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ASIA
PETROCHEMICAL INDUSTRY
CONFERENCE

MAY 2017

Japan **DELEGATION OF THAILAND**

Contents

I. Report on the Thai Petrochemical Industry

Thai Petrochemical Industry – Current State and Issues

I-1. Business Environment

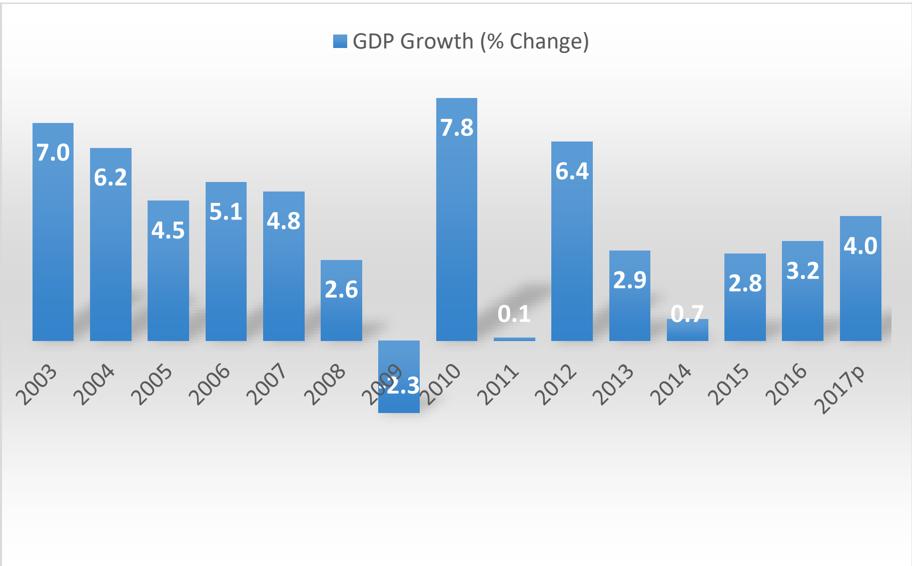
Global economic growth remain moderate in 2016, the IMF's Statistics Department estimated the growth of the world economy at 3.1%. The number is nearly as growth rate in 2015. In addition, weaker-than-expected growth in the United States, U.K. vote in favor of leaving the European Union (Brexit), the global crude oil price which remainted.

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

In 2016, The Office of the National Economic and Social Development Board (NESDB) of Thailand announced GDP growth of by 3.2% improved from 2.9% in 2015 supported by private consumption and investment, government expenditure, household consumption continued to grow while export slowed down and the drought affecting agriculture.

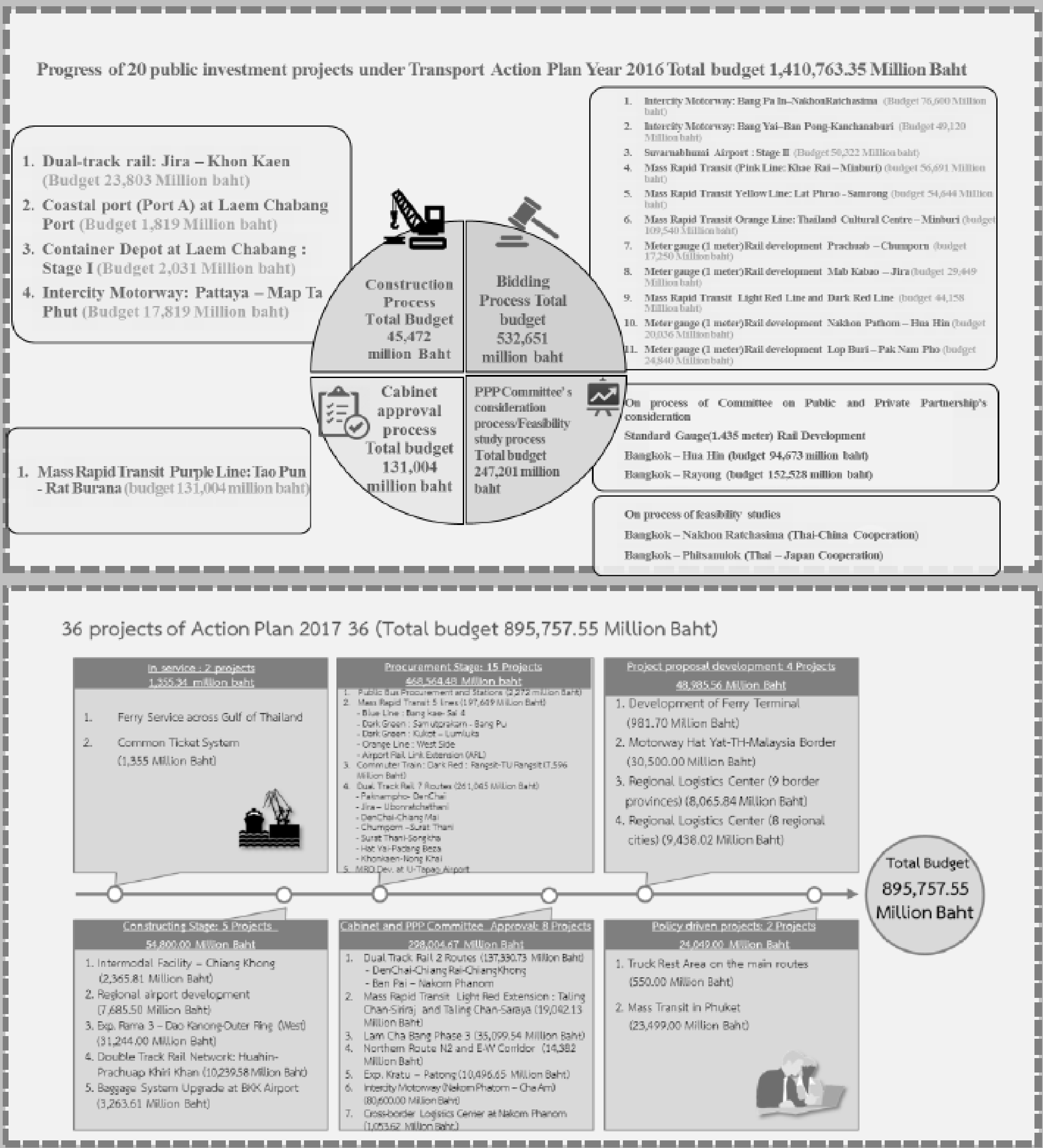
Thai economy projected GDP to 3.0-4.0% in 2017, supported by export sector from recovery of the manufacturing production and private investment, government has infrastructure development plant, development projects under Eastern Economic Corridor, and special border economic zones, promoting border trade and linkage with CLMV,

Figure-1 Thailand's GDP Growth 2003-2017



Source: NESDB, BOT

Transport Infrastructure Investment Action Plan in 2016-2017



Source: Ministry of Transport

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

The petrochemical industry in Thailand continued to expand from the previous year. As a result, the GDP growth in 2016 significantly increased from previous year at 3.1% to 2.9%. Automotive and real estate segment were two major segment which mainly affect by these factors, automotive has production increased at 1.94 million car from 1.91 million car in previous year. Strong expansion of construction sector, as well as favorable expansion of hotel and restaurants and other services sector. The expansion of consumption expenditure on non-durable goods. However, demand of petrochemical product used in packaging segment still relatively stagnated by strong demand in food industry.

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

- Ethylene production decreased by 4% in 2016 as the some cracker has shutdown maintenance. Propylene production increased 5% as the demand of derivative.
- The production of major polymer in 2016 increased by 5% from the previous year. The gain was the result of strong demand of both domestic and export market especially PP resin. Domestic demand of PP were increased by 10% a result of upward trend in packaging segment. On the other hand, domestic demand of PVC resin in relatively increased from the previous year from strong demand of construction segment.

Table-2 Production/ Consumption and Import/ Export Figures of Five Major Products 2012-2016

(Unit:'000 T/Y)

Products	2012	2013	2014	2015	2016
Ethylene					
Production	4,093	4,116	4,345	4,458	4,277
Import	115	85	46	23	93
Export	59	17	66	70	22
Consumption by derivative product[(1)]	4,148	4,184	4,324	4,411	4,348
Propylene					
Production	2,226	2,220	2,410	2,361	2,468
Import	5	17	5	21	3
Export	139	208	225	181	212
Consumption by derivative product[(2)]	2,092	2,029	2,190	2,207	2,260
PTA					
Production	2,469	2,167	2,084	2,020	2,194
Import	0	0	0	0	0
Export	1,242	996	892	854	940
Consumption by derivative product[(3)]	1,227	1,171	1,192	1,166	1,254
PE (including EVA)					
Production	3,453	3,455	3,692	3,755	3,662
Import	437	418	321	414	459
Export	2,450	2,379	2,486	2,574	2,394
Consumption [(4)]	1,441	1,495	1,527	1,593	1,727
PP					
Production	1,756	1,767	1,843	1,843	1,933
Import	242	229	212	240	270
Export	732	767	818	856	858
Consumption [(4)]	1,266	1,229	1,237	1,174	1,346

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 2016 (as of March 2017)

(Unit:'000 T/Y)

Ethylene

Company	Capacity
IRPC	360
MOC	900
PTTGC	2,376
ROC	800
Total	4,436

Source: PTIT Industrial Survey, March 2017

Polyethylene

Company	Capacity				
	LDPE/EVA	LLDPE	LLDPE/MDPE	HDPE	Total
IRPC				140	140
PTTGC	300	400		800	1,500
Siam Polyethylene		650			650
SSLC (Specialty Elastomers)		220			220
TPE	100		120	960	1,180
TPI Polene	158				158
Total	558	1,270	120	1,900	3,848

Source: PTIT Industrial Survey, March 2017

Vinyl Chloride Monomer

Company	Capacity
TPC	590
VNT	400
Total	990

Source: PTIT Industrial Survey, March 2017

Polyvinyl Chloride

Company	Capacity
TPC	530
TPC Paste Resin	36
VNT	280
Total	846

Source: PTIT Industrial Survey, March 2017

Propylene

Company	Capacity
HMC	310
MOC	800
IRPC	412
PTTGC	487
ROC	400
SPRC	130
Total	2,539

Source: PTIT Industrial Survey, March 2017

Table-3 Capacity of Major Petrochemicals 2016 (as of March 2017)

(Unit:'000 T/Y)

Polypropylene

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

Source: PTIT Industrial Survey, March 2017

Styrene Monomer

Company	Capacity
IRPC	260
SSMC	280
Total	540

Source: PTIT Industrial Survey, March 2017

Polystyrene

Company	Capacity
Siam Polystyrene	150
IRPC (Thai ABS)	130
Thai Stryrenics	90
Total	370

Source: PTIT Industrial Survey, March 2017

Butadiene

Company	Capacity
BST	140
IRPC	50
PTTGC	75
Total	265

Source: PTIT Industrial Survey, March 2017

Synthetic Rubber

Company	Capacity	
	ESBR	**BR**
BST Elastomer	72	
Thai Synthetic Rubber		72
Total	144	

Source: PTIT Industrial Survey, March 2017

II. Committee Meetings

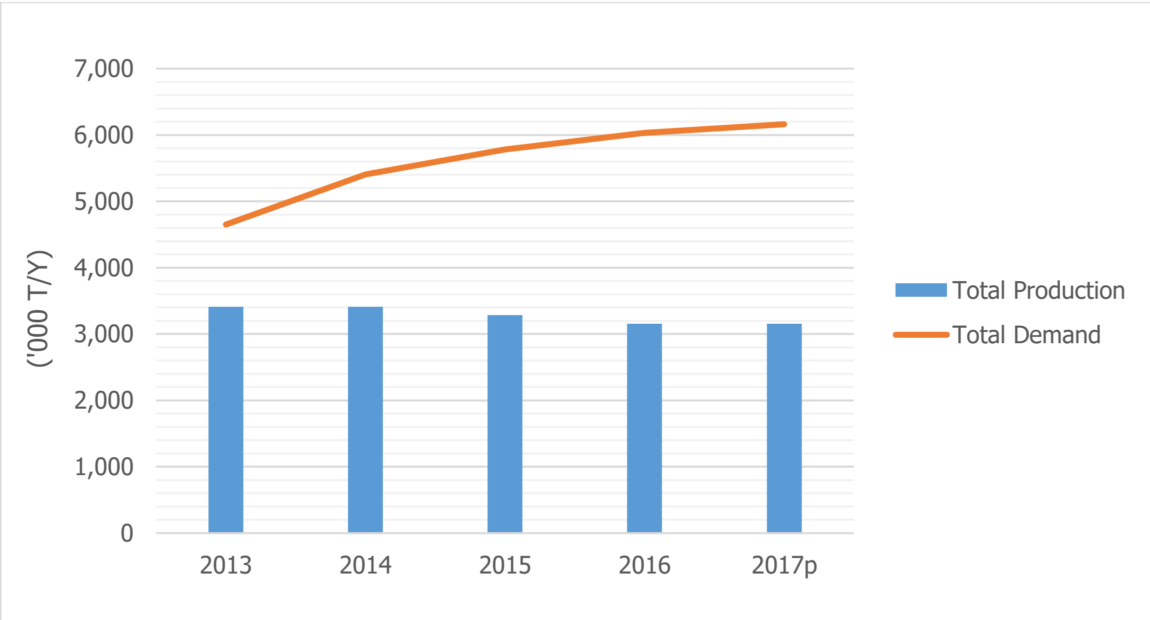
General Matters & Raw Materials Committee

II-1. General Matters & Raw Materials Committee

Capacity, Production and Demand of Light Naphtha

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Production	**3,412**	**3,411**	**3,287**	**3,157**	**3,157**
Feedstock	4,536	5,330	5,690	5,917	
Solvents	115	76	93	116	
Total Demand	**4,651**	**5,406**	**5,783**	**6,033**	**6,162**



1. Review of 2016

   Thailand's light naphtha production in 2015 decreased by 4% from the previous year due to strong demand for gasoline blending. Meanwhile, domestic demand for light naphtha as petrochemical feedstock and solvent increased by 4% following a strong demand for ethylene and propylene production which utilized less gas-based feedstock.

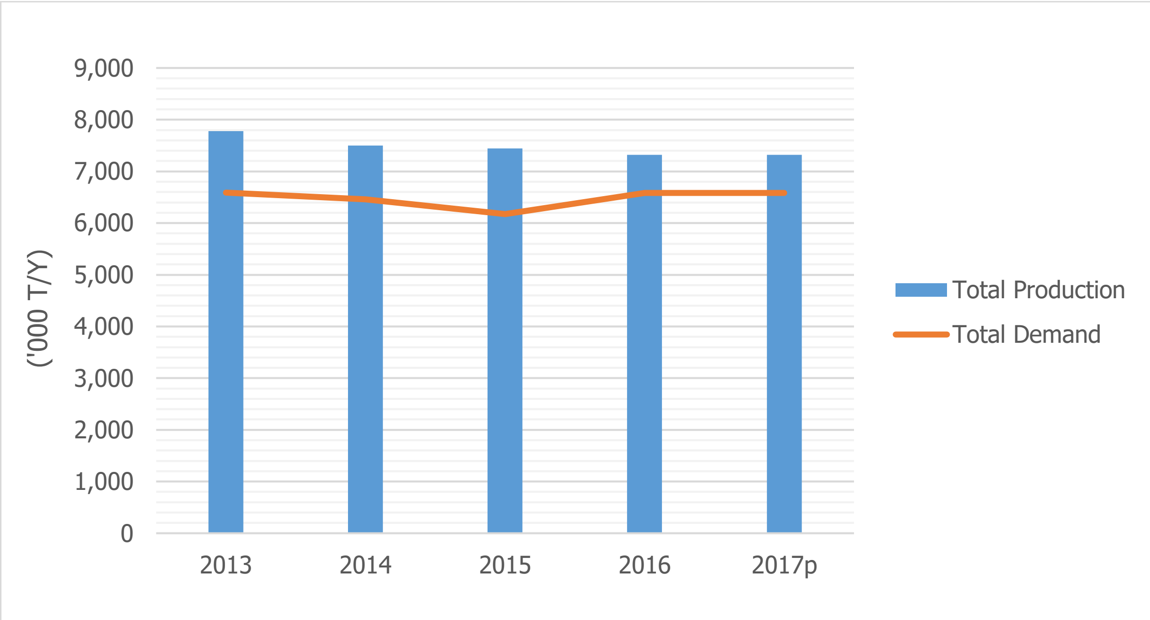
2. Outlook for 2017

   Production of light naphtha is expected to remain unchanged from that of 2016, while domestic consumption for light naphtha in Thailand is projected to slightly increase from that of 2016 coinciding with the expected increase in ethylene and propylene production.

Capacity, Production and Demand of Heavy Naphtha

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Production	**7,780**	**7,501**	**7,446**	**7,321**	**7,321**
Feedstock	6,589	6,462	6,174	6,584	
Total Demand	**6,589**	**6,462**	**6,174**	**6,584**	**6,584**



1. Review of 2016

   Domestic production of heavy naphtha slightly dropped from that of 2015 due to a strong demand for gasoline blending. Meanwhile, domestic demand for petrochemical feedstock increased by 7% following an increase in aromatics production.

2. Outlook for 2017

   Thailand's domestic production and consumption of heavy naphtha is expected to remain unchanged from that of 2016.

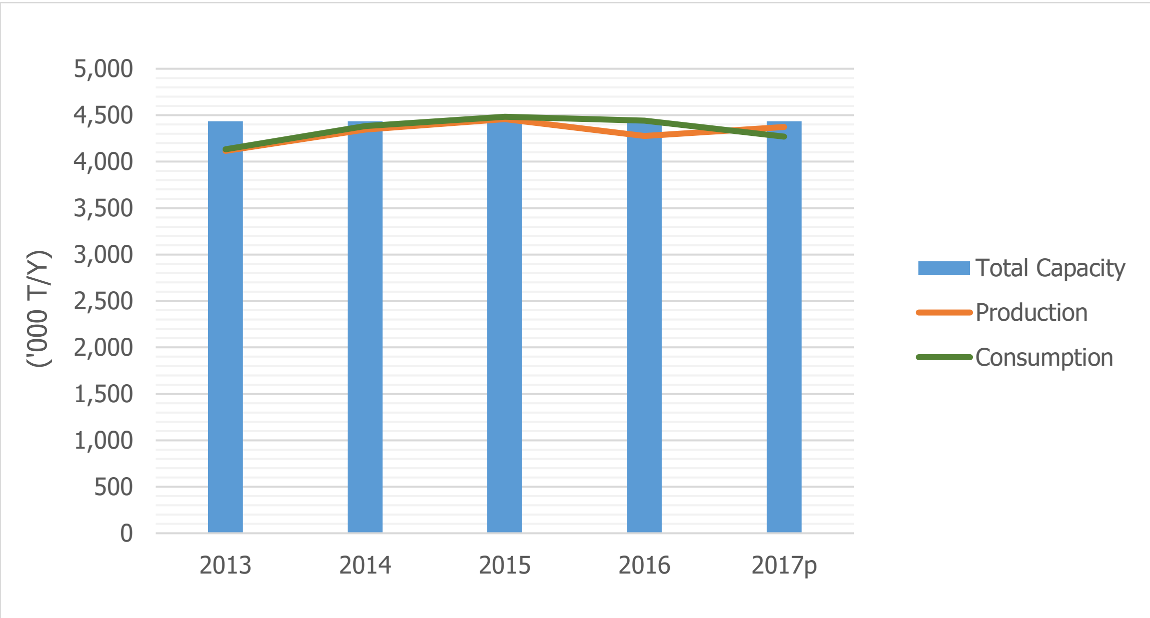
Capacity, Production and Consumption of Olefins: Ethylene

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	4,436	4,436	4,436	4,436	4,436
Production	4,116	4,345	4,458	4,277	4,374
Consumption by Derivative Prod.	4,184	4,324	4,441	4,348	4,271*
Export	17	66	70	22	
Import	85	46	23	93	

Source: PTIT Industrial Survey, The Customs Department

Note: * Consumption netbacked from PE, EDC/VCM, EG and SM production which is projected by assuming a 90% operating rate except EG which is projected by assuming a 97% operating rate.



1. Review of 2016

   Ethylene production decreased by 4% in 2016 due to some plant has shutdown maintenance and problem technical shutdown. In addition, ethylene import rise up to supported demand in derivative market.

2. Outlook for 2017

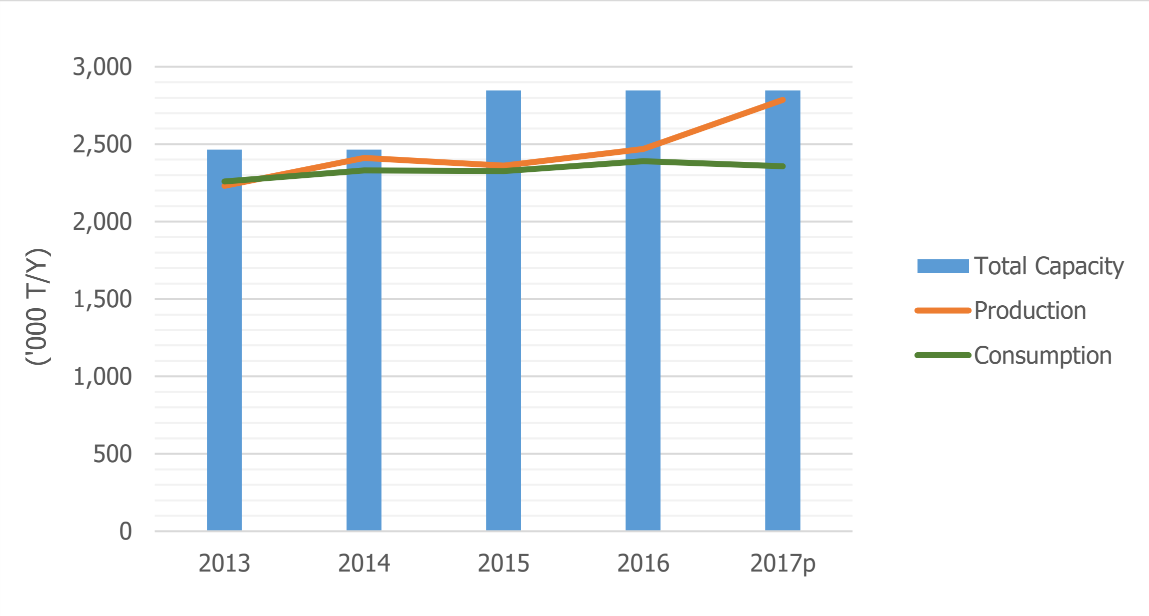
   Ethylene consumption is expected to slightly decrease following demand from downstream market especially export market which tends to decrease from high market competition especially PE resin.

Capacity, Production and Consumption of Olefins: Propylene

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	2,464	2,464	2,847	2,847	2,847
Production	2,231	2,411	2,361	2,468	2,786
Consumption by Derivative Prod.	2,259	2,330	2,326	2,390	2,358*
Export	208	225	181	212	
Import	17	5	21	3	

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.



1. Review of 2016

   Propylene production increased from the previous year by 5% and consumption and 3% respectively supported by high demand of derivative.

2. Outlook for 2017

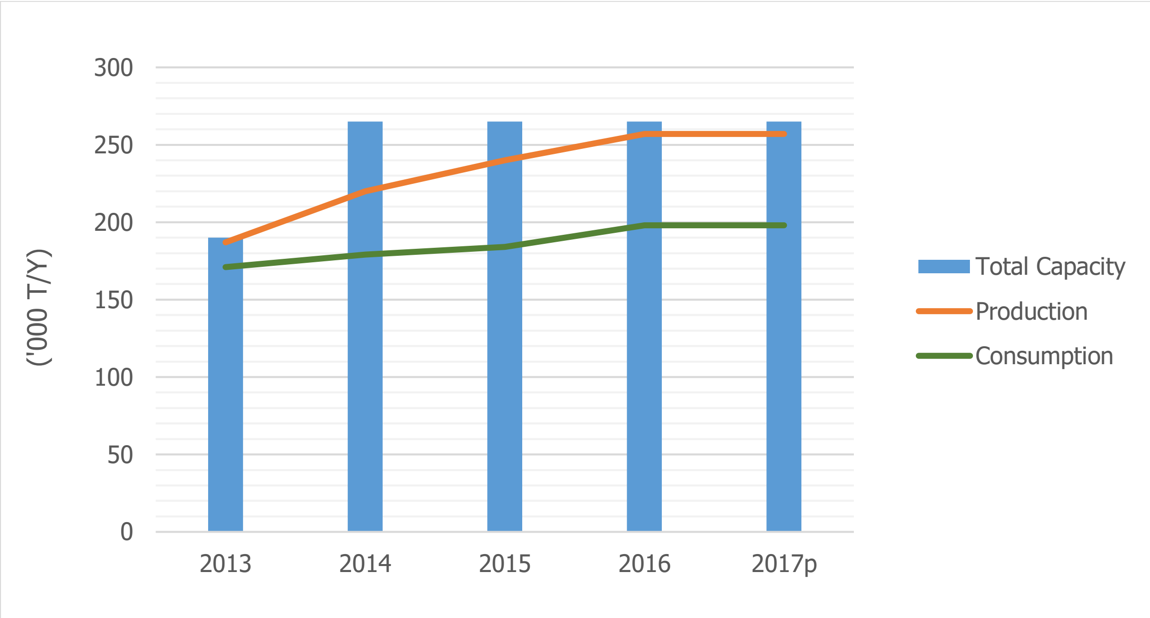
   Assuming a 90% operating rate, propylene production in 2017 is expected to be 2,358,000 tons supporting by demand from downstream marker.

Capacity, Production and Consumption of Olefins: Butadiene

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	190	265	265	265	265
Production	187	220	240	257	257
Consumption by Derivative Prod.	171	179	184	198	198*
Export	71	51	80	105	
Import	30	18	13	41	

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



1. Review of 2016

Butadiene production surged by 7% from the year 2015 supported by 96% operating rate of production capacity. Meanwhile, butadiene consumption remain stagnated from strong demand of derivatives products and export market.

2. Outlook for 2017

Butadiene production assumption on 90% operation rate is base of automotive production in Thailand.

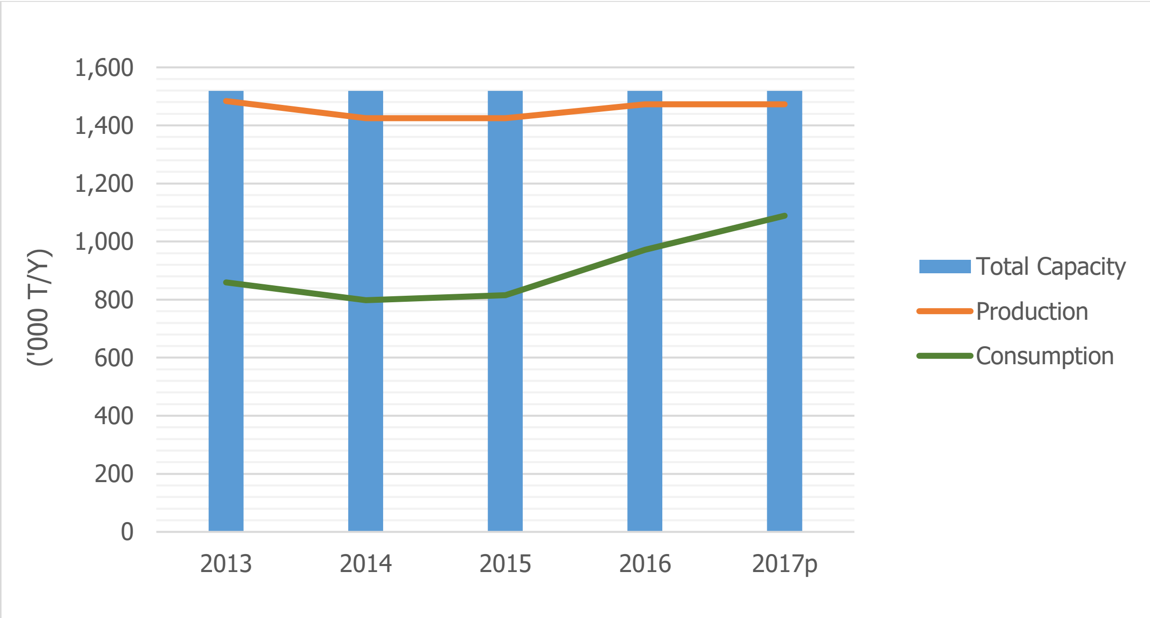
Capacity, Production and Consumption of Aromatics: Benzene

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	1,519	1,519	1,519	1,519	1,519
Production	1,484	1,425	1,425	1,473	1,473
Consumption by Derivative Prod.	859	798	815	972	1,089
Export	766	672	592	516	
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 97%, 90% and 90% operating rate, respectively.
'0' means below 500T/Y



1. Review of 2016

   Benzene production at 1,473,000 T/Y, increased by 5% compare in 2015 support by strong demand in derivative including Caprolactum.

2. Outlook for 2017

   Benzene production and consumption in 2017 is expected to dramatically increase supported by bullish demand from full production capacity of 332,000 ton/year cumene of PTT Phenol, has star up in 2015.

Capacity, Production and Consumption of Aromatics: Toluene

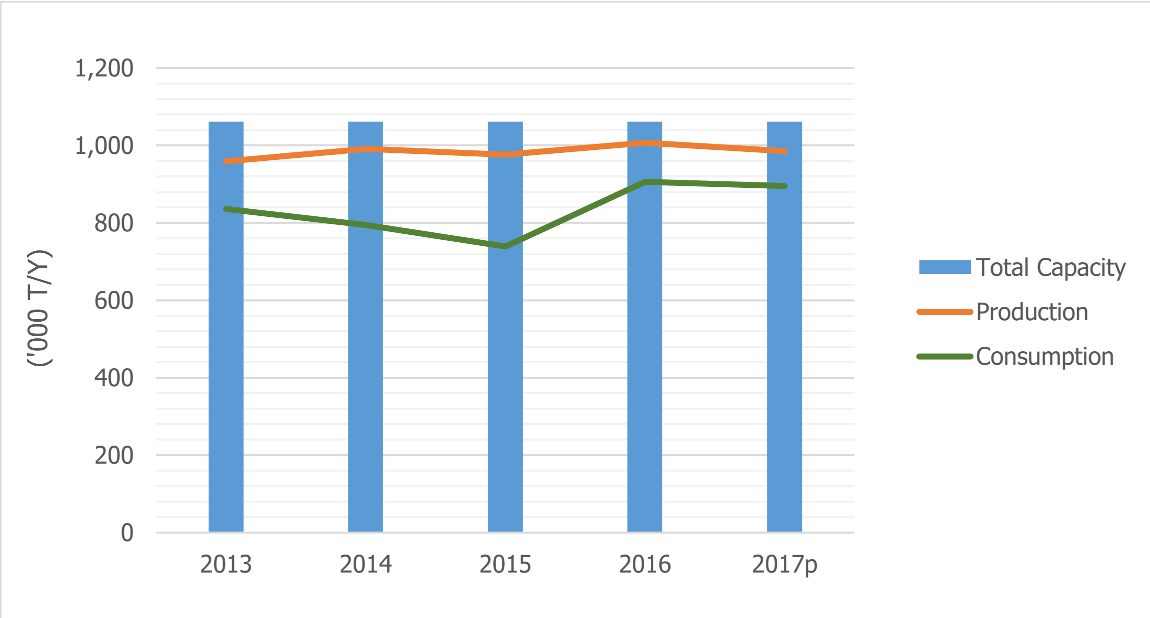
(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	1,061	1,061	1,061	1,061	1,061
Production	959	991	976	1,007	985
Consumption by Derivative Prod.	836	795	739	906	895
Export	135	196	237	263	
Import	12	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 2016

   Toluene production and consumption in 2016 increased supported by strong demand of domestic derivative products. Thailand's toluene production figures also included toluene volume which PTT Global Chemical (PTTGC) used in its Benzene and P-Xylene production process. China is a major export market of toluene.

2. Outlook for 2017

   Toluene production in 2017 is expected to decrease by assuming a 90% operating rate while demand of domestic consumption especially p-xylene, benzene and mixed xylenes is expected to same with 2015.

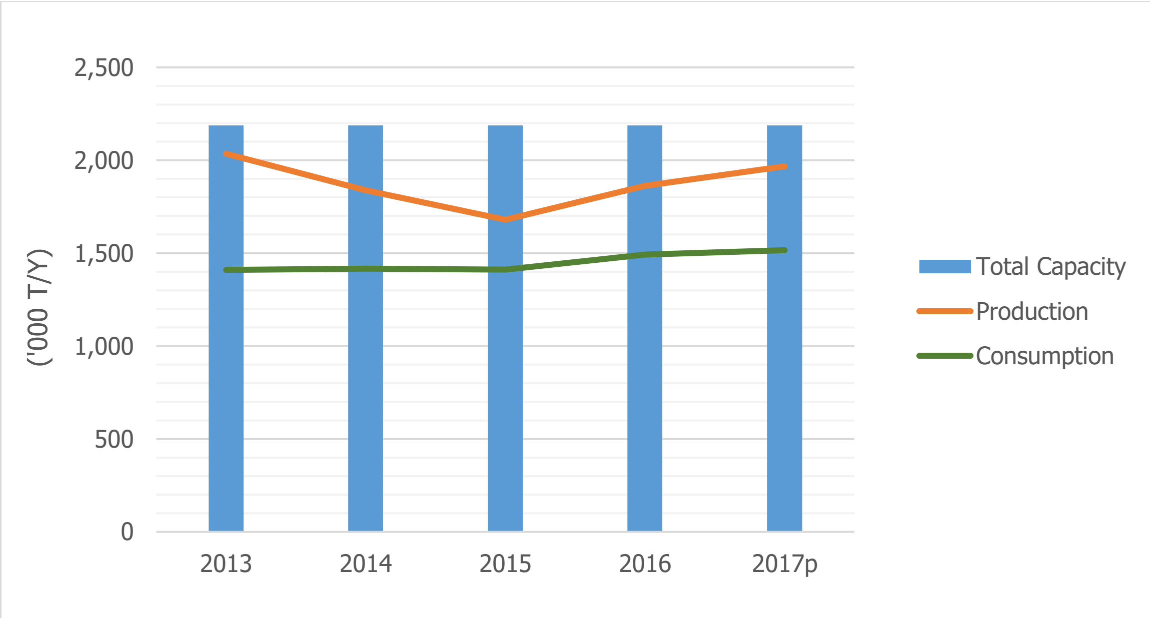
Capacity, Production and Consumption of Aromatics: P-Xylene

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	2,187	2,187	2,187	2,187	2,187
Production	2,035	1,839	1,680	1,862	1,968
Consumption by Derivative Prod.	1,410	1,417	1,412	1,492	1,516*
Export	708	549	443	505	
Import	83	151	142	54	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from PTA production, which is projected by assuming a 80% operating rate



1. Review of 2016

   Thailand p-xylene production in 2016 increased by 8% compared to the previous year. In the meantime, domestic p-xylene consumption slightly decreased supported by low demand of derivative PTA product, meanwhile export increased from China demand.

2. Outlook for 2017

   Thailand p-xylene production is expected to increase; meanwhile, domestic consumption is also forecasted to recover supported by strong growth in packaging industry and textile.

Polyolefins Committee

II-2. Polyolefins Committee

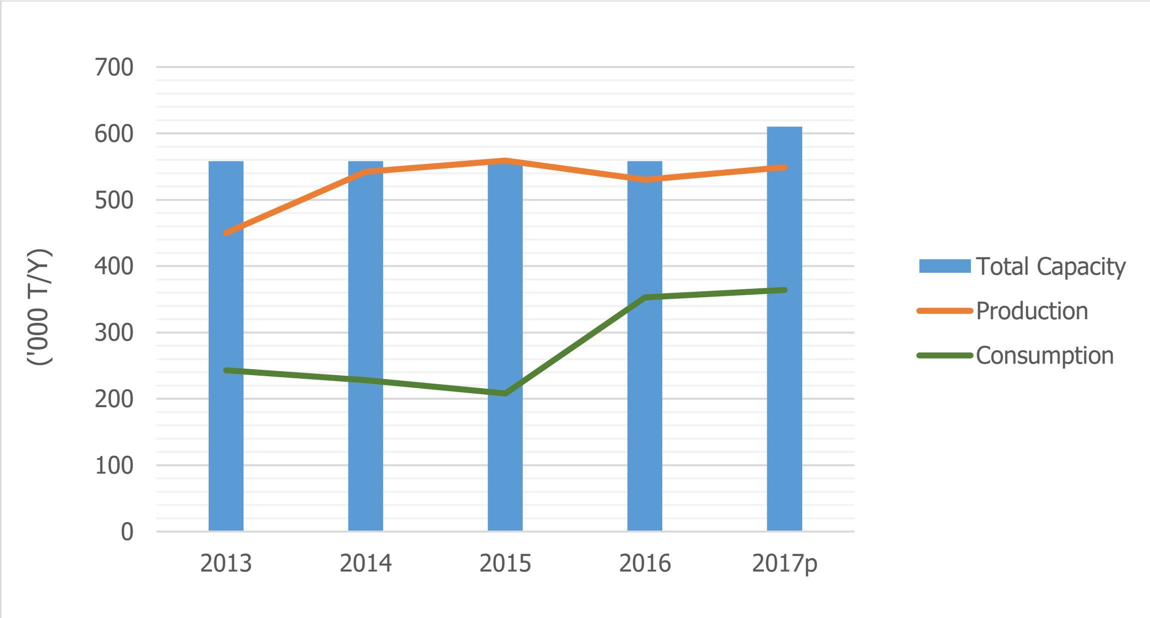
Capacity, Production and Consumption of LDPE/EVA

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	558	558	558	558	610
Production	450	542	559	530	549
Consumption by Derivative Prod.	243	228	208	353	364
Export	271	415	450	298	
Import	64	100	99	121	

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



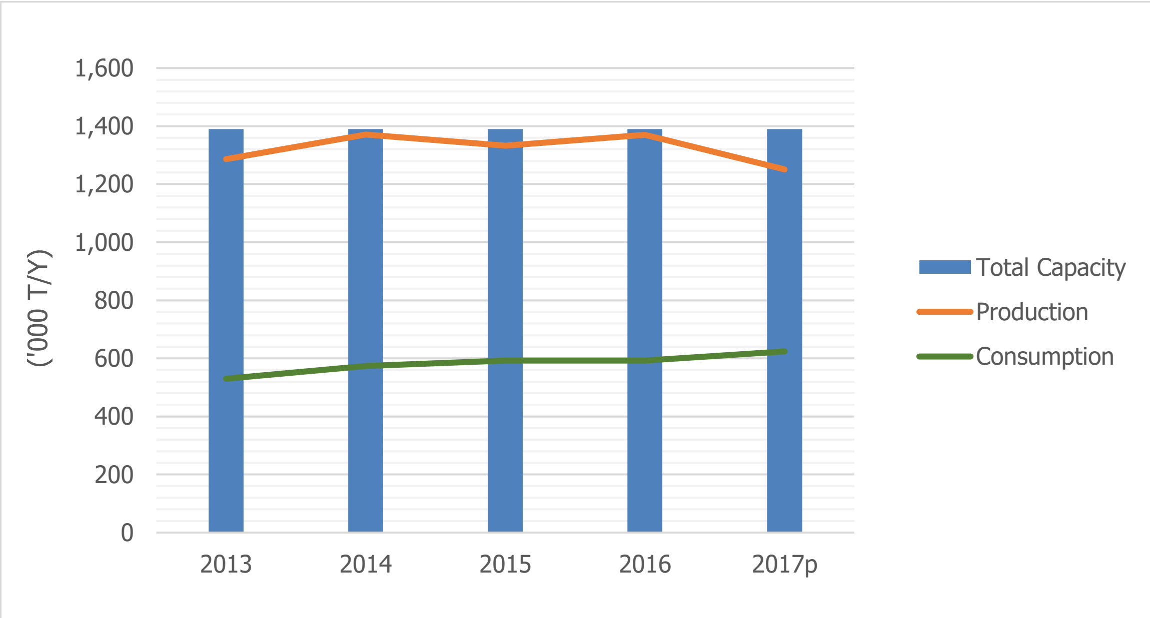
Capacity, Production and Consumption of LLDPE

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	1,390	1,390	1,390	1,390	1,390
Production	1,286	1,371	1,333	1,370	1,251
Consumption by Derivative Prod.	530	576	592	592	624*
Export	966	954	920	971	
Import	210	159	179	193	

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



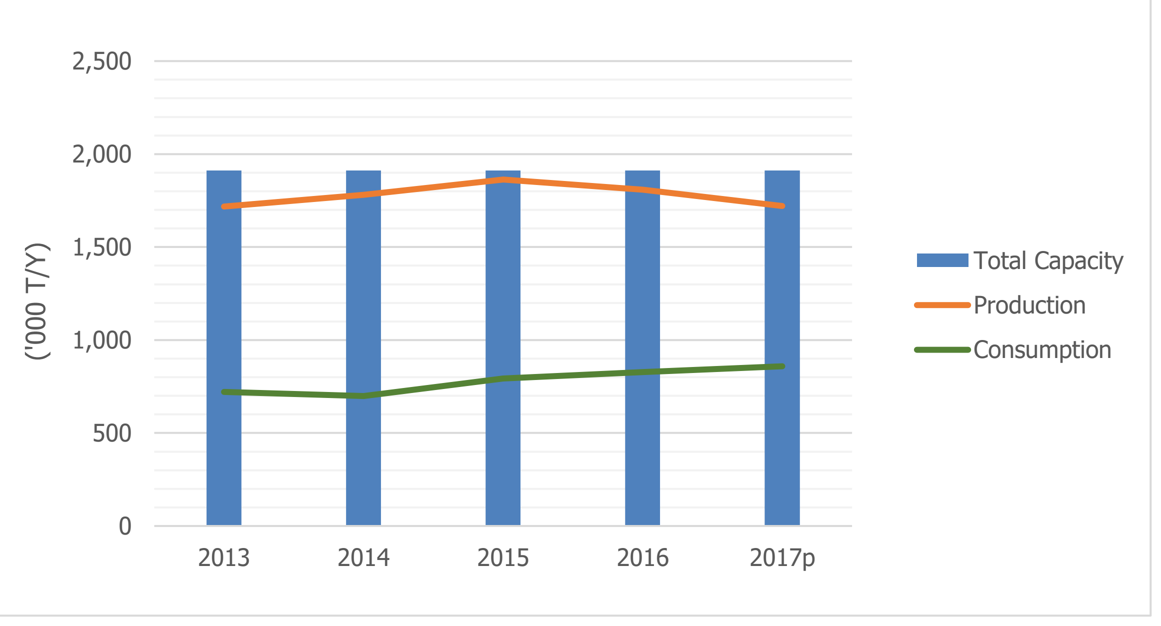
Capacity, Production and Consumption of HDPE

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	1,912	1,912	1,912	1,912	1,912
Production	1,718	1,781	1,863	1,808	1,721
Consumption by Derivative Prod.	721	699	793	828	859*
Export	1,142	1,206	1,205	1,125	
Import	144	124	135	145	

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



1. Review of 2016

   PE production and consumption slightly remained with 2015 supported by low demand. Export volume of HDPE slightly dropped from high market competition in the region.

2. Outlook for 2017

   Thailand PE production is expected to increase support by TPE has expansion production capacity of 52,000 ton/year in early 2017. The overall domestic demand of PE resin tends to increase supported by growth in packaging segment.

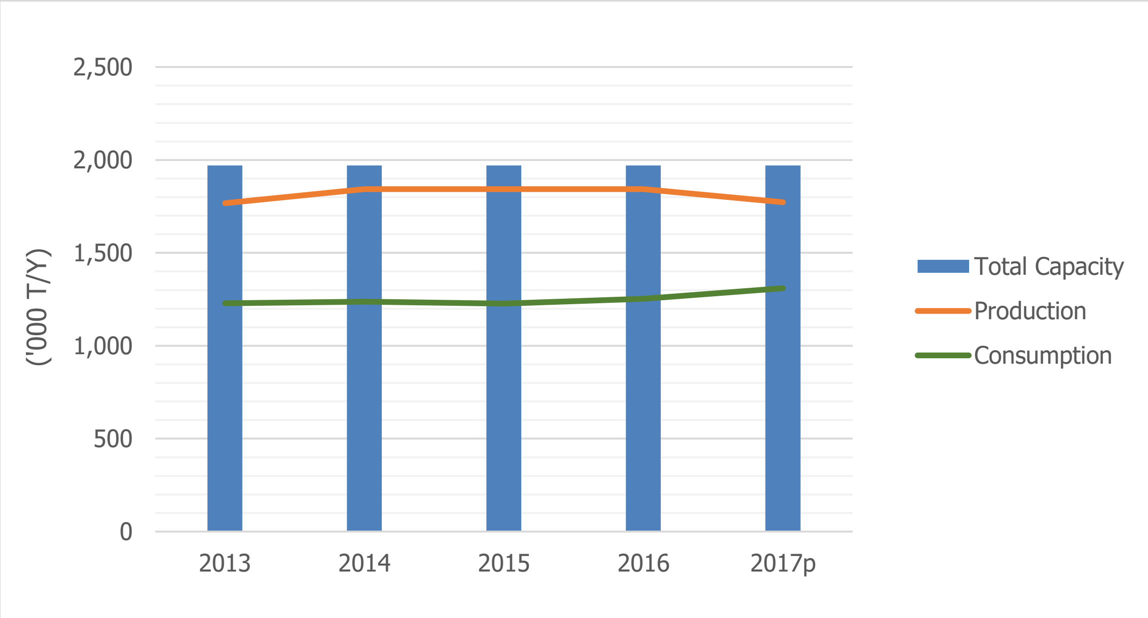
Capacity, Production and Consumption of PP

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	1,970	1,970	1,970	1,970	1,970
Production	1,767	1,843	1,843	1,843	1,773
Consumption by Derivative Prod.	1,229	1,237	1,227	1,252	1,309*
Export	767	818	856	839	
Import	229	212	240	249	

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



1. Review of 2016

   Polypropylene production in 2016 same the previous year. Consumption slightly increased from strong demand in downstream packaging segment.

2. Outlook for 2017

   PP consumption is projected to increase from strong demand of automotive segment. On the other hand, the internal end-user market demands tend to increase supported by recovered in packaging segment.

Styrenics Committee

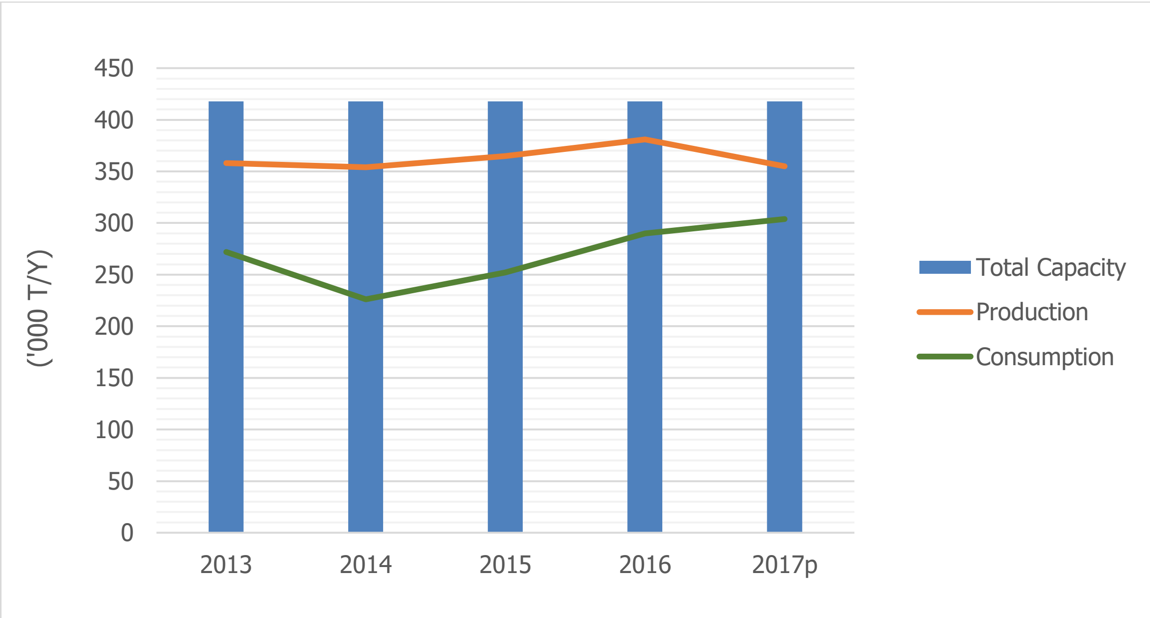
II-3. Styrenics Committee

Capacity, Production and Consumption of PS/EPS

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	418	418	418	418	418
Production	358	354	365	371	355
Consumption by Derivative Prod.	272	226	252	290	304*
Export	132	98	162	169	
Import	46	41	48	88	

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



1. Review of 2016

   Domestic production of PS/EPS in 2016 slightly increased while domestic consumption of these resin increased around 2% following a surging in demand from end-user markets.

2. Outlook for 2017

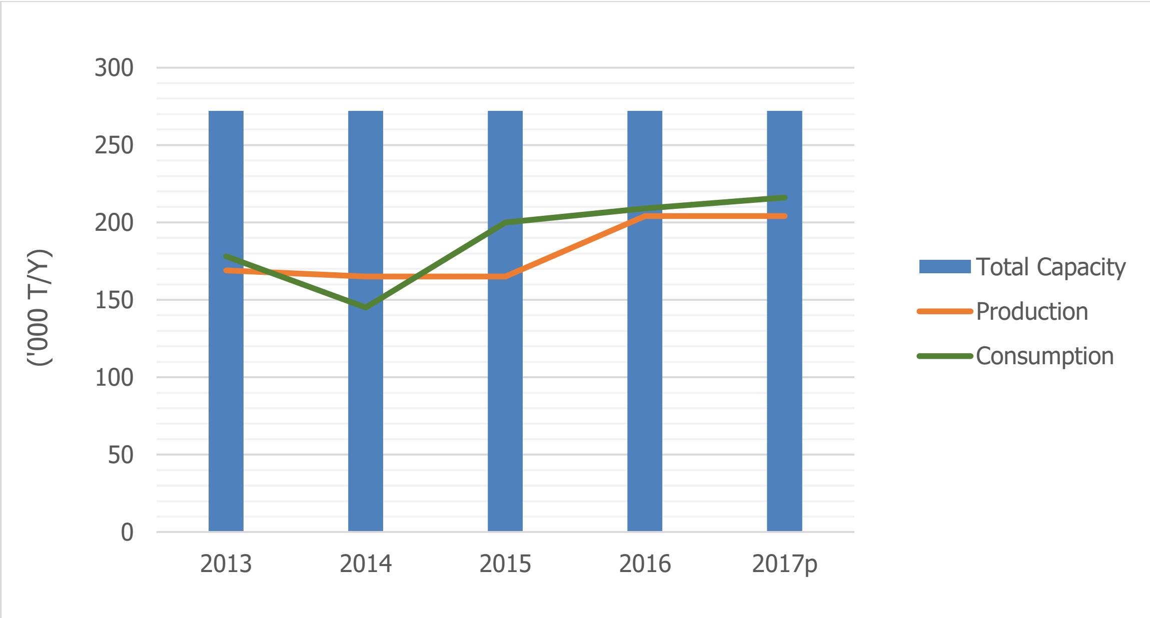
   PS/EPS consumption is expected to slightly increase while domestic consumption is projected to decrease from weak demand in electrical appliances.

Capacity, Production and Consumption of ABS/SAN

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	272	272	272	272	272
Production	169	165	181	182	204
Consumption	178	145	200	209	216*
Export	116	146	135	167	
Import	124	126	200	168	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 75% operating rate



1. Review of 2016

   Domestic production ABS/SAN increased compare with the previous year. Meanwhile, export market slightly increased from China demand.

2. Outlook for 2017

   Domestic production and consumption of ABS/SAN is expected to be increased due to automotive sector slightly increased demand of domestic and export auto part.

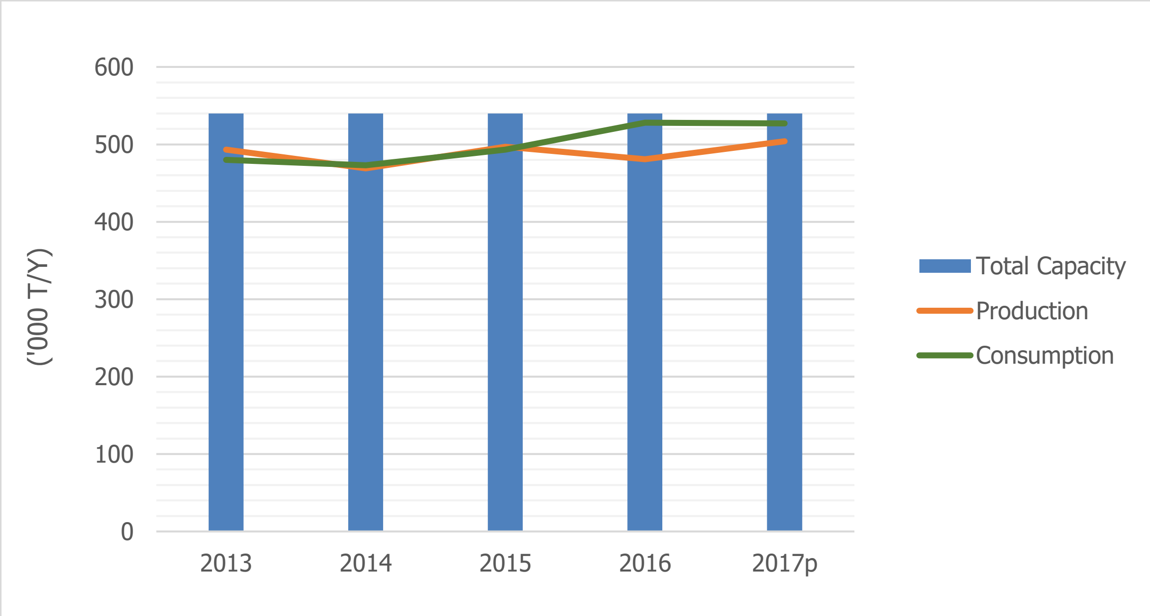
Capacity, Production and Consumption of SM

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	540	540	540	540	540
Production	493	469	497	481	504
Consumption by Derivative Prod.	480	473	493	528	527*
Export	39	21	53	15	
Import	77	47	81	90	

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 2016

   SM production slightly decreased from last year. However, consumption slightly up from soft demand of the key derivatives products, especially PS/EPS and ABS/SAN which are widely used to produce packaging product, food containers and automotive.

2. Outlook for 2017

   Assuming a 90% operating rate, SM production is expected to increase. Consumption is forecasted to rise on the back of growing trend in domestic and export of automotive markets.

PVC Committee

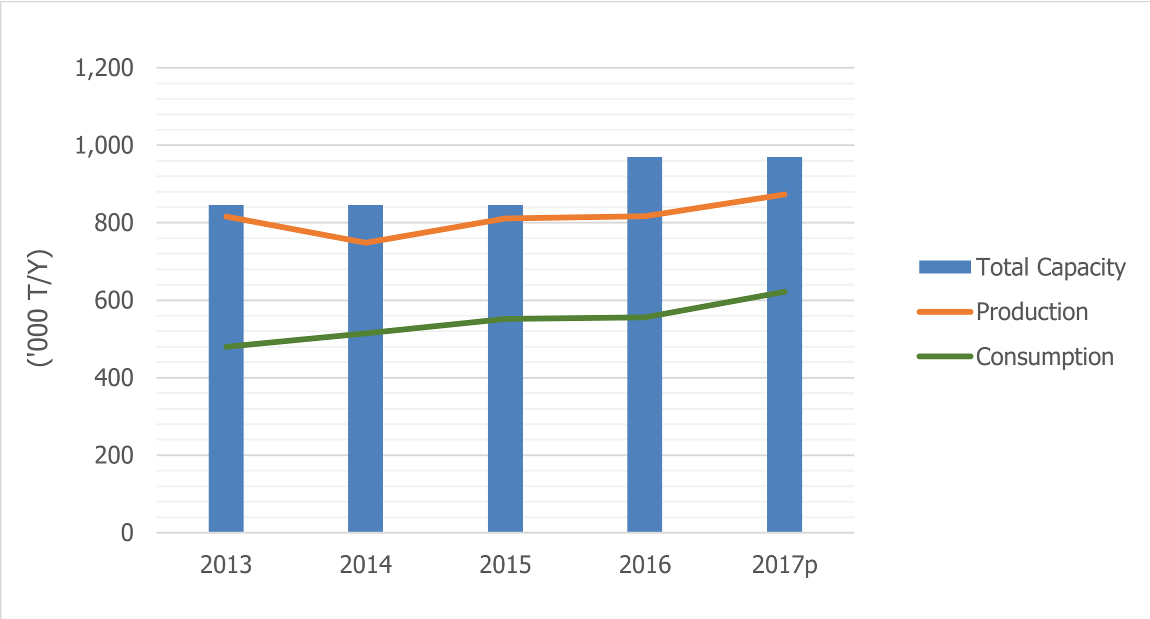
II-4. PVC Committee

Capacity, Production and Consumption of PVC

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2016**
Total Capacity	846	846	846	970	970
Production	816	748	811	817	873
Consumption	480	515	552	615	622*
Export	422	334	313	366	
Import	86	101	113	164	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 90% operating rate



1. Review of 2016

   Thailand's PVC production in 2016 increased by 1% from 2015 from soft demand of exported market. However, Thailand's PVC consumption recovered as a result of strong demand of real estate sector and demand of CLMV.

2. Outlook for 2017

   Thailand's domestic PVC consumption in 2016 is forecasted to slightly increase from policy of real estate and government promoting border trade and linkage with CLMV.

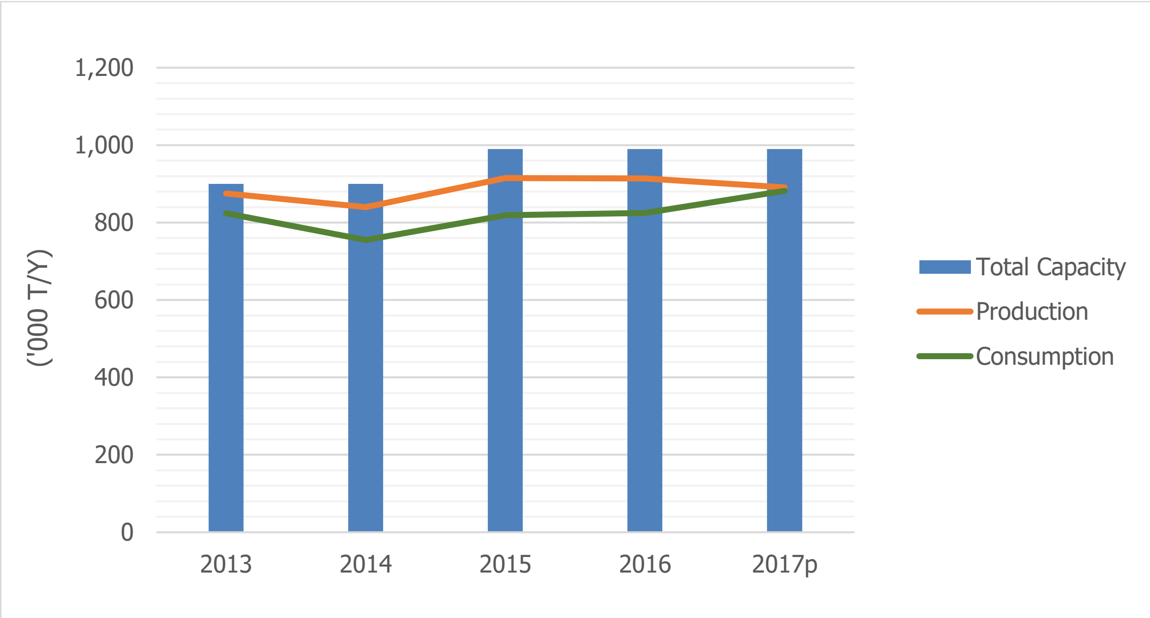
Capacity, Production and Consumption of VCM

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	900	900	990	990	990
Production	875	840	915	914	891
Consumption by Derivative Prod.	824	755	819	825	882*
Export	111	72	86	96	
Import	0	1	0	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 2016

Thailand's VCM production in 2015 slightly remained. Meanwhile import volume increased.

2. Outlook for 2017

Domestic demand is forecasted to increase supported by strong demand of derivative market.

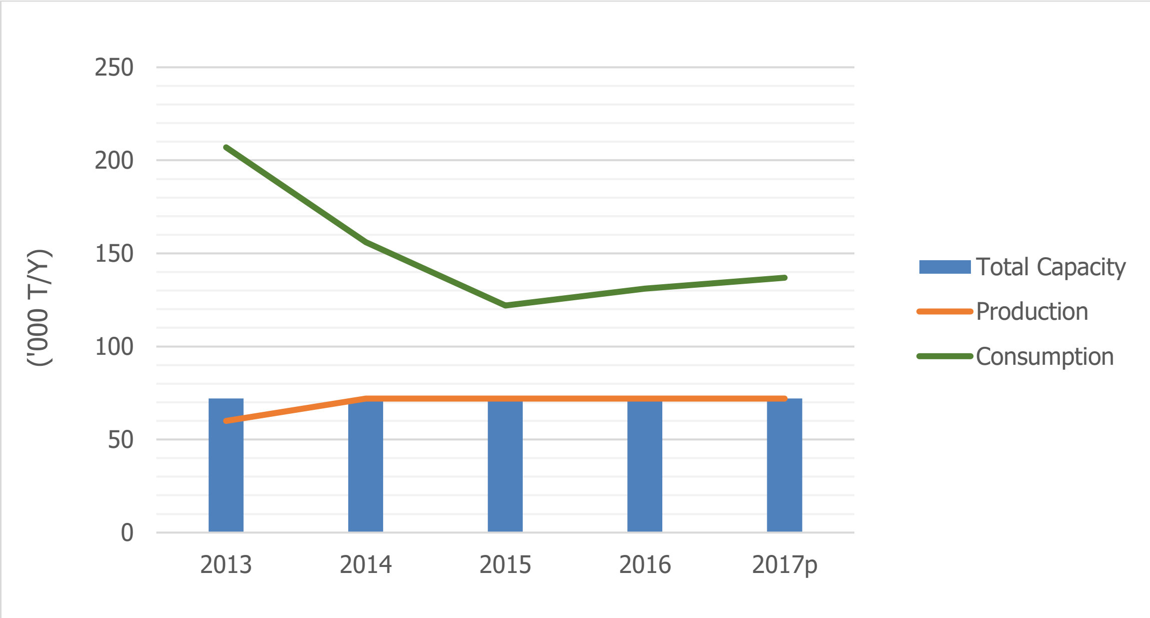
Synthetic Rubber Committee

II-5. Synthetic Rubber Committee
Capacity, Production and Consumption of ESBR

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	72	72	72	72	72
Production	60	72	72	72	72
Consumption	207	156	122	131	137*
Export	39	61	86	91	
Import	174	145	136	150	

Source: PTIT Industrial Survey, The Customs Department
Note: *Some consumption figure is different from calculation (Production + Import – Export) due to inventory change.



1. Review of 2016

   ESBR production remained stable while domestic consumption, meanwhile slightly increased automotive production.

2. Outlook for 2017

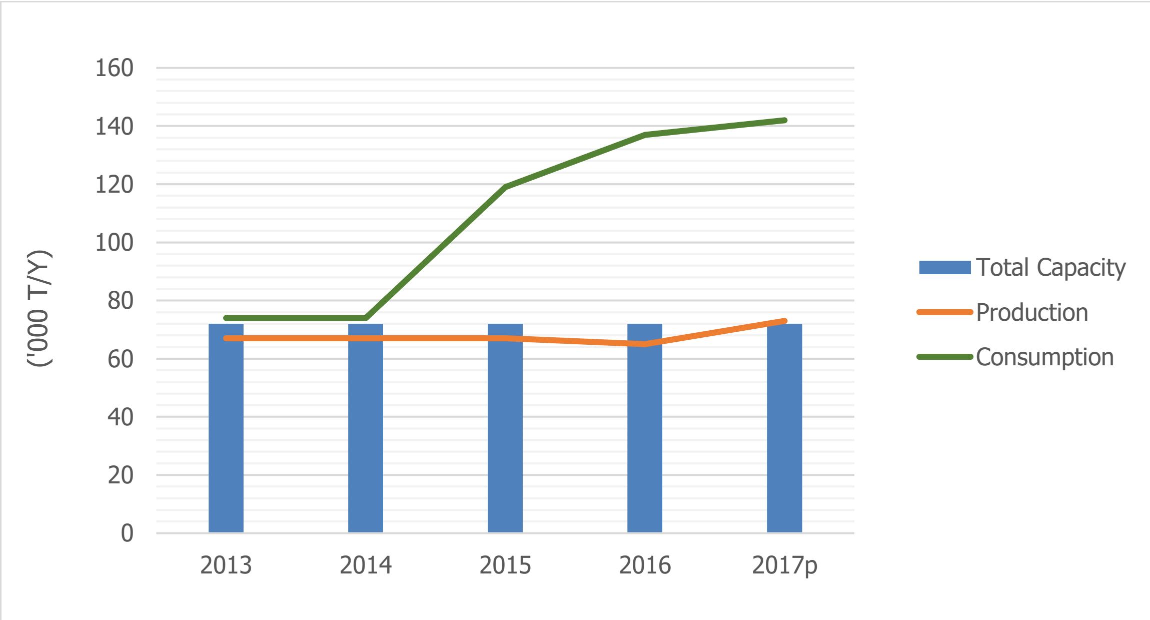
   ESBR domestic consumption is expected to improve compared to 2016, support by policy of transportation and logistics.

Capacity, Production and Consumption of BR

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	72	72	72	72	72
Production	67	67	67	73	65
Consumption	74	74	119	137*	142*
Export	42	44	40	41	
Import	49	20	92	105	

Source: PTIT Industrial Survey, The Customs Department
Note: Projected production figures: assume 90% operating rate



1. Review of 2016

   The production and domestic consumption of BR in 2016 increased compared with the previous year as a result high domestic demand.

2. Outlook for 2017

   Domestic BR consumption is expected to slightly increase with the strong demand from automotive industry especially export market.

Synthetic Fiber Raw Materials Committee

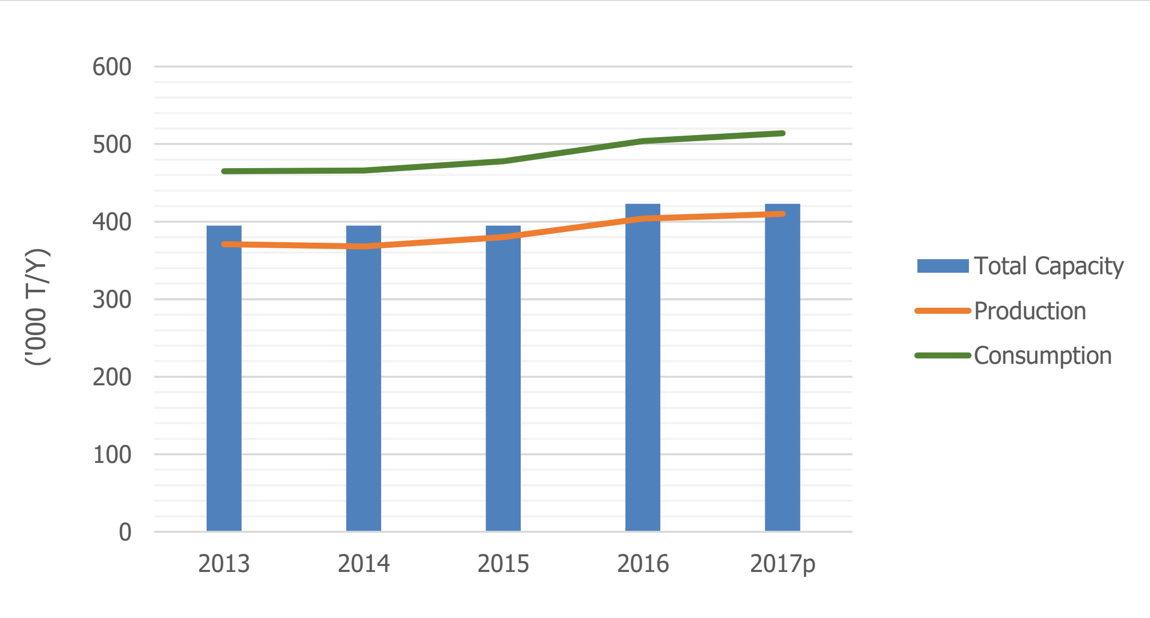
II-6. Synthetic Fiber Raw Materials Committee

Capacity, Production and Consumption of Ethylene Glycol

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	395	395	423	423	423
Production	371	368	380	404	410
Consumption	465	466	478	504	514*
Export	34	48	65	22	
Import	157	169	183	139	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from polyester polymer production, which is projected by assuming a 88% operating rate.



1. Review of 2016

The production and domestic consumption in 2016 increased compared with the previous year. Domestic demand of PET in downstream market supported by downward trend of textiles production and PET bottle.

2. Outlook for 2017

In 2017, MEG production and consumption is forecasted to recover supported by higher demand of downstream segment in this region.

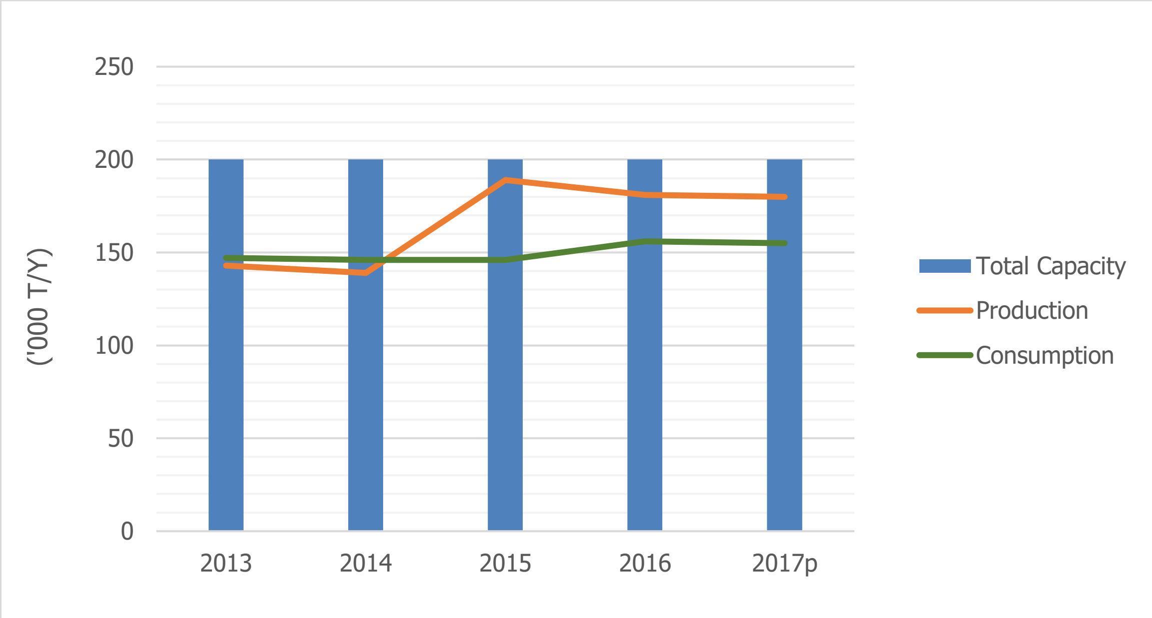
Capacity, Production and Consumption of Acrylonitrile

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	200	200	200	200	200
Production	143	139	189	181	180
Consumption by Derivative Prod.	147	146	146	156	155*
Export	46	55	56	53	
Import	68	62	34	26	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from ABS/ SAN and acrylic fibre production with an assumed operating rate of 87%.
'0' means below 500T/Y



1. Review of 2016

Thailand's ACN production in 2016 remain stagnate compared with the previous year. Meanwhile, domestic consumption slightly increased demand of ABS/SAN which mainly used in automotive segment.

2. Outlook for 2017

Production and domestic consumption of ACN are expected to increase as in automobile industries. ACN is used as feedstock to produce ABS/SAN resins which is widely used in various parts and components of electrical and electronic especially air conditioner, automobile parts products.

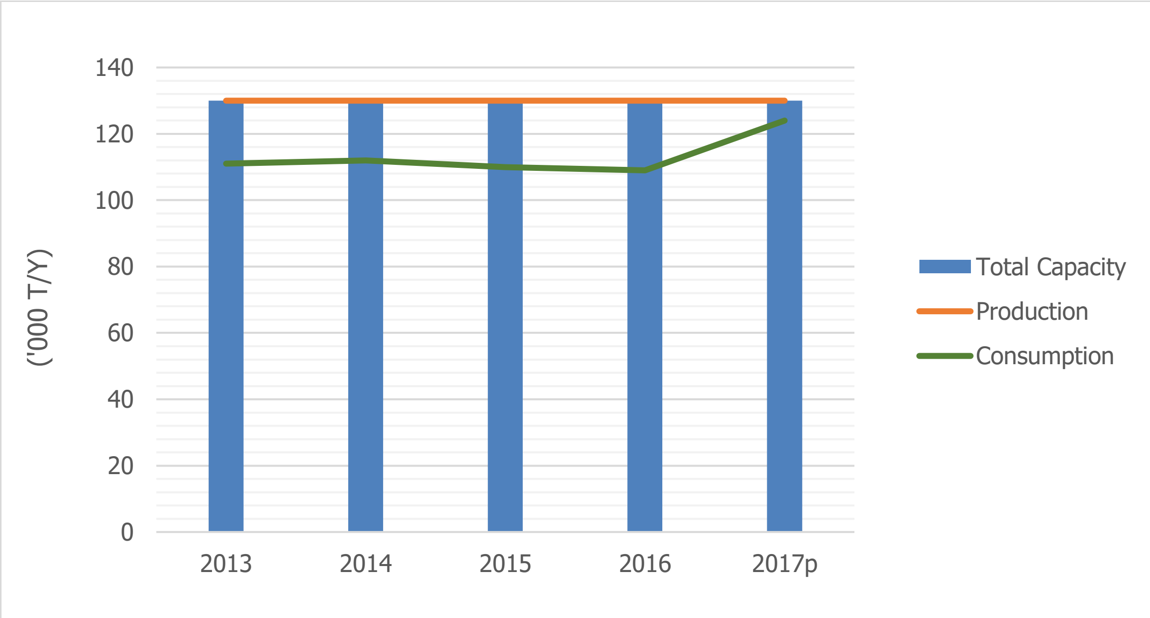
Capacity, Production and Consumption of Caprolactam

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	130	130	130	130	130
Production	130	130	130	130	126
Consumption by Derivative Prod.	111	112	110	109	124*
Export	28	27	27	27	
Import	9	9	7	6	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption is netbacked from Nylon 6 production, which is projected by assuming a 75% operating rate.



1. Review of 2016

Domestic production and consumption of caprolactam in 2016 remain stagnant at maximum production capacity at 130,000 ton/year supported by strong demand of Nylon 6 production in domestic market and export market.

2. Outlook for 2017

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.

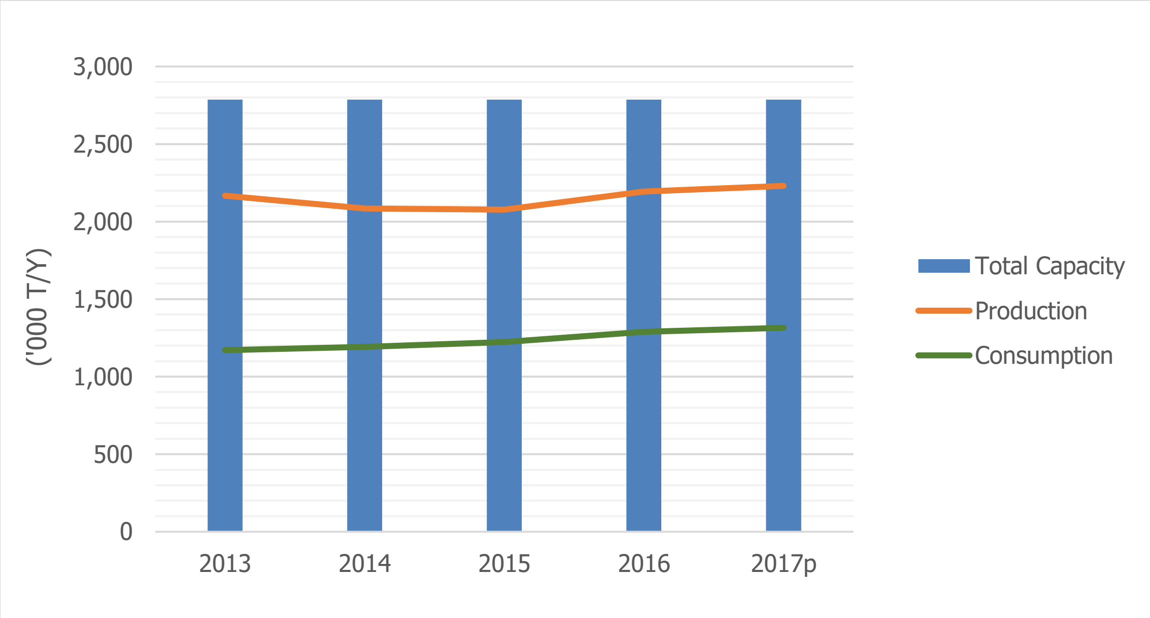
Capacity, Production and Consumption of Terephthalic Acid

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	2,787	2,787	2,787	2,787	2,787
Production	2,167	2,084	2,077	2,194	2,230
Consumption by Derivative Prod.	1,171	1,192	1,223	1,290	1,315*
Export	996	892	854	940	
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 88% operating rate.
'0' means below 500T/Y



1. Review of 2016

   Thailand's PTA production inflate from strong polyester's demand of regional markets especially China and Middle East. Domestic PTA consumption slightly increased supported stable demand in polyester product.

2. Outlook for 2017

   In 2017, domestic PTA production and consumption are expected to increase supported by projection of economic recovery in domestic market.

Chemicals Committee

II-7. Chemicals Committee

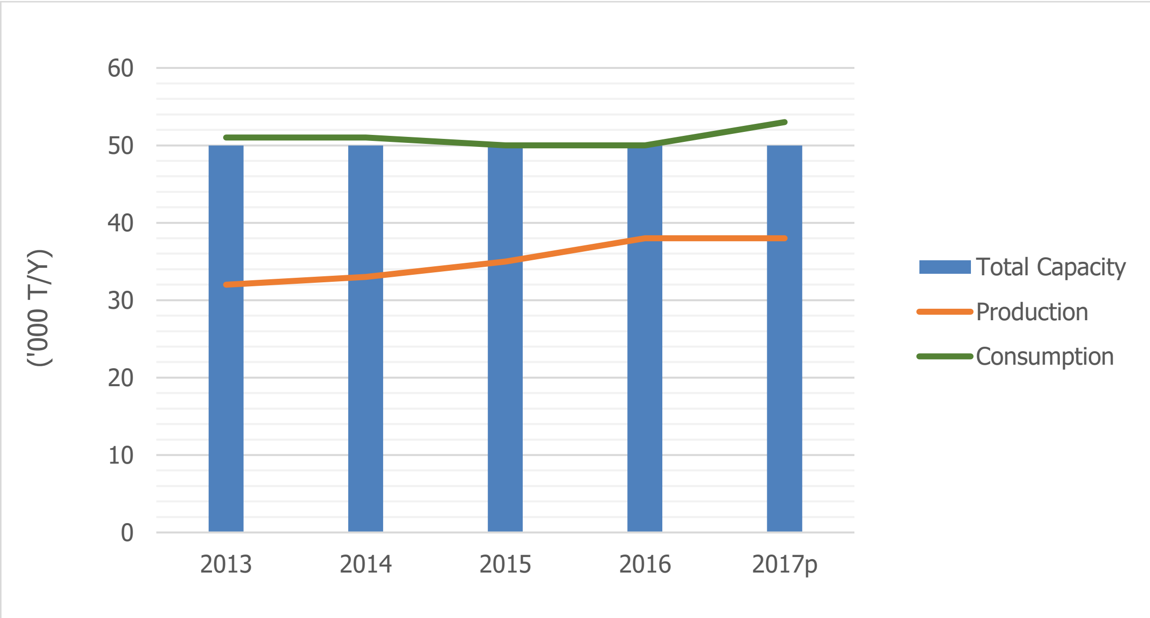
Capacity, Production and Consumption of Phthalic Anhydride (PA)

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity	50	50	50	50	50
Production	32	33	35	38	38
Consumption by Derivative Prod.	51	51	50	50	53*
Export	6	9	19	21	
Import	18	24	24	31	

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 2016

   Domestic PA production and consumption in 2016 relatively stagnated, supporting by strong exported market, plasticizer demand especially construction industries in ASEAN.

2. Outlook for 2017

   Assuming 50%, 60%, 65% operating rate for plasticizer, UPR and alkyd resins respectively, Thailand PA production is expected to increase follow strong demand of export market. In addition, domestic consumption is expected to increase supported by strong demand of construction industry.

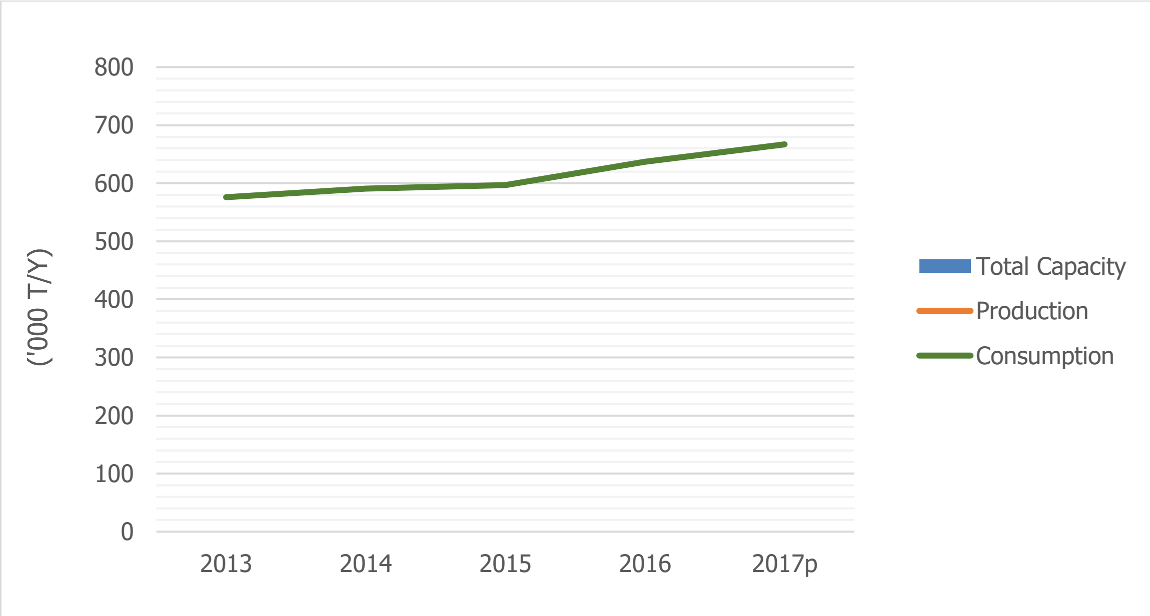
Capacity, Production and Consumption of Methanol

(Unit:'000 T/Y)

	Historical				Estimated
	2013	2014	2015	2016	2017
Total Capacity Production Consumption by Derivative Prod.	586	596	597	635	667*
Export	0	0	0	0	
Import	596	2,557	664	706	

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 2016

   Domestic consumption of methanol increased in demand from derivative products especially demand from biodiesel production.

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

2. Outlook for 2017

   Methanol consumption in Thailand is expected to relatively increase assuming a 90% operating rate for MMA, POM, formaldehyde, MTBE including expansion plan of biodiesel production plant in Thailand.

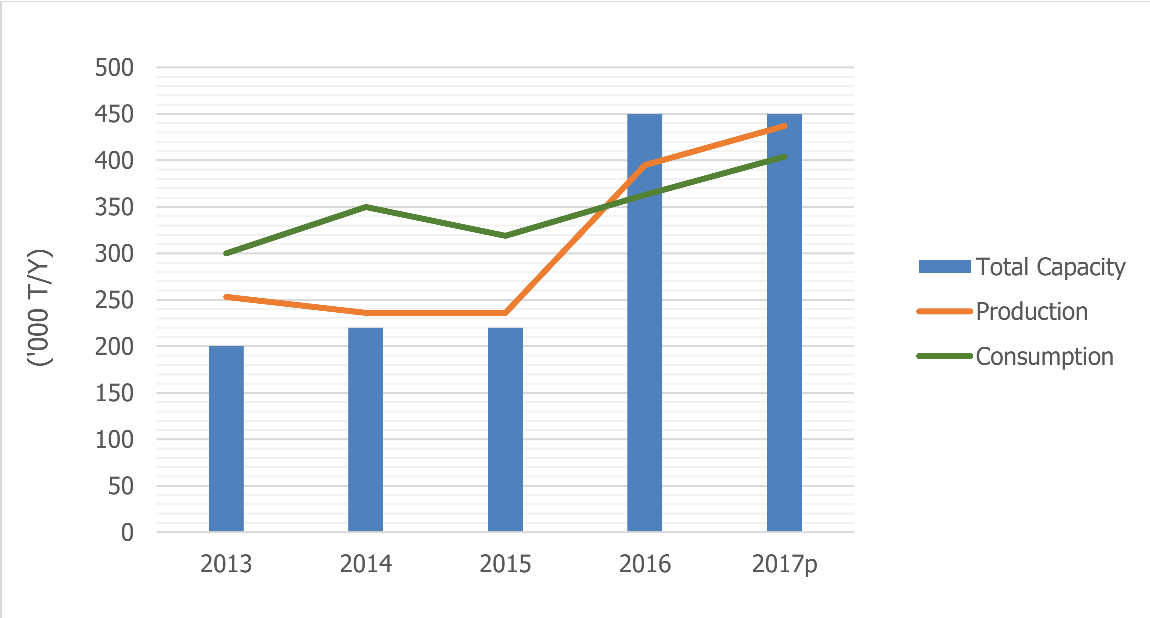
Capacity, Production and Consumption of Phenol

(Unit:'000 T/Y)

	Historical				Estimated
	2013	**2014**	**2015**	**2016**	**2017**
Total Capacity	200	220	220	450	450
Production	253	236	236	395	437
Consumption by Derivative Prod.	300	350	319	363	404*
Export	103	53	49	120	
Import	149	166	138	88	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from bisphenol A and phenolic resin production, which is projected by assuming a 97% operating rate



1. Review of 2016

   Domestic phenol production increased due to PTT Phenol Co,Ltd. start production capacity in Q2 2016. Export market rise of growth from China.

2. Outlook for 2017

   Phenol production in Thailand is expected to continue increase from expansion since 2016 consumption is forecasted to increase from demand of derivatives products.