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ASIA
PETROCHEMICAL INDUSTRY
CONFERENCE

MAY 2013

Taiwan **DELEGATION OF THAILAND**

Contents

I. Report on the Thai Petrochemical Industry

Thai Petrochemical Industry – Current State and Issues

I-1. Business Environment

Global economic growth has declined considerably during 2012 and is expected to remain subdued in the coming year; the IMF's Statistics Department estimated the growth of the world economy in 2012 at 3.2% lower than the 3.9% rate achieved in 2011. A major threat carry on from the looming US economy to the euro zone debt crisis in which the problems in Greece remaining far from settled, these continued to have global impacts in sluggish international trade and tepid foreign direct investment. Thailand, on the other hand, the Thai economy has been picked up from the flood damage as private sector consumption and investment increased especially construction and purchase of machines which contributed to the 2012 economic growth.

On the petrochemical side, Thailand petrochemical industry in 2012 continued to expand as a result of the country's post-flood restoration, led by private and household sectors consumption to restore business and housing together with the government's stimulus package e.g. the first-time car and home buyer programs all of which create a high growth of product demands, resulting in high demand for petrochemical as the raw materials for products. Meanwhile, US and Euro crisis did not significantly impact Thailand's petrochemical trade as its key markets are emerging countries in Asia, especially China, India and Vietnam.

I-2. Present Situation and Future Prospect of the Thai Economy

The Thai economy showed sign of recovery from severe floods that damaged the country from August through November 2011, factors supporting the Thai economic growth in 2012 were the government's economic stimulus campaign e.g. the higher minimum wage policy for low income workers and government officials, the first-time car buyer program, the first-time house buyer program and the reduction of corporate income taxes, along with increased private sector consumption and investment from the reconstruction following the flood damage. At the same time, entrepreneurs have expanded their production capacities to cope with domestic economic growth. The Office of the National Economic and Social

Development Board (NESDB) of Thailand had projected GDP growth of 6.4% for Thailand in 2012.

Amidst the fragile global economic outlook given heightened risks and uncertainty from the US and the Eurozone, NESDB projected the Thai economy in 2013 to grow at a rate of 5.2%, moving within a range of 4.5%-5.5% following an increased government spending e.g. government's fiscal stimulus and investment of 350 billion baht under the long-term water management plan, that would help offset declines in private consumption and investment after private spending on some areas were made in 2012. At the same time, Thai export is expected to rebound driving by a more stable global economy led by China, while several key Thai export categories e.g. automobiles, electronics and some agricultural products especially rubber and tapioca should be supported by rising global prices. However, the growth is expected to be associated with various uncertainties, as the overall global economic conditions particularly US and EU remain worrisome.

Table-1 Thailand's GDP Growth 2002-2013

Year	GDP Growth (% Change)
2002	5.3
2003	7.0
2004	6.2
2005	4.5
2006	5.1
2007	4.8
2008	2.6
2009	-2.3
2010	7.8
2011	0.1
2012	6.4
2013	4.5-5.5*

Source: NESDB

I-3. Present Situation and Future Prospect of the Thai Petrochemical Industry

The petrochemical industry in Thailand continued to expand from the previous year even though in Q1, many downstream markets stilled in recovered staged from flood crisis in Q4 2011. The GDP growth in 2012 increased from previous year at 0.1% to 6.4%, supported by expansion of industrial segment, service segment and construction segment. Investment from private sector increased in order to recover from flood crisis. In addition, government policy also played a key role to boost up economy especially "First-car" policy which stimulated consumption in automotive segment.

The overall picture of petrochemical production and consumption are as follows:

- Ethylene production climbed 11% in 2012 as all new crackers which start up production in 2011 run at full production capacity.(1,000,000-ton/year ethane cracker plant at PTT Polyethylene (PTTPE), a subsidiary of PTT Global Chemical (PTTGC, the former PTTCH), and a 900,000-ton/year naphtha cracker at Map Ta Phut Olefins (MOC)). The demand from the petrochemical end market also increase 12% in 2012 especially the 300,000-ton/year LDPE plant of PTTPE which started up in 2011 operated at full capacity in 2012. In addition, ethylene import slightly increased from 110,000 tons in 2011 to be at 115,000 in 2012 as some crackers shut down for maintenance in Q1 of 2012.

- The production of major polymers in 2012 surged 12% from the previous year. The gain was the result of all new polyolefins capacities started up in 2011 rising production rate to full production capacity and also supported by economic recovery from investment of private sector and government policy after flood crisis in Q4 2011 which boosted up downstream market demand. Consumption of major polymer especially PP in market rising 12% compared to the previous year. Similarly, export major polymer especially LDPE and LLDPE also jumped by 36% and 23% respectively. This is because demand from downstream market cannot afford new production capacity. In addition, import major polymers are slightly increased supported by demand from downstream sector especially packaging and automotive.

Table-2 Production/ Consumption and Import/ Export Figures of Five Major Products 2009-2012

(Unit: '000 T/Y)

Products	2009	2010	2011	2012
Ethylene				
Production	2,455	2,884	3,666	4,093
Import	180	99	110	115
Export	22	8	69	59
Consumption by derivative product (1)	2,613	2,975	3,707	4,148
Propylene				
Production	1,263	1,594	2,085	2,226
Import	3	13	13	5
Export	65	154	240	139
Consumption by derivative product (2)	1,201	1,453	1,855	2,092
PTA				
Production	2,499	2,732	2,726	2,467
Import	0	0	0	0
Export	1,339	1,446	1,516	1,381
Consumption by derivative product (3)	1,160	1,286	1,210	1,086
PE (including EVA)				
Production	1,833	2,259	3,126	3,453
Import	311	405	386	423
Export	1,004	1,398	2,121	2,450
Consumption (4)	1,140	1,267	1,392	1,426
PP				
Production	1,125	1,367	1,638	1,756
Import	183	269	230	242
Export	318	500	737	732
Consumption (4)	990	1,136	1,131	1,266

Note: Data shown as " 0 " means less than 0.5 ton.

(1) Consumption netbacked from PE, VCM, EG and SM production.

(2) Consumption netbacked from PP, Cumene and PO production.

(3) Consumption netbacked from polyester polymer (PET) production.

(4) Consumption figure is different from calculation (Production + Import – Export) due to inventory change.

Table-3 Capacity of Major Petrochemicals 2012 (as of February 2013)

(Unit: ’000 T/Y)

Ethylene

Company	Capacity
IRPC	360
MOC	900
PTTGC (PTTCH)[1]	1,376
PTTPE	1,000
ROC	800
Total	4,436

Source: PTIT Industrial Survey, February 2013
Note: (1) PTTGC, PTT Global Chemical, is a merger company between PTTCH and PTTAR.

Polyethylene

Company	Capacity				
	LDPE/EVA	LLDPE	LLDPE/MDPE	HDPE	Total
BPE[1]				500	500
IRPC				152	152
PTTGC (PTTCH)[2]				300	300
PTTPE[3]	300	400			700
Siam Polyethylene		770			770
SSLC (Specialty Elastomers)[4]		270			270
TPE	100		120	960	1,180
TPI Polene	158				158
Total	558	1,440	120	1,912	4,030

Source: PTIT Industrial Survey, February 2013
Note: (1) BPE started up a new 250-KTA HDPE unit in Q1 2010.
(2) PTTGC, PTT Global Chemical, is a merger company between PTTCH and PTTAR.
(3) PTTPE brought on stream a new 300-KTA LDPE unit in Q1 2011.
(4) Siam Synthetic Latex Co, Ltd. (SSLC) started up a new 270-KTA specialty elastomers in Q2 2011.

Vinyl Chloride Monomer

Company	Capacity
TPC	500
VNT	400
Total	900

Source: PTIT Industrial Survey, February 2013

(Unit: ’000 T/Y)

Polyvinyl Chloride

Company	Capacity
Apex Petrochemicals [1]	-
TPC	530
TPC Paste Resin	36
VNT	280
Total	846

Source: PTIT Industrial Survey, February 2013
Note: (1) Apex Petrochemicals closed out its 100-KTA polyvinyl chloride plant in 2011.

Propylene

Company	Capacity
HMC[1]	310
MOC	800
IRPC[2]	412
PTTGC (PTTCH)[3]	487
PTTPE	25
ROC	400
SPRC	130
Total	2,564

Source: PTIT Industrial Survey, February 2013
Note: (1) HMC started up a new 310-KTA PDH unit in Q4 2010.
(2) IRPC started up a new 100-KTA propylene plant in August 2012.
(3) PTTGC, PTT Global Chemical, is a merger company between PTTCH and PTTAR.

Polypropylene

Company	Capacity
HMC	775
IRPC	475
TPP	720
Total	1,970

Source: PTIT Industrial Survey, February 2013

(Unit: ’000 T/Y)

Styrene Monomer

Company	Capacity
IRPC	200
SSMC	300
Total	500

Source: PTIT Industrial Survey, February 2013

Polystyrene

Company	Capacity
Eternal Plastics(1)	-
Thai Styrenics	90
Siam Polystyrene	150
Thai ABS	130
Total	370

Source: PTIT Industrial Survey, February 2013
Note: (1) Eternal Plastics closed out its 60-KTA polystyrene plant in 2011.

Synthetic Rubber

Company	Capacity	
	SBR	BR
BST Elastomers	72	*
Thai Synthetic Rubber		72
Total	72	72

* No Production in 2013
Source: PTIT Industrial Survey, February 2013

II. Committee Meetings

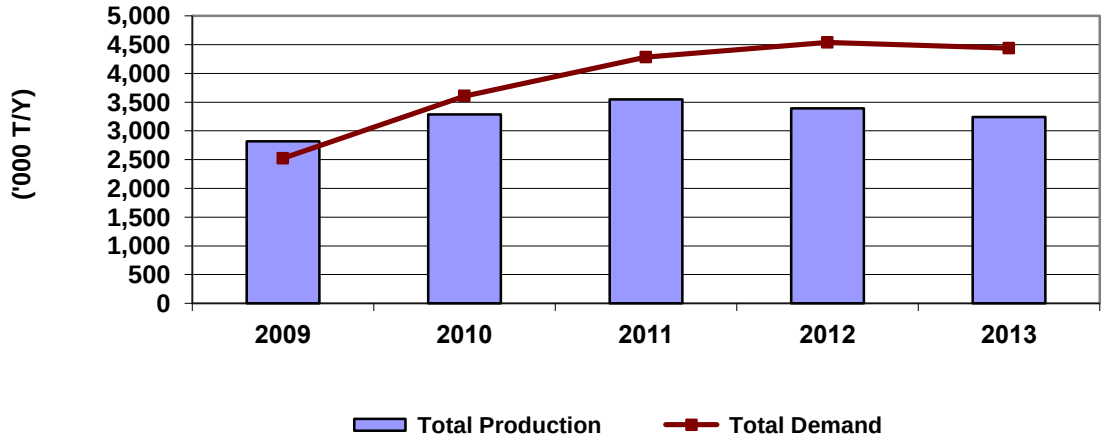
General Matters & Raw Materials Committee

II-1. General Matters & Raw Materials Committee

Capacity, Production and Demand of Light Naphtha

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Production	**2,821**	**3,284**	**3,550**	**3,390**	**3,240**
Feedstock	2,475	3,560	4,237	4,491	4,392
Solvents	46	46	46	46	46
Total Demand	**2,521**	**3,606**	**4,283**	**4,537**	**4,438**



1. Review of 2012

Thailand's light naphtha production in 2012 dropped from the previous year as domestic refineries produced more gasoline. Meanwhile, domestic demand for light naphtha has surged as cracker operators increased their run rates particularly Map Ta Phut Olefins Co, Ltd (MOC) and Rayong Olefins Co., Ltd (ROC).

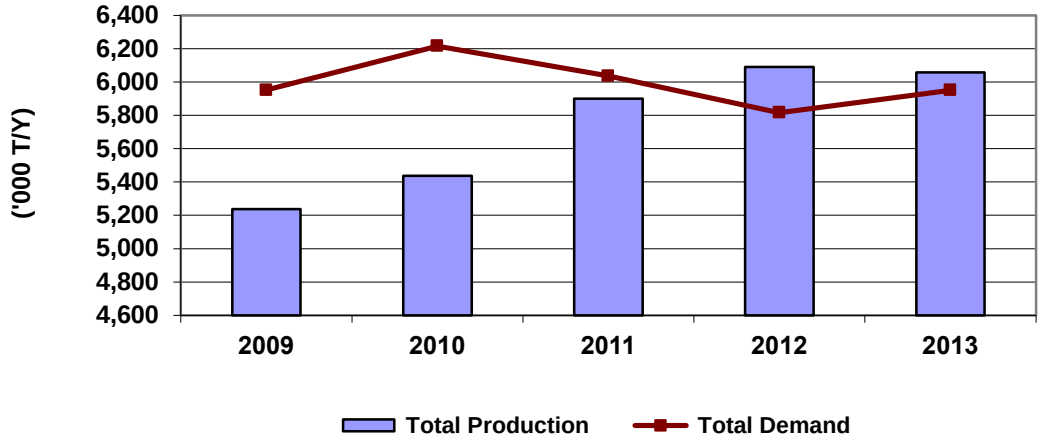
2. Outlook for 2013

Domestic production and consumption for light naphtha in Thailand in 2013 is expected to be stagnated or slightly decrease from 2012 as there are no new crackers coming on stream in 2013.

Capacity, Production and Demand of Heavy Naphtha

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Production	**5,238**	**5,437**	**6,287**	**6,476**	**6,444**
Feedstock	5,952	6,216	6,036	5,816	5,951
Total Demand	**5,952**	**6,216**	**6,036**	**5,816**	**5,951**



1. Review of 2012

Domestic production for heavy naphtha slightly increased while consumption dropped due to a downward trend in domestic end-user market demand for aromatic-based polymers.

2. Outlook for 2013

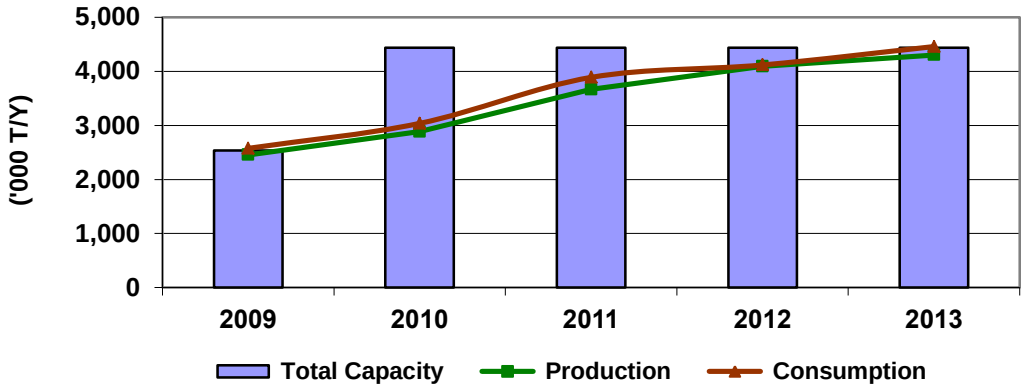
Thailand's production and demand for heavy naphtha in 2013 are expected to be steady and increase respectively.

Capacity, Production and Consumption of Olefins: Ethylene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	2,536	4,436	4,436	4,436	4,436
Production	2,455	2,884	3,666	4,093	4,303
Consumption by Derivative Prod.	2,576	3,038	3,889	4,118	4,459*
Export	22	8	69	59	
Import	180	99	110	115	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from PE, EDC/VCM, EG and SM production which is projected by assuming a 80% operating rate.
'0' means below 500T/Y



1. Review of 2012

Ethylene production sharply increased 11% in 2012 as all new crackers which start up production in 2011 run at full production capacity.(1,000,000-ton/year ethane cracker plant at PTT Polyethylene (PTTPE), a subsidiary of PTT Global Chemical (PTTGC, the former PTTCH), and a 900,000-ton/year naphtha cracker at Map Ta Phut Olefins (MOC)). The demand from the petrochemical end market also increase 6% in 2012 especially the 300,000-ton/year LDPE plant of PTTPE which started up in 2011 operated at full capacity in 2012. In addition, ethylene import slightly increased from 110,000 tons in 2011 to be at 115,000 in 2012 as some crackers shut down for maintenance in Q1 of 2012.

2. Outlook for 2013

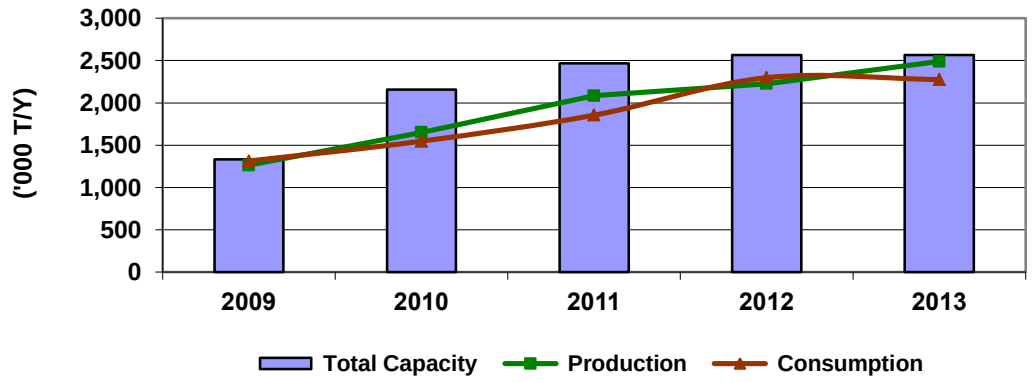
Assuming 90% operating rate, ethylene production in 2013 is expected to be 4,303,000-ton/year. Ethylene consumption is expected to increase following recovery of demand from downstream market especially LLDPE plant.

Capacity, Production and Consumption of Olefins: Propylene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	1,331	2,156	2,464	2,564	2,564
Production	1,263	1,651	2,085	2,226	2,489
Consumption by Derivative Prod.	1,313	1,548	1,855	2,298	2,276*
Export	65	154	240	139	
Import	3	13	10	5	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from PP, Cumene and PO production which is projected by assuming a 90% operating rate.
'0' means below 500T/Y



1. Review of 2012

Propylene production increased by 7% from the previous year as the new on - 100,000-ton/year IRPC Metathesis process started up production in 2012. Propylene consumption, meanwhile, surged up by 23% from the previous year, boosted by higher demand from a new 300,000-ton/year (PO/PG/Polyol) plant of Dow Chemical that brought on stream in Q1 2012.

2. Outlook for 2013

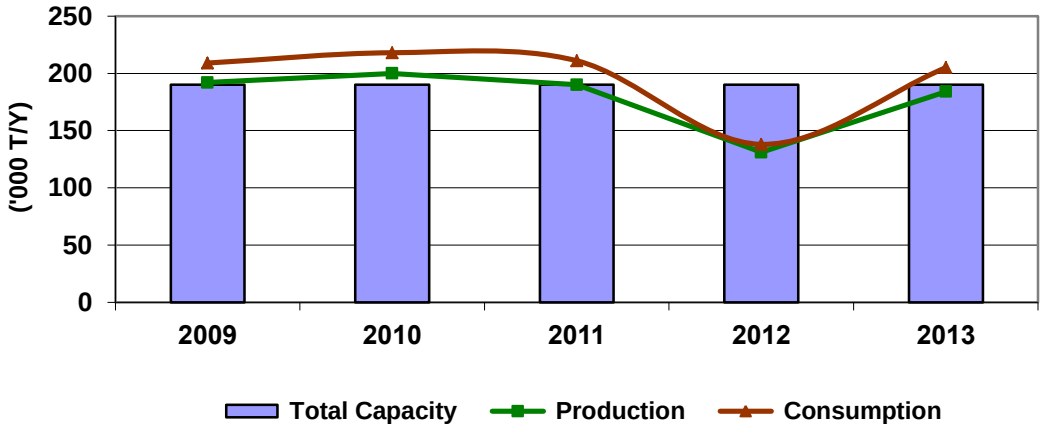
Assuming a 90% operating rate, propylene production in 2013 is expected to be 2,489,000 tons supporting by demand from export market.

Capacity, Production and Consumption of Olefins: Butadiene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	190	190	190	190	190
Production	192	200	190	131	184
Consumption by Derivative Prod.	209	218	211	138	135*
Export	28	26	29	47	
Import	21	27	38	26	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from SBL, SBR, BR and ABS/SAN (assumed 100% ABS) production, which is projected by assuming a 90% operating rate except ABS/SAN is assumed by 85% operating rate.



1. Review of 2012

Butadiene production dramatically dropped by 31% from the year 2012, meanwhile, butadiene consumption also significantly decreased by 34% from the previous year. These were due to the explosion of BR plant of BST in Q2 2012 which directs effect production of Butadiene, SBR and BR product. Consequently, export market of Butadiene jumped by 62% as domestic demand dropped from the explosion.

2. Outlook for 2013

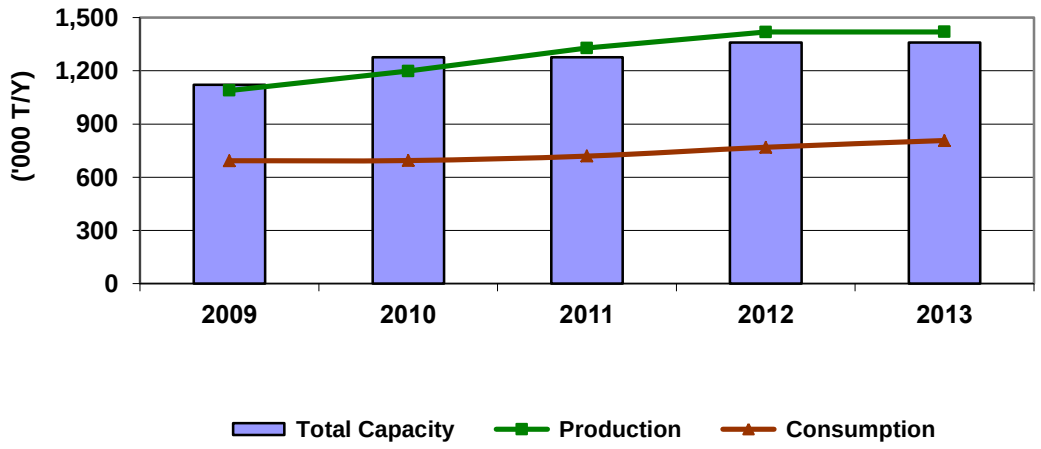
Butadiene production is project to recover back to normal production. Domestic consumption is projected to consume at low level as the BR plant and SBR plant still closed down. On the other hand, the export market of butadiene tends to increase as low demand from downstream market.

Capacity, Production and Consumption of Aromatics: Benzene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	1,121	1,277	1,277	1,359	1,359
Production	1,089	1,199	1,329	1,419	1,420
Consumption by Derivative Prod.	693	694	719	769	807*
Export	396	505	610	650	
Import	0	0	0	0	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from SM, cumene and cyclohexane production, which is projected by assuming a 90% operating rate.
'0' means below 500T/Y



1. Review of 2012

Benzene production surged 7% in 2012 as producers increased their operating rates due to tight supply situation resulting in an increase in benzene production. The benzene produced from MOC is mainly intended to be used by SCG's downstream unit. Meanwhile, benzene consumption increased 7% from the previous year on the back of demand from domestic derivative petrochemical PS/EPS, SM and ABS/SAN following a bullish demand from domestic automotive and packaging sectors.

2. Outlook for 2013

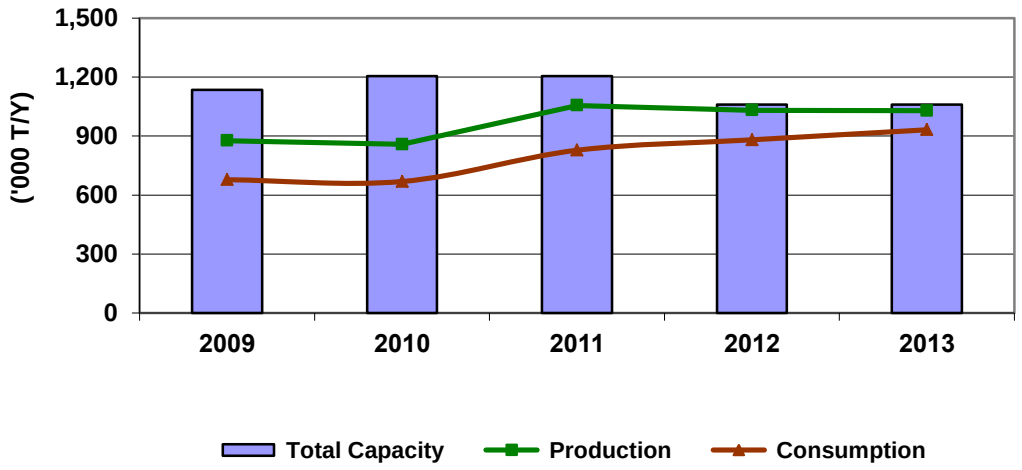
Benzene production in 2013 is expected to be stagnate or slightly increase following the changing unit of Thai Paraxylene since Q4 2012, while, consumption is forecasted to surge as there is evidence that Thailand's automobile, electronic and electrical, and packaging industries could perform exceptionally both domestic and export markets – which should spur growth in derivative petrochemical PS/EPS, ABS/SAN and engineering plastics which in turn boost up demand for feedstock benzene.

Capacity, Production and Consumption of Aromatics: Toluene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	1,135	1,205	1,205	1,061	1,061
Production	877	858	1,056	1,031	1,029
Consumption by Derivative Prod*	678	669	828	881	932*
Export	199	188	228	162	
Import	0	0	0	0	

Source: PTIT Industrial Survey, The Customs Department
Note: *Including consumption netbacked from benzene/xylene production, solvents, etc, which is projected by assuming a 90% operating rate
'0' means below 500T/Y



1. Review of 2012

Toluene production in 2012 slightly decreased as Thai Paraxylene (TPX) scheduled maintenance its Sri Racha-based plant to design capacity to produce more p-xylene by using toluene feedstock for p-xylene production, however, consumption relatively increased. Thailand's toluene production figures also included toluene volume which PTT Global Chemical (PTTGC) used in its Benzene and P-Xylene production process.

2. Outlook for 2013

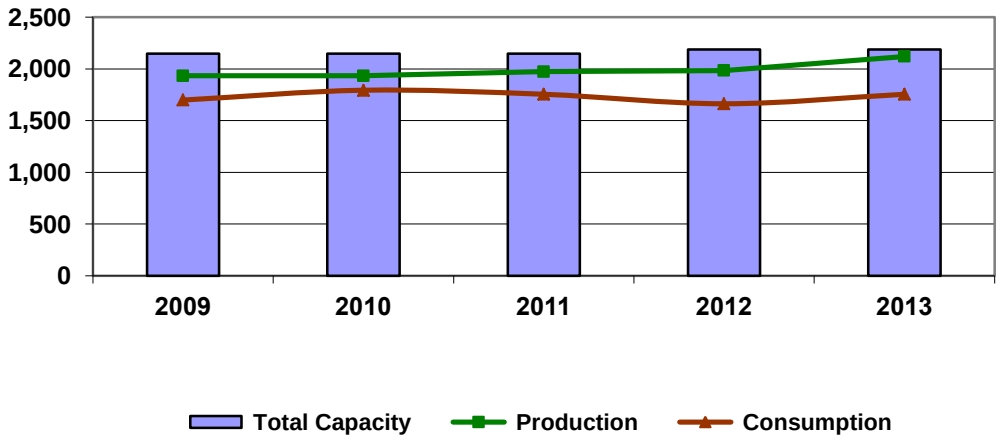
Toluene production in 2013 is expected to slightly drop due to the changing unit of Thai Paraxylene in Q4 2012. Consumption, on the other hand, is forecasted to increase as more toluene will be used to produce p-xylene, benzene and mixed xylene.

Capacity, Production and Consumption of Aromatics: P-Xylene

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	2,149	2,149	2,149	2,187	2,187
Production	1,933	1,933	1,973	1,985	2,121
Consumption by Derivative Prod.	1,699	1,794	1,755	1,663	1,755*
Export	355	381	428	478	
Import	122	242	228	156	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from PTA production, which is projected by assuming a 90% operating rate.



1. Review of 2012

Thailand p-xylene production relatively increase compared to the previous year. There was new capacity adding up in 2012 following Thai Paraxylene (TPX) debottlenecking its Sri Racha based plant in Q4 2012; after debottlenecking the plant's capacity increased by 35,000-40,000-ton/year. In the meantime, p-xylene consumption was down 5% in 2012, despite a 67,000-ton/year expansion of downstream derivative PTA by Indorama Petrochem where compensate with weak demand from derivative polyester.

2. Outlook for 2013

Thailand p-xylene production is expected to increase; meanwhile, consumption is forecasted to improve, following the expansion plan of polyester fibers from Indorama. Indorama plans to expand its 38,000-ton/year polyester fibers at Nakhorn Pathom and 19,000-ton/year polyester fibers at Rayong in 2013.

Polyolefins Committee

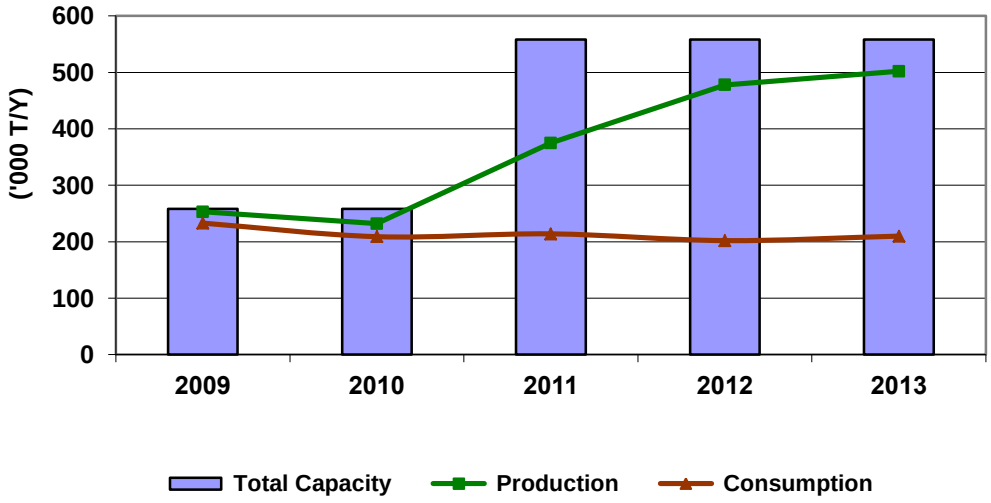
II-2. Polyolefins Committee

Capacity, Production and Consumption of LDPE/EVA

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	258	258	558	558	558
Production	253	232	375	478	502
Consumption	233	209	214	202	210*
Export	108	143	277	378	
Import	89	120	116	101	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures : assume 90% operating rate. Some consumption figures are deviated from normal calculation (Production + Import – Export) because of its inventory change.



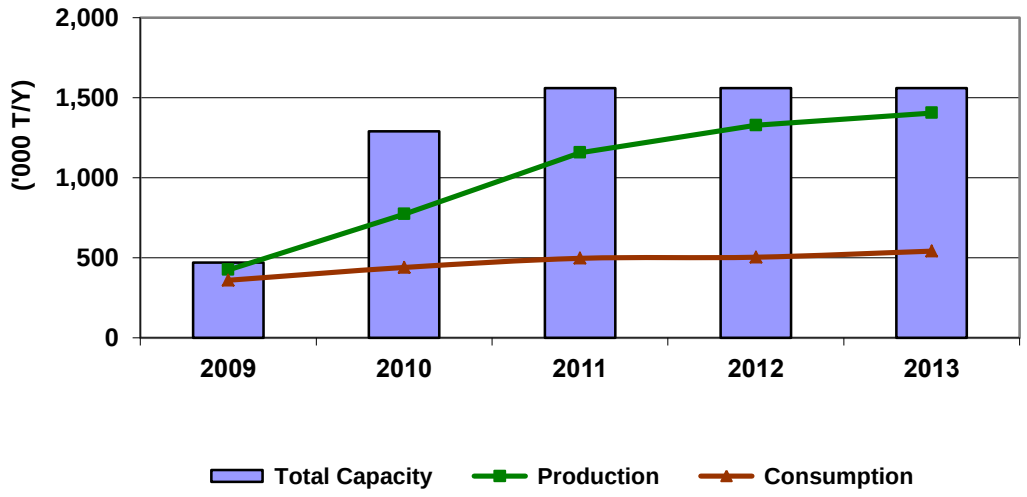
Capacity, Production and Consumption of LLDPE

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	470	1,290	1,560	1,560	1,560
Production	425	773	1,157	1,327	1,404
Consumption	360	440	497	504	542*
Export	210	487	810	993	
Import	145	154	150	170	

Source: PTIT Industrial Survey, The Customs Department

Note: *Projected production figures : assume 102% operating rate. Some consumption figures are deviated from normal calculation (Production + Import – Export) because of its inventory change.



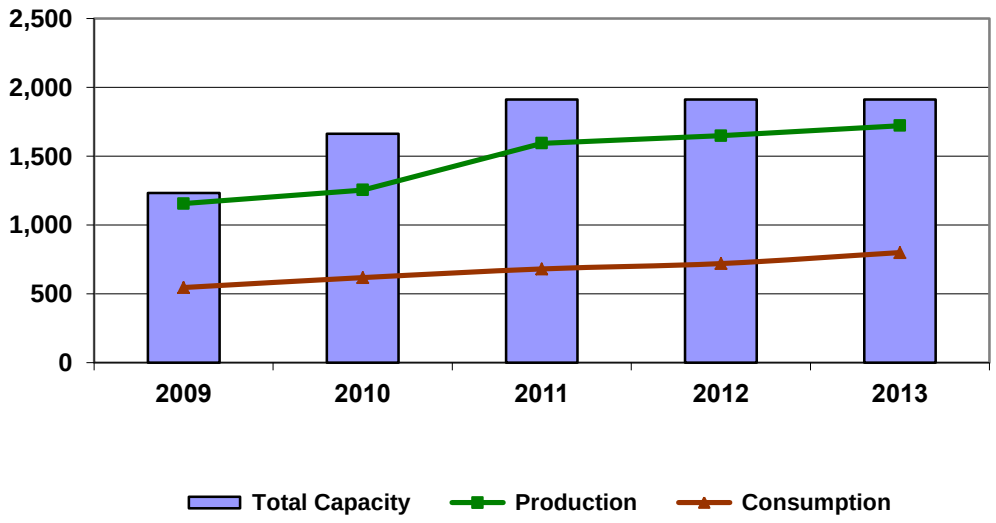
Capacity, Production and Consumption of HDPE

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	1,232	1,662	1,912	1,912	1,912
Production	1,155	1,254	1,594	1,648	1,721
Consumption	546	618	681	720	800*
Export	686	767	1,034	1,079	
Import	77	131	120	151	

Source: PTIT Industrial Survey, The Customs Department

Note: *Projected production figures : assume 85% operating rate. Some consumption figures are deviated from normal calculation (Production + Import – Export) because of its inventory change.



1. Review of 2012

In 2012, domestic production for LDPE/EVA significantly increased from 2011 while LLDPE and HDPE slightly increased as LDPE plant of PTTPE (300,000-ton/year) which started up in 2011 can run at full production capacity in 2012. Domestic consumption of LDPE dropped around 6% while LLDPE and HDPE consumption slightly increased. Export volume of LDPE and LLDPE dramatically increased as oversupply of resin for domestic market.

2. Outlook for 2013

Thailand PE production is expected to continue to expand especially LLDPE as the price of LDPE should be recovered back to the same level as in 2011. In addition, the overall domestic demand of PE resin tends to recover as a result of growth in packaging segment. .

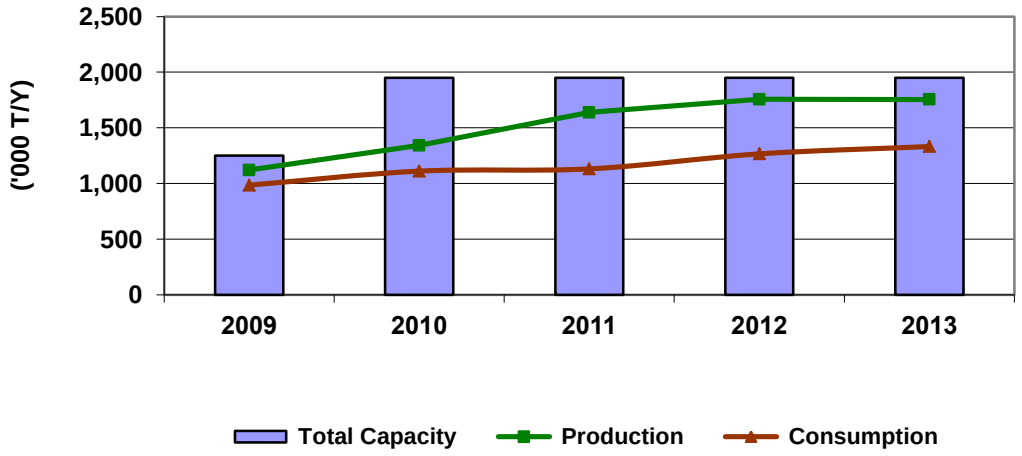
Capacity, Production and Consumption of PP

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	1,250	1,950	1,950	1,950	1,950
Production	1,120	1,342	1,638	1,756	1,755
Consumption	985	1,111	1,131	1,266	1,332*
Export	318	500	737	732	
Import	183	269	230	242	

Source: PTIT Industrial Survey, The Customs Department

Note: *Projected production figures: assume 90% operating rate. Some consumption figure is different from calculation (Production + Import – Export) due to inventory change.



1. Review of 2012

Domestic polypropylene (PP) production continued to increase by 7% from the previous year, boosted by rising demand from end-use market. Automotive and packaging segment are two key driver segments which boost up PP domestic consumption and case the import relatively increased. Meanwhile, export of PP slightly decreased as 2011.

2. Outlook for 2013

PP production is projected to remain stagnant because resin production is already produced at full capacity in 2012. On the other hand, the internal end-user market demands tend to increase supported by high growth in automotive segment. In addition, external end-user demand is likely to be decrease as PP market competition will increase as Singapore and Indonesia are likely to increase their PP production in 2013.

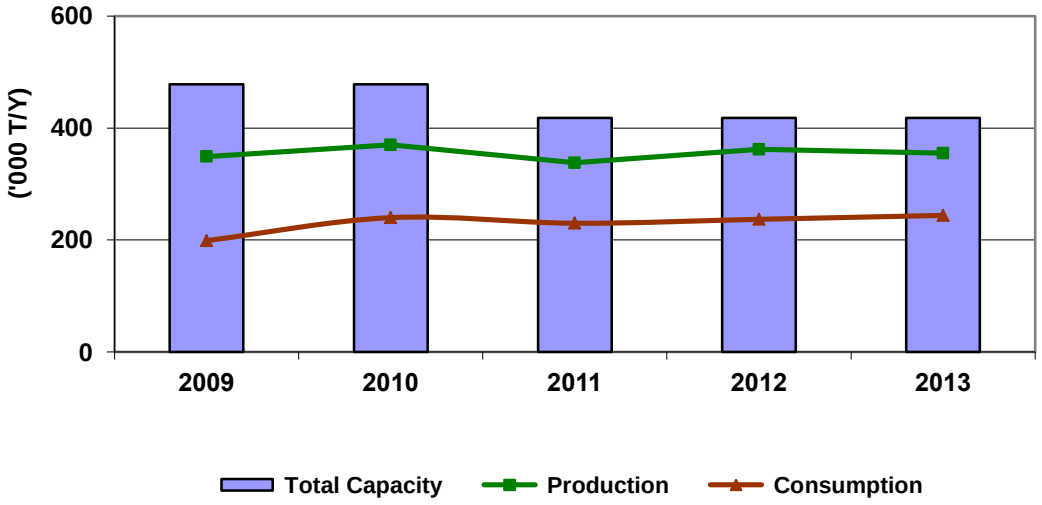
Styrenics Committee

Capacity, Production and Consumption of PS/EPS

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	478	478	418	418	418
Production	349	370	338	362	355
Consumption	199	240	230	237	244*
Export	183	176	151	163	
Import	34	47	44	48	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 85% operating rate



1. Review of 2012

Domestic production and consumption of PS/EPS in 2012 slightly increased following a surging in demand from end-user markets. Rebounding from last year's flood crisis, manufacturer's packaging and electrical and electronic restarted production to meet domestic and international demand as Thailand is one of leading production hub, even though, the country's electrical and electronic trade was lackluster due to the US and EU crisis.

2. Outlook for 2013

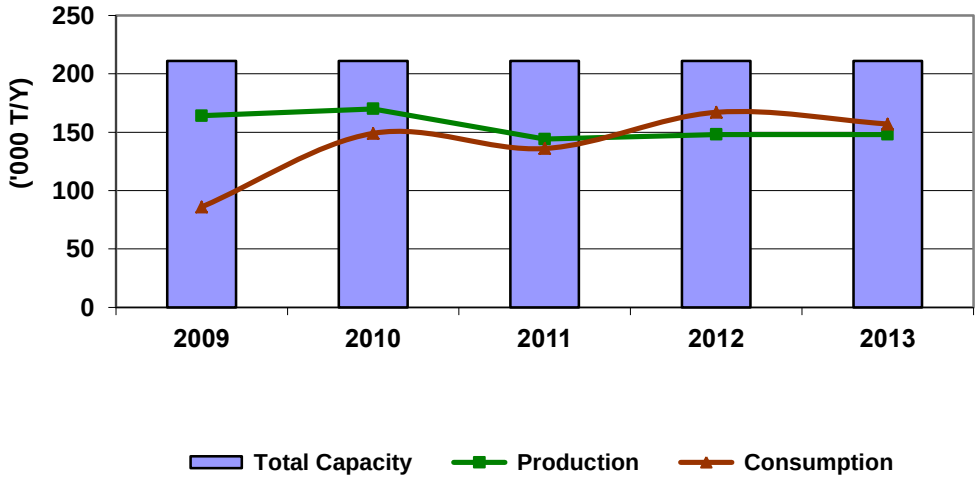
PS/EPS consumption is expected to slightly increase supporting from end-user markets especially electronic and electrical and packaging industries.

Capacity, Production and Consumption of ABS/SAN

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	211	211	211	211	211
Production	164	170	144	148	148
Consumption	86	149	136	167	157*
Export	157	136	117	103	
Import	80	114	109	122	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 85% operating rate



1. Review of 2012

Domestic production and consumption of ABS/SAN rose by 3% and 23% respectively in 2012 following the expansion of automobile, electrical and electronic industries which are the largest ABS/SAN market. Thai automotive and electrical and electronic industries bounce back strongly from the previous year's flood crisis. Thailand's automotive production reached 2 million vehicles, while electrical and electronic exports represent the 13th export rank in global electrical and electronic market and the 3rd export rank in ASEAN.

2. Outlook for 2013

Domestic production and consumption of ABS/SAN is expected to stagnate or slightly decrease in line with demand from domestic end-user markets including electrical and electronic components, automotive parts, toys, cameras and pipes.

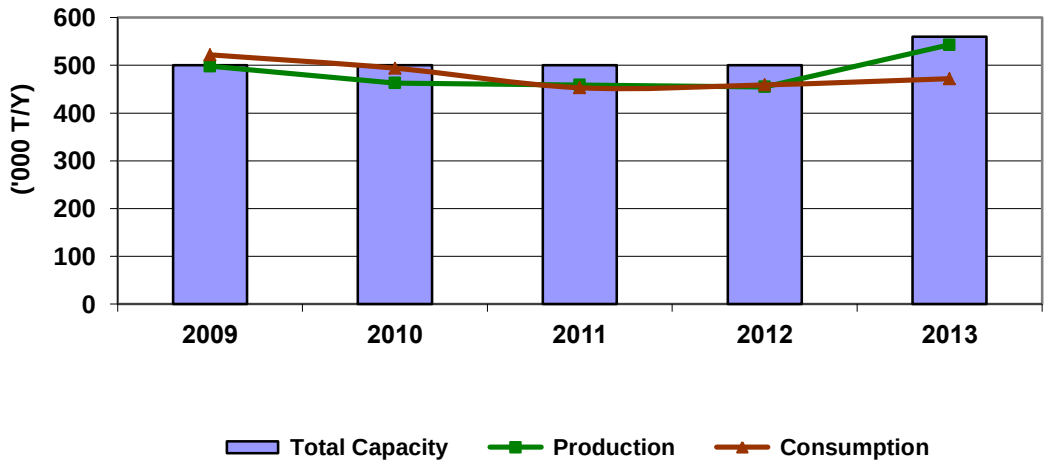
Capacity, Production and Consumption of SM

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	500	500	500	500	560
Production	498	463	459	455	543
Consumption by Derivative Prod.	522	494	453	459	472*
Export	22	0	22	27	
Import	49	86	67	55	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from PS+EPS, ABS/SAN, SBL and SBR (assumed ABS 100%) production, which is projected by assuming a 85%, 85%, 90%, 90% operating rate respectively.
'0' means below 500 T/Y



1. Review of 2012

SM production slightly decreased from last year. However, they were offset by an increase in consumption from the key derivatives products, especially EPS and ABS/SAN which are widely used to produce various electrical and electronics components, automotive parts, toys and food containers.

2. Outlook for 2013

Assuming a 90% operating rate, SM production is expected to increase following the expansion of the 60,000-ton/year SM plant of IRPC. Consumption is forecasted to rise on the back of growing trend in domestic and export of electrical and electronic and automotive markets.

PVC Committee

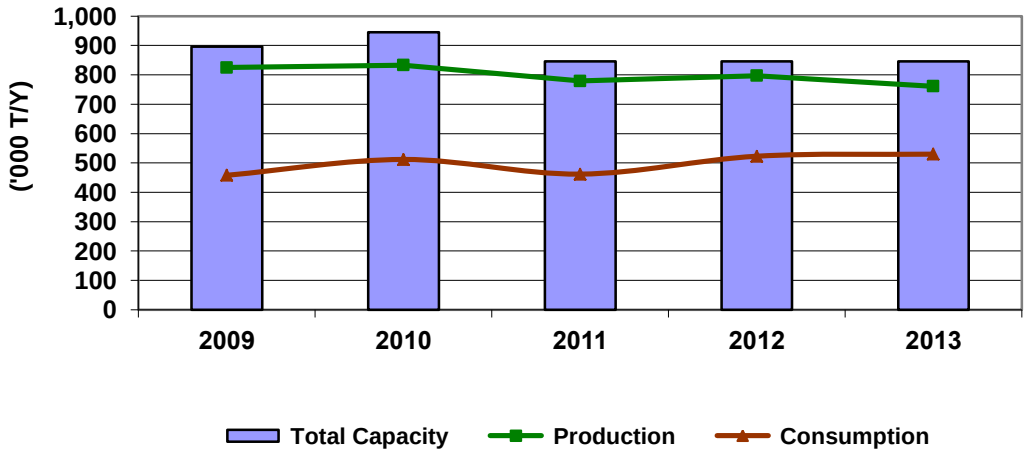
II-4. PVC Committee

Capacity, Production and Consumption of PVC

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	896	945	846**	846	846
Production	825	833	779	797	761
Consumption	458	512	462	523	530*
Export	424	382	387	367	
Import	56	61	70	94	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 90% operating rate
** Apex petrochemicals closed out its 100-KTA polyvinyl chloride plant in 2011.



1. Review of 2012

Thailand's PVC production in 2012 slightly increased from 2011. Thailand's PVC consumption increased around 13% from 2011 supporting by stimulus programs from Thai's government embarking on post-flood recovery programs as well as water management facilities and private investments. For export market, the market decreased around 5% as domestic demand for PVC resin was increased.

2. Outlook for 2013

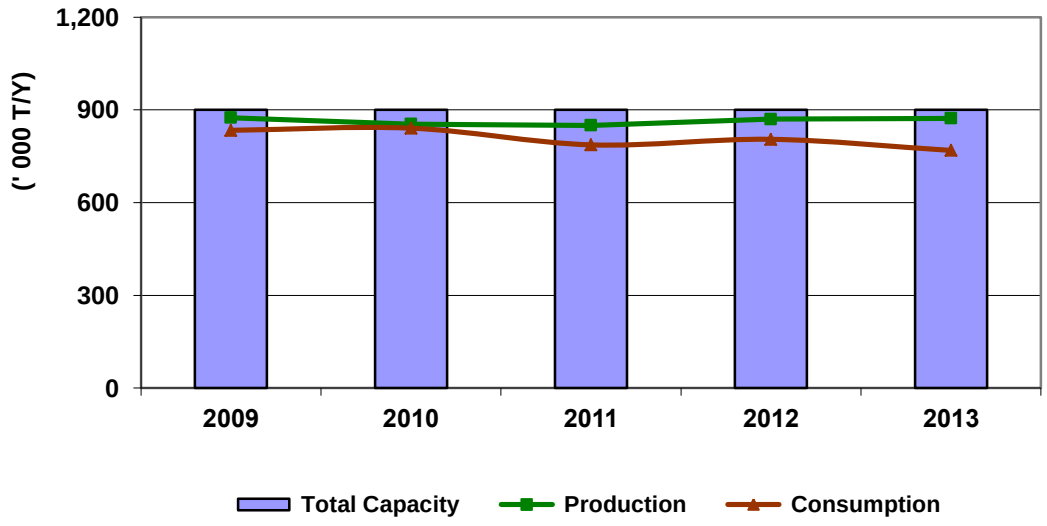
Thailand's domestic PVC production is forecasted to remain stagnate or slightly drop in 2013, meanwhile, consumption is projected to slightly increase supported by rising of residence especially condominium.

Capacity, Production and Consumption of VCM

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	900	900	900	900	900
Production	875	854	850	870	873
Consumption by Derivative Prod.	834	841	787	805	769*
Export	86	66	58	78	
Import	32	42	7	0	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption by derivative netbacked from PVC production, which is projected by assuming a 90% operating rate.



1. Review of 2012

Thailand's VCM production in 2012 slightly increased around 2% supported by an increase of demand in downstream market. On the other hand, export market surged 34% as demand of monomer for PVC plant increase.

2. Outlook for 2013

Supply for VCM in Thailand in 2013 is expected to slightly increase supported by demand from export market. On the other hand, domestic demand remain stagnate or slightly decrease pressured by slower demand from downstream PVC market.

Synthetic Rubber Committee

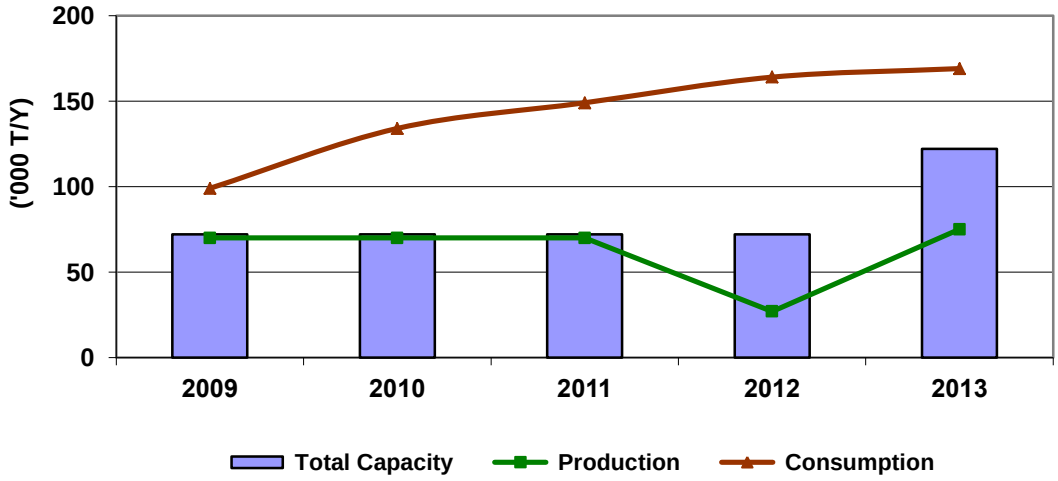
II-5. Synthetic Rubber Committee

Capacity, Production and Consumption of SBR

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	72	72	72	72	122
Production	70	70	70	27	75
Consumption	99	134	149	164	169*
Export	47	36	39	26	
Import	76	100	118	163	

Source: PTIT Industrial Survey, The Customs Department



1. Review of 2012

The incident at BST Elastomers Co., Ltd.'s BR plant caused BST ElastomersCo., Ltd.'s SBR plant stopped the production. Therefore, Thailand's SBR production dropped drastically. Consumption, meanwhile, markedly increased attributed to the growth of Thailand automotive industry as the country's vehicle production has reached 2 million vehicles in 2012 in consequence of strong exports demand and the government's first-car populist program.

2. Outlook for 2013

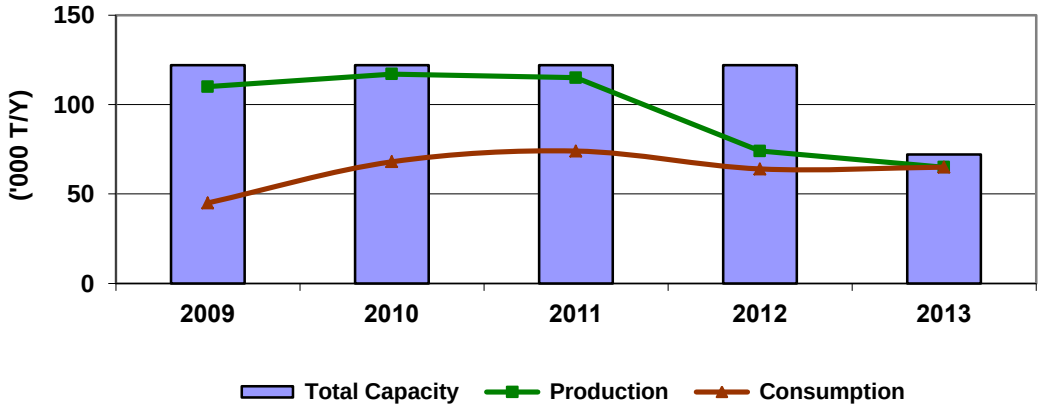
Domestic production for SBR in Thailand in 2013 is expected to increase from BST Elastomers Co., Ltd. 's SBR plant restart up in the second quarter and there will be the first SBR plant, joint venture between JSR Corporation and BST coming up on stream in the middle of this year with the capacity of 50,000 Mt/Year. Consumption is expected to slightly increase from the strong demand of domestic automotive industry.

Capacity, Production and Consumption of BR

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	122	122	122	122	72
Production	110	117	115	74	65
Consumption	45	68	74	64	65*
Export	88	84	81	59	
Import	23	35	40	49	

Source: PTIT Industrial Survey, The Customs Department
Note: Projected production figures: assume 80% operating rate



1. Review of 2012

An explosion at BST Elastomers' BR plant at Map Ta Phut industrial estate in May 2012 caused a huge drop in domestic BR production and consumption slightly dropped impacted from the slowdown of global economic, despite growing domestic automotive industry. BST Elastomers Co., Ltd. (BSTE) is one of the producers that produce synthetic rubber SBR and BR in Thailand.

Outlook for 2013

Thailand's BR production is forecasted to decrease, while domestic BR consumption is expected to remain stagnate or likely increase in line with the expansion of local automotive industry following Thailand's next target for the automotive industry which is to produce 3 million vehicles per year for supplying the Asia- Pacific and global markets.

Synthetic Fiber Raw Materials Committee

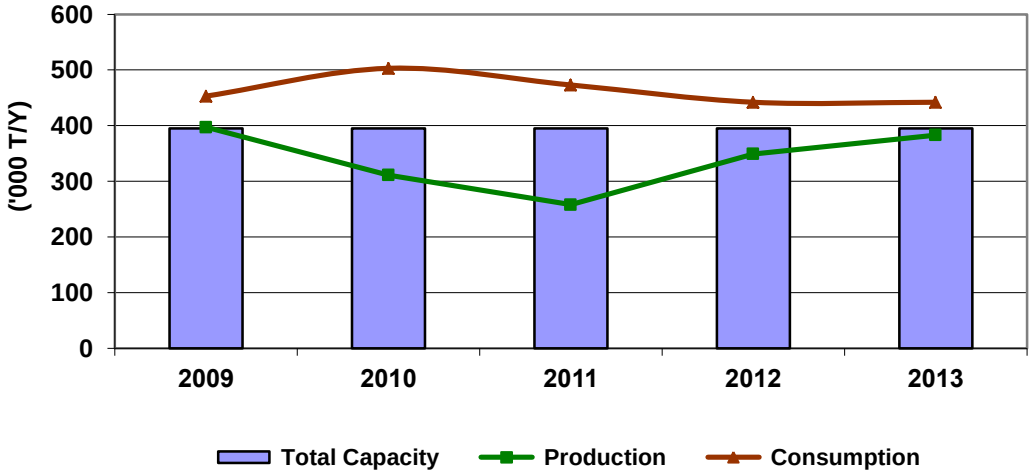
II-6. Synthetic Fiber Raw Materials Committee

Capacity, Production and Consumption of Ethylene Glycol

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	325	325	325	325	325
Production	397	311	258	349	383
Consumption by Derivative Prod.	453	503	473	442	442*
Export	91	8	27	76	
Import	171	225	258	155	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from polyester polymer production, which is projected by assuming a 90% operating rate.



1. Review of 2012

The production in 2012 jumped by 35% compared to the previous year as the demand from export market increased. However, domestic demand kept downward trend similarly as last year as textile factories suffered from effect of flood crisis and the government policy which rising labor cost. This also reflected by imported volume which dropped by 39%.

2. Outlook for 2013

In 2013, MEG production is forecasted to increase their production rate to meet demand of downstream segment in this region. However, domestic consumption is expected to keep stagnant as rising of labor cost direct effect production cost of textile segment.

Capacity, Production and Consumption of Acrylonitrile

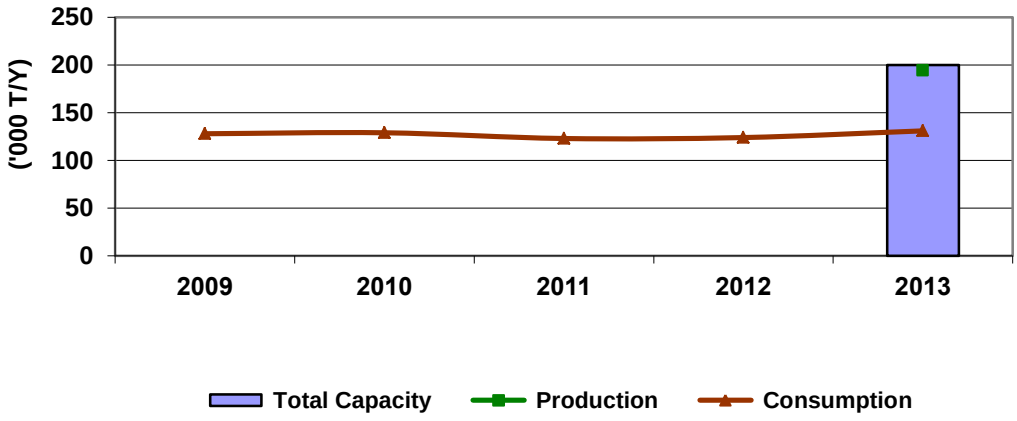
Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity					200
Production					194
Consumption by Derivative Prod.	128	129	123	124	131*
Export	0	0	0	30	
Import	139	141	137	70	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from ABS/ SAN and acrylic fibre production with an assumed operating rate of 90%.

'0' means below 500T/Y



1. Review of 2012

PTT Asahi tested run its ACN plant in 2012. Meanwhile, Thailand's ACN consumption relatively stable in 2012 in line with demand from downstream derivative ABS/SAN as a result of a slightly rebound in electrical and electronic industry after the massive flood in 2011.

2. Outlook for 2013

PTT Asahi will start commercial production it 200,000-ton/year ACN plant in 2013. Consumption of ACN are expected to increase attributing to a growing trend in electrical and electronic, automobile, and toy industries. ACN is used as feedstock to produce ABS/SAN resins which is widely used in various parts and components of electrical and electronic, automobile and toy products.

Capacity, Production and Consumption of Caprolactam

Unit:'000 T/Y

	Historical				Estimated
	2009	**2010**	**2011**	**2012**	**2013**
Total Capacity	110	110	110	130	130
Production	111	110	106	130	126
Consumption by Derivative Prod.	63	91	102	109	109*
Export	50	22	18	33	
Import	2	2	14	8	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption is netbacked from Nylon 6 production, which is projected by assuming a 76% operating rate

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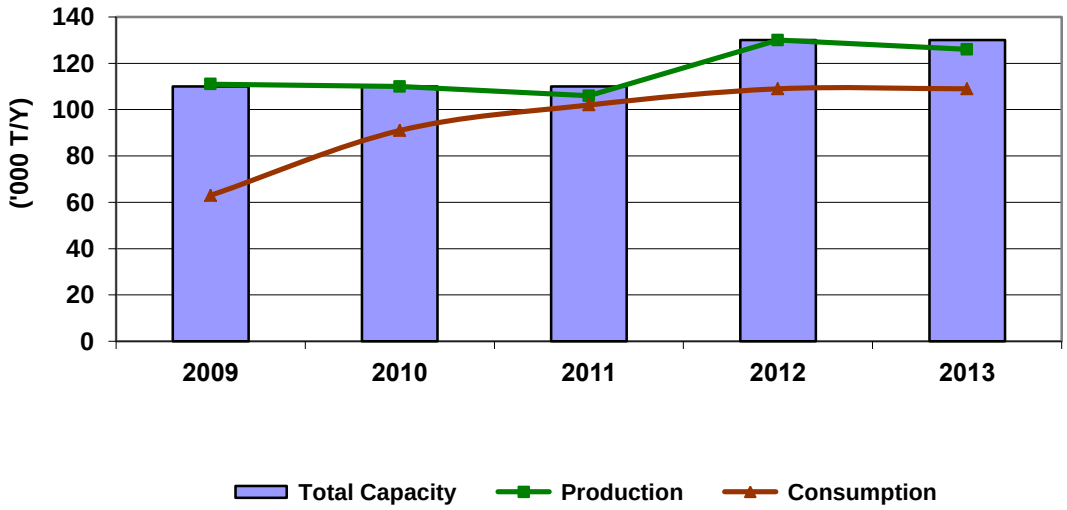


1. Review of 2012

Domestic production and consumption of caprolactam in 2012 rose 23% and 7% following Ube Chemicals Thailand started commercial operations its 20,000-ton/year caprolactam and 50,000-ton/year Nylon 6 in 2012.

2. Outlook for 2013

Caprolactam production and consumption is projected to relatively stagnate in line with the demand from downstream derivative Nylon 6 with is the key market for carprolactam. The outlook for Thailand's textile industry, which is the end-market of Nylon 6, is forecasted to remains negative-to-stable for 2013.

Capacity, Production and Consumption of Terephthalic Acid

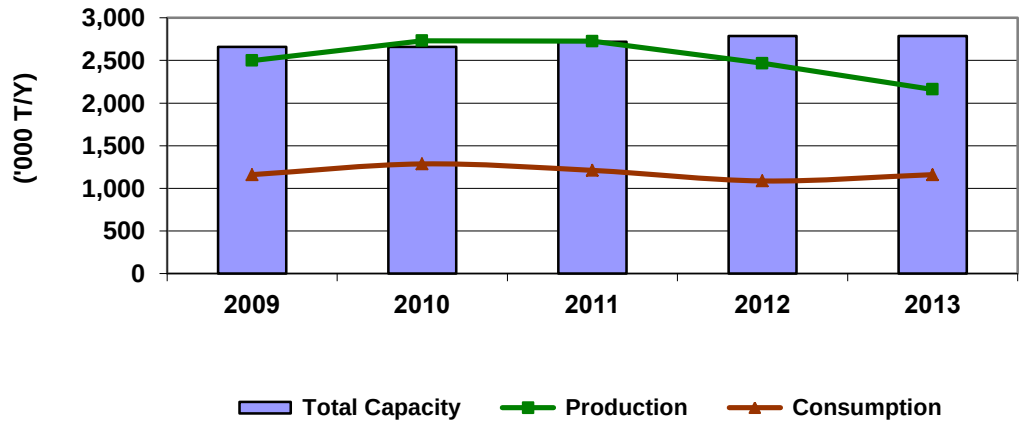
Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	2,660	2,660	2,720	2,787	2,787
Production	2,499	2,732	2,726	2,467	2,160
Consumption by Derivative Prod.	1,160	1,286	1,210	1,086	1,160*
Export	1,339	1,446	1,516	1,381	
Import	0	0	0	0	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from polyester polymer production, which is projected by assuming a 72% operating rate.

'0' means below 500T/Y



1. Review of 2012

Thailand's PTA production dropped from 2011 as local producers reduced their operating rates to go with softer demand from domestic and regional markets resulting from global economic slowdown and oversupply of PTA in Asia. Domestic PTA consumption decreased on slow demand recovery of flooded downstream polyester including derivative PET and polyester products.

2. Outlook for 2013

In 2013, domestic PTA production is expected to decline following softer demand from regional markets continue. While consumption is forecasted to slightly increase corresponding to recovered demand of flooded downstream polyester as domestic packaging and textile sectors are expected to improve.

Chemicals Committee

II-7. Chemicals Committee

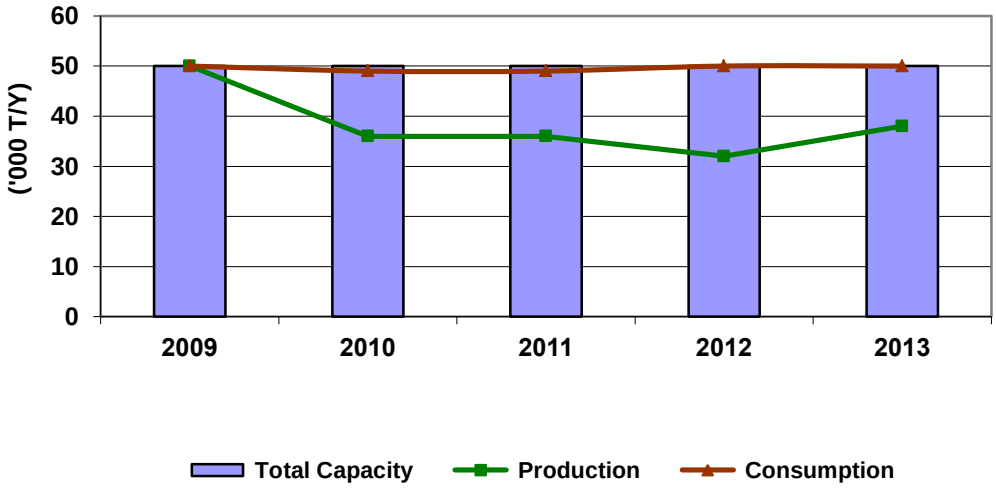
Capacity, Production and Consumption of Phthalic Anhydride (PA)

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	50	50	50	50	50
Production	50	36	36	32	38
Consumption by Derivative Prod.	50	49	49	50	50*
Export	4	6	1	2	
Import	13	12	12	17	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption by derivative netbacked from plasticizer, UPR and alkyd resins production, which is projected by assuming 50%, 60%, 65% operating rate, respectively.



1. Review of 2012

Domestic PA production and consumption in 2012 relatively constant or slightly increased, supporting by strong end-user demand from downstream derivative plasticizer as demand from plastic and construction industries increase following post-flood recovery.

2. Outlook for 2013

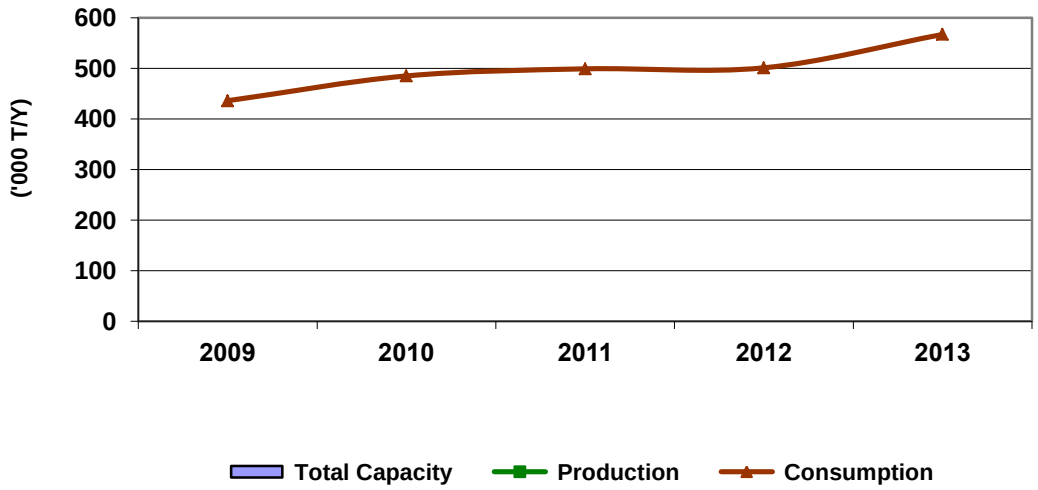
Assuming 50%, 60%, 65% operating rate for plasticizer, UPR and alkyd resins respectively, Thailand PA production and consumption is expected to be idle or slightly increase as decline in demand from textile will compensate with rebound in demand from construction and automotive.

Capacity, Production and Consumption of Methanol

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity					
Production					
Consumption by Derivative Prod.	436	485	499	501	567*
Export	2	3	0	85	
Import	476	556	515	554	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from MTBE, MMA, POM and formaldehyde production, which is projected by assuming 90% operating rate.



1. Review of 2012

Domestic consumption of methanol increased from 499,000 tons in 2011 to 501,000 tons in 2012 following an increase in demand from derivative MMA, POM, formaldehyde and MTBE as a result of a rebound from massive flood.

Thailand has no methanol production facility. All methanol usage is imported.

2. Outlook for 2013

Methanol consumption in Thailand is expected to relatively increase assuming a 90% operating rate for MMA, POM, formaldehyde and MTBE.

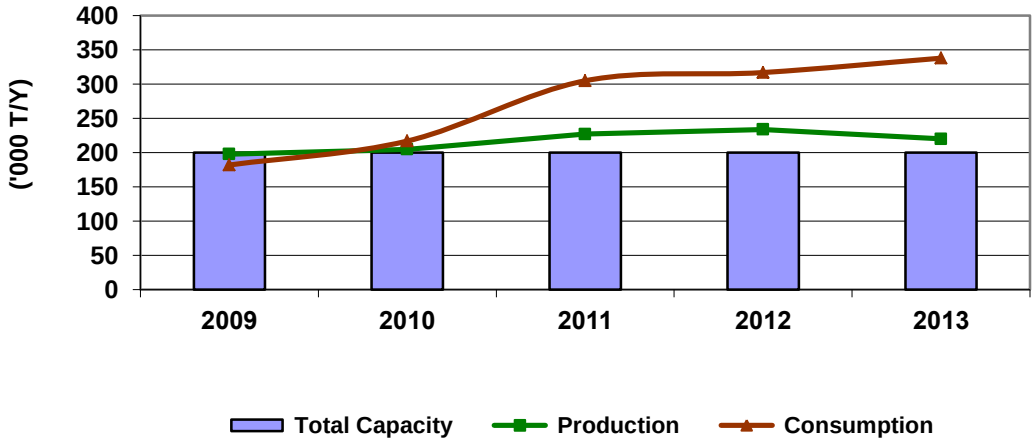
Capacity, Production and Consumption of Phenol

Unit:'000 T/Y

	Historical				Estimated
	2009	2010	2011	2012	2013
Total Capacity	200	200	200	200	200
Production	198	205	227	234	220
Consumption by Derivative Prod.	182	217	305	317	338*
Export	169	166	106	113	
Import	153	178	184	196	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from Bisphenol A and Phenolic resin production, which is projected by assuming a 90%



1. Review of 2012

Domestic phenol production and consumption increased from 2011 following an increase in downstream derivatives demand.

2. Outlook for 2013

Phenol production in Thailand is expected to maintain at 2012 level while consumption is forecasted to surge around 5%, assuming around 90% operating rate for Bisphenol A and Phenolic resin. However, PTT Phenol plans to have a new production line of around 250 KTA coming on stream in 2015 and is also planning to debottleneck its first line immediately after that.