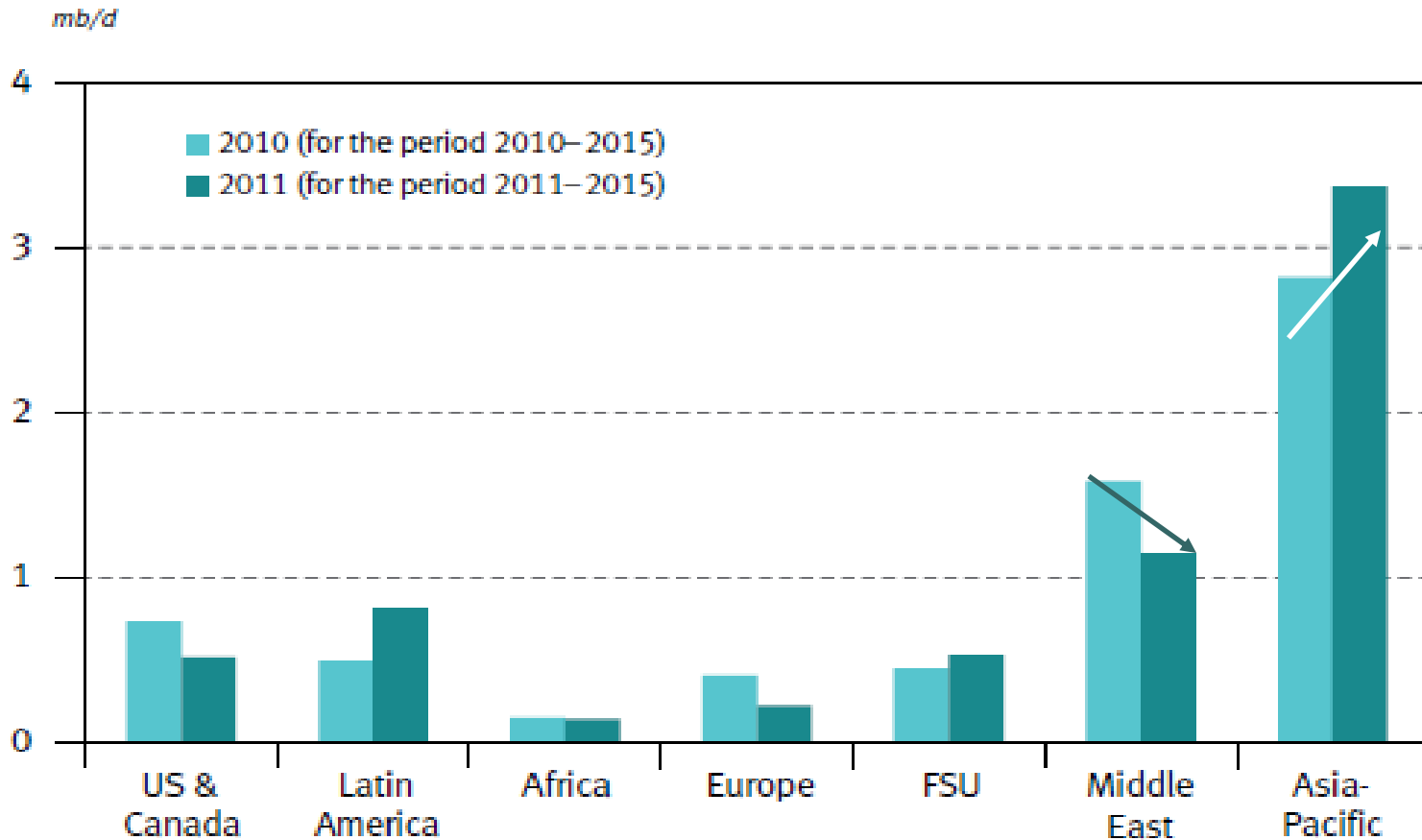
Global product demand, 2010 and 2035

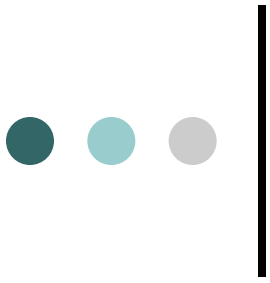


* Includes refinery fuel oil.

** Includes bitumen, lubricants, waxes, still gas, coke, sulphur, direct use of crude oil, etc.

Distillation capacity additions up to 2015 from existing projects, 2010 and 2011 assessment





Indian Industry



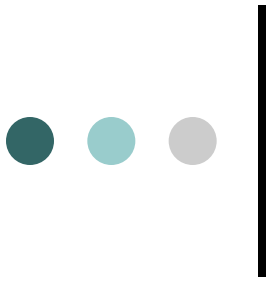
Indian Industry: At a Glance

- The petrochemical industry in India is one of the fastest growing industries in the country. It plays an important role in the growth of the economy and the country's development of the manufacturing industry; providing a foundation for manufacturing Industries like construction, packaging, pharmaceuticals, agriculture, textiles, etc.
- Current supply and demand indicates that there is a surplus scenario of petrochemicals products in the domestic market. Most of the producers are regularly exporting due to the surplus scenario.
- New capacities/augmentation of current capacities are being added by most of the producer's viz. RIL, HMEL, BCPL, OPAL, HPL etc. in India. This would further led to the growth of exports of the petrochemicals products from India.
- The Middle East and Singapore are home to large capacities of polymers which are mostly produced for export purpose. India is one of the main target markets for these players

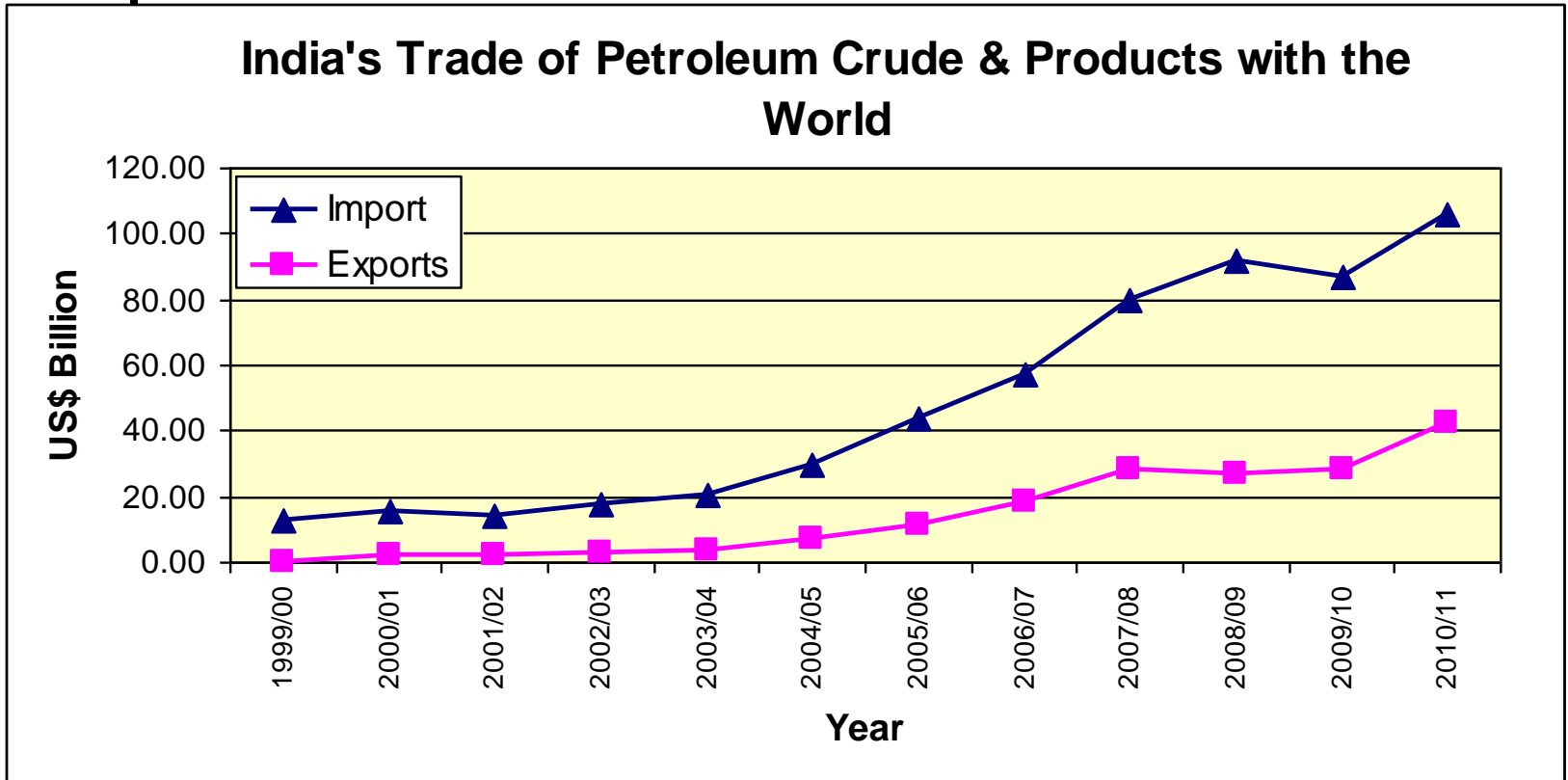


Indian Industry: At a Glance

- India has less production capacity in Fibre Intermediates (ACN, Caprolactum, DMT and MEG). Some capacity is there in PTA but it is a net importer. Demand in 2010 grew by 10%.
- In case of Olefin production capacity has increased for ethylene, propylene in last few years to satisfy the domestic demand as a result exports are negligible. For Butadiene, capacity is still very less but India is exporting large share of its production
- India is a net importer of Styrene, EDC and VCM
- In case of all products under polymers India has set up reasonable capacity and it has surplus which is going out as exports. In 2010, domestic demand grew by 11%.
- Domestic demand of Benzene grew by 8% in 2010 and India is slowly becoming an exporter. However, in case of Toluene India is still a major importer.



India's Trade Dynamics



Source: Principal Products, India Trades, CMIE

Exports and Imports slowed down due to recession but bouncing back again

Major Products in India's trade Basket

Product (Short Code)	Description	HS Code
Benzene	Benzene	29022000
ortho xylene	O-xylene	29024100
meta xylene	M-xylene	29024200
para xylene	P-xylene	29024300
mixed xylene	Mixed xylene isomers	29024400
MEG	Ethylene glycol (ethanediol)	29053100
DEG	2,2-oxydiethanol (diethylene glycol,digol)	29094100
TEG	Othr ethr-alchls & thr halgntd slphntd nitrated or nitrosated derivatives	29094900
PTA	Terephthalic acid and its salts	29173600
DMT	Dimethyl terephthalate	29173700
LAB	Linear alkylbenzene (sodium dodecylbenzene sulphonate)	38170011
PE (d<0.94)	Polyethylene having a specific gravity of less than 0.94 :	39011000
PE (d>=0.94)	Polyethylene hvng a spcfc grvty 0.94 /more	39012000
PP	Polypropylene	39021000
SBR	Oil extended styrene butadiene rubber	40021910

India is also exporting few other low value products

India's Export to World (Select Products) in US\$ Million

Commodity Code	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	CAGR (%)
29022000	8.77	15.66	6.07	24.04	33.12	97.17	50	33.66
29024100	61.44	34.23	35.72	124.06	96.53	41.82	44.89	-5.10
29024200	2.98	3.83	3.82	11.7	9.69	0.64	2.15	-5.30
29024300	277.09	309.59	209.77	419.39	252.23	304.76	450.37	8.43
29024400	0.13	0.01	0.11	0	0	2.42	0.05	-14.72
29053100	104.81	80.91	143.84	290.82	315.86	475.54	699.49	37.21
29094100	0.25	0.35	0.36	0.31	0.28	2.04	0.73	19.55
29094900	6.7	7.99	9.03	13.68	11.57	11.65	16.68	16.42
29173600	19.95	89.57	156.12	53.99	167.66	434.82	822.16	85.85
29173700	2.44	5.16	11.22	4.61	6.01	4.02	5.6	14.85
38170011	8.71	5.23	25.38	53.04	89.64	110.34	126.69	56.24
390110	126.69	196.84	267.88	365.73	434.01	686.47	1101.38	43.39
39012000	67.21	117.02	146.21	293.78	307.12	476.31	543.32	41.67
39021000	71.53	113.32	127.61	245.45	277.14	443.69	468.18	36.77
40021910	25.86	29.06	36.77	48.57	49.29	40.69	71.41	18.45

 High Value
  High Growth
  Both Export & Import

Source: India Trades. CMIE

Major Exports HS 4 Digit Level

Value is in US Million \$

HS Code	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	CAGR (%)
2901	86.5	130.84	136.96	184.93	182.55	197.56	346.66	26.03
2902	901.69	911.88	955.35	1378.07	1077.45	1225.4	1438.09	8.09
2905	351	364.75	583.5	834.67	885.97	996.56	1394.94	25.86
2909	113.1	119.33	54.25	72.86	77.29	91.31	134.69	2.95
2917	111.64	231.47	318.03	310.46	402.98	640.47	1159.42	47.71
3817	9.85	5.78	27.67	57.81	101.99	118.07	132.92	54.30
3901	278.98	449.47	565.59	920.52	992.08	1420.02	1970.17	38.51
3902	107.58	156.68	177.19	314.48	365.36	550.09	637.67	34.53
4002	312.92	351.52	457.54	589.84	657.81	676.95	1128.07	23.83

India's Import from World (Select Products) in US\$ Million

Commodity Code	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	CAGR (%)
29022000	160.8	187.42	408.19	334.65	323.15	365.16	491.3	20.46
29024100	6.88	101.11	240.41	138.19	101.9	165.6	518.18	105.50
29024200	1.27	8.07	0.06	0.04	4.91	0.05	155.99	122.95
29024300	312.34	438.55	632.48	864.02	501.09	504.91	427.65	5.38
29024400	0.02	11.12	24.44	176.89	104.03	42.45	85.05	302.51
29053100	113.37	122.15	67.21	55.65	24.38	3.61	30.85	-19.50
29094100	30.15	26.72	5.05	1.07	1.07	3.66	15.57	-10.43
29094900	3.26	5.93	14.79	12.27	16.05	18.83	23.6	39.09
29173600	26.25	9.43	27.65	2.81	31.65	0.49	0.54	-47.65
29173700	0.45	1.16	0.77	0.32		0	0.03	-36.32
38170011	52.12	113.71	146.72	174.37	150.62	117.9	323.11	35.54
390110	89.01	38.63	47.91	53.63	43.1	9.53	40.63	-12.25
39012000	287.03	227.68	246.16	162.48	118.31	18.5	148.81	-10.37
39021000	433.96	221.36	538.73	477.51	215.28	620.87	748.29	9.51
40021910	0.06	3.58	0.05	0.01	0.15	0.09		8.45

 High Value
  High Growth
  Both Export & Import

Source: India Trades. CMIE

Major Imports HS 4 Digit Level

Value is in US Million \$

HS Code	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	CAGR (%)
2901	52.85	97.45	135.01	170.64	189.38	176.19	300.54	33.60
2902	527.35	812.22	1323.32	1550.66	1206.47	1148.92	1767.72	22.34
2905	166.75	179.44	132.54	179.22	127.63	128.01	205.36	3.53
2909	42.37	66.62	58.91	65.32	75.15	74.04	118	18.61
2917	99.89	84.34	145.55	166.27	167.01	97.29	145.21	6.43
3817	60.28	116.24	146.76	174.9	162.39	127.54	342.61	33.59
3901	424.28	337.95	380.11	249.29	180.28	39.98	203.03	-11.56
3902	454.92	240.46	568.74	496.51	229.37	644.45	772.96	9.24
4002	11.33	31.29	26.93	22.75	30.05	28.76	41.61	24.21

Major Export Destinations: Select Products

Export Value in US\$ Million

HS 2905	2008/09	2009/10	2010/11
China	33.14	17.5	28.32
USA	15.61	14.7	24.95
Belgium	0.47	0.67	22.29
Mexico	3.22	3.14	9.65
Brazil	4.66	3.06	7.56
Singapore	3.63	3.18	7.51
Qatar	0.07	0.24	6.34
UAE	5.79	5.38	5.92
Switzerland	2.15	3.08	5.29
Indonesia	1.48	7.65	5.28

HS3902	2008/09	2009/10	2010/11
China	36.02	253.39	227.33
Turkey	14.2	48.26	105.09
Italy	2.16	29.89	54.81
Indonesia	7.04	40.86	51.37
Viet Nam	21.5	46.04	35.82
Israel	13.4	17.6	30.74
Peru	7.72	4.99	21.38
Bangladesh	7.69	11.38	19.62
Brazil	23.62	11.34	19.37

HS 2902	2008/09	2009/10	2010/11
Indonesia	272.35	172.96	387.96
China	84.38	150.1	367.37
Pakistan	252.69	228.01	196.77
Saudi Arabia	129.25	206.18	173.89
USA	67.17	53.53	141.68
Singapore	56.15	62.94	115.47
Malaysia	54.29	143.21	114.98
Belgium	55.87	52.54	84.75
Netherlands	4.14	11.88	53.99
Korea Rep	78.75	12.82	39.19

HS3901	2008/09	2009/10	2010/11
China	79.02	9.55	94.38
Turkey	8.84	3.64	40.12
Viet Nam	12.31	5.19	11.13
Kenya	2.44	1.71	4.15
UAE	4.46	1.69	4.06
UK	1.92	1.38	3.1
France	11.16	0.09	2.8
USA	7.16	2.83	2.73
Korea Rep	0.1	0.14	2.67
Pakistan	3.71	1.24	2.57

East and South Asia are growing markets for India

Source:
India Trades,
CMIE

Major Import Sources: Select Products

HS 2902	2008/09	2009/10	2010/11
Singapore	321.9	315.1	411.21
Kuwait		46.22	222.85
S Arabia	224.05	237.06	180.85
Indonesia	40.69	90.04	103.93
Iran	106.33	139.39	97.88
China	37.28	51	82.4
Malaysia	138.59	49.89	77.64
Oman		10.35	56.78
Korea Rep	33.64	44.52	53.98
Spain	17.45	21.49	20.02
Thailand	10.37	34.88	14.88

HS 2905	2008/09	2009/10	2010/11
S Arabia	278.91	404.67	654.59
Kuwait	95.22	71.54	122.14
Iran	149.18	164.74	116.99
Germany	53.73	68.75	68.86
USA	55.56	58.43	60.68
Singapore	26.79	39.21	50.86
Malaysia	19.96	17.23	39.91
China	30.39	23.92	31.91
Taiwan	16.79	16.91	30.63
UAE	0.88	3.8	28.6

Export Value in US\$ Million

HS 2917	2008/09	2009/10	2010/11
S Arabia	122.83	279.85	495.33
Qatar	113.5	127.6	187.73
USA	111.19	150.17	158.32
Korea Rep	86.81	109.14	136.01
Thailand	64.74	72.92	130.29
UAE	107.67	115.84	123.15
Taiwan	63.98	72.75	103.41
Iran	9.82	56.34	94.23
Singapore	30.69	46.22	73.25
China	8.34	13.96	55.82

HS 4002	2008/09	2009/10	2010/11
Korea Rep	147.94	153.06	275.81
Russia	167.06	118.72	215.43
USA	76.02	71.53	133.31
Japan	37.76	73.14	93.14
Taiwan	26.12	33.85	76.2
France	41.94	33.53	44.96
China	10.01	12.94	42.51
Thailand	13.4	25.13	41.48
Germany	37.36	23.3	39.26
UK	27.82	35.98	37.46
Poland	1.59	2.42	21.35
Netherlands	17.66	16.58	20.95

HS 2917	2008/09	2009/10	2010/11
Korea Rep	103.54	215.83	446.12
Thailand	29.1	121.17	350.93
Taiwan	34.71	29.98	73.84
Iran	52.65	42.77	58.07
China	61.76	35.71	55.82
Malaysia	29.49	39.2	33.19
Singapore	7.01	9.79	22.31
USA	3.97	9.23	14.68
Ukraine	1.43	0.9	12.39
Pakistan	4.1	24.08	10.68



Reasons for Rising Exports

- Petrochemicals exports value from India to rest of the world is showing an increasing trend. Excess capacity, lower production cost etc are primary reasons.
- Economy of scale is contributing to the production of large quantities of certain petrochemicals items which does not have domestic market.
- Foreign trade policy 2009-14 aiding exporters to diversify their market. Asian market is coming up as major destinations of Indian exports. Focus market scheme is enabling Indian exporters to diversify their market and look for opportunities in Latin America and emerging countries in Africa. So far these markets were beyond the reach due to high incidence of logistics cost. Focus Product Scheme is also pushing exports volume in export incentives to exporters. PTA is covered under FPS scheme. Benzene export to China fetches additional export incentives to exporters.
- Environmental drive for cleaner fuel in the petroleum refining value chain is making middle distillates particularly 'naphtha' as a surplus item in the Indian context. Conversion of naphtha to petrochemicals products brings a lot of value addition to producers of this raw material.

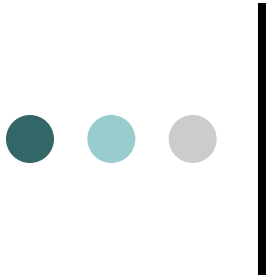
Country	PP	PE	LAB	Benzene	DEG	TEG
China	31.50%	7.30%			30.60%	19.30%
Bangladesh	2.70%		1.80%			
Pakistan	2.60%	4.20%	4.80%			4.20%
Indonesia	5.60%		15.50%		4.00%	1.00%
Viet Nam	5.30%		38.30%			
Israel	3.40%					
Area Nes	2.90%					
Nepal	2.80%	3.30%				
Sri Lanka	1.60%	4.70%				
Saudi Arabia		3.40%	5.70%	49.70%		
UAE		4.20%		2.00%	6.80%	2.70%
Iran		2.20%				
Jordan		2.20%				
Philippines	2.80%					
Oman			8.20%		1.20%	3.50%
Thailand			4.00%			1.20%
Yemen			2.50%			
Singapore				13.50%	3.60%	
Malaysia				2.40%		2.00%
Taiwan					4.30%	
Qatar						9.50%
Japan						5.50%
Korea					7.00%	1.20%
Sub total	61.20%	31.50%	80.80%	67.60%	57.50%	50.10%

Percentage of Indian Exports going to Asian Countries in 2010

China, Singapore are traditional destination in South East Asia.

Markets like Indonesia, Vietnam, Korea Rep. requires attention

Pakistan has reduced the barrier in PTA, PP, HDPE and LLDPE thru land route. Bangladesh and Nepal can also emerge as good market of Indian products



Free Trade Agreements (FTAs) and Implication for Petrochemical Sector



FTAs : A Snapshot

- India has recently signed number of FTAs with ASEAN, Malaysia, Singapore, Japan and Korea. Some FTAs such as India-Sri Lanka, SAFTA, Indian Thailand FTAs are now operational for quite a few years.
- The concept behind FTAs/RTAs is to facilitate trade among the member countries by way of removing/reducing tariff and non-tariff barriers between signatory nations. This would provide incentives to increase exports to these nations.

Commitment by Members in India-ASEAN FTA on Petrochemical Products

HS Code	Brunei	Cambodia	Indonesia	Laos	Myanmar	Malaysia	Vietnam	Thailand	Philippines	India
39021000	NT-1	NT-1	HSL-C	NT-1	NT-1	EL	NT-2	NT-1	HSL-C	ST
39011000	NT-1	NT-1	HSL-C	NT-1	ST	HSL-C	NT-2	ST	HSL-C	ST
39012000	NT-1	NT-1	HSL-C	NT-1	ST	HSL-B	NT-2	NT-1	HSL-C	ST
38170011	NT-1	ST	ST	NT-1	NT-1	NT-1	NT-1	ST	NT-1	ST
29173600	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-2	NT-1	NT-1	ST
29173700	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-2	NT-1	NT-1	ST
29053100	NT-1	ST	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	ST
29094900	NT-1	NT-1	ST	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	ST
29094100	NT-1	ST	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1
29022000	NT-1	ST	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1
29024300	NT-1	ST	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1
29024400	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	ST
29024100	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	ST
29024200	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	NT-1	ST
40021910	NT-1	NT-1	NT-1	NT-1	NT-1	ST	NT-1	NT-1	NT-1	NT-1

EL refers to Exclusion List; NT-1 and 2 to Normal Track 1 and 2; SP to Special Products; ST for Sensitive Track and HSL – A, B and C to Highly Sensitive Lists A, B and C;

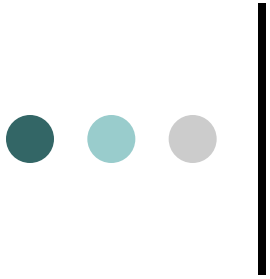
Commitment by Members in Various FTA/CECA on Petrochemical Products

HS Code	India Korea		India-Japan			India-Malaysia			India-Singapore	
	Korea	India	Japan	India	Malaysia	India	Singapore	India		
39021000	EH	NL	Slow	Slow	EL	ST	EH	EL		
39011000	EH	NL	Slow	Slow	ST	ST	EH	EL		
39012000	EH	NL	Slow	Slow	ST	ST	EH	EL		
38170011	NT	NL	EH	NL	NT	ST	EH	EL		
29173600	EH	SL	EH	NL	NT	ST	EH	PR		
29173700	EH	SL	EH	NL	NT	ST	EH	PR		
29053100	EH	NL	EH	NL	NT	ST	EH	PR		
29094900	EH	SL	EH	NL	NT	ST	EH	PR		
29094100	EH	NT	EH	Slow	NT	NT	EH	PR		
29022000	EH	NL	EH	Slow	NT	NT	EH	NT		
29024300	EH	Slow	EH	Slow	NT	NT	EH	NT		
29024400	EH	NT	EH	Slow	NT	ST	EH	PR		
29024100	EH	NT	EH	Slow	NT	ST	EH	PR		
29024200	EH	NT	EH	Slow	NT	ST	EH	PR		
40021910	NT	NT	EH	Slow	ST	NT	EH	EL		

EH: Early Harvest implying zero duty from the day of Implementation, NT: Normal Track, SL/ST: Sensitive List/Track, Slow: Slow in duty reduction (getting implemented beyond 7 years), NL/EL: Negative/Exclusion List, PR: Phased reduction

Conclusion

- Petrochemical products are commodities and buyers do not differentiate products in terms of its origin. Hence, India needs to globalize its presence through competitive edge derived from its surplus position in domestic market.
- In the regional market India faces tough competition from China, Singapore, Korea Rep and Malaysia.
- We have observed that different Asian countries are focusing on niche areas.
- Though in South Asian markets India has dominant position, it has to keep that going without undermining competition from Asian players
- In South East Asia, India's exports are growing in Indonesia, Vietnam. However, in other markets India has now received commitments in terms of tariff reduction. Indian Petrochemical sector must get ready as in another five years time ASEAN market will be mostly open.
- In Japan and Korea Rep, India has already received zero duty commitment which is a big opportunity. As already mentioned that Japan's production is almost stagnant/declining, its import will be rising in the near future and India must catch that opportunity.



Thank You

for further query please write to

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