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ASIA PETROCHEMICAL INDUSTRY CONFERENCE

MAY 2018
Malaysia **DELEGATION OF THAILAND**

Contents

I. Report on the Thai Petrochemical Industry

Thai Petrochemical Industry – Current State and Issues

I-1. Business Environment

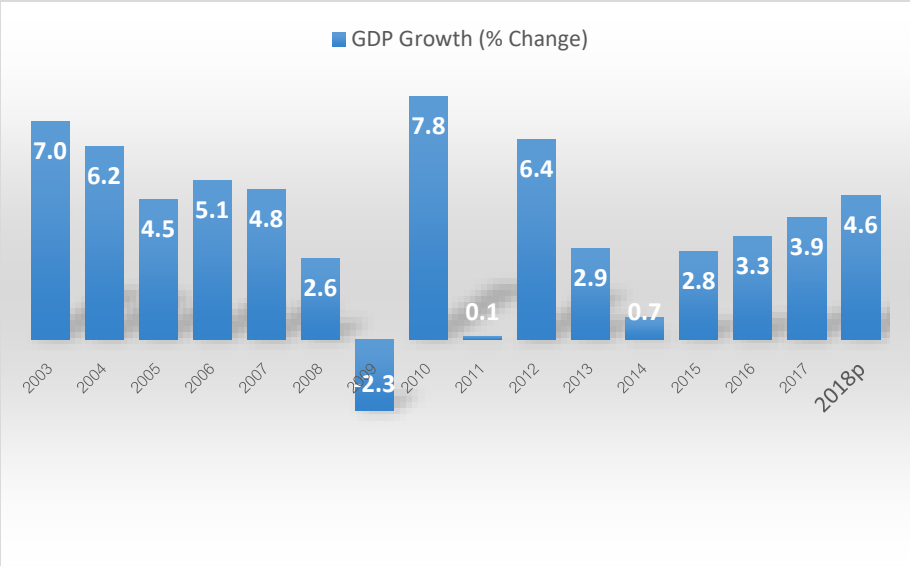
International Monetary Fund (IMF) has estimated the 2017 global economic growth at 3.7%, which is slightly increased by 0.5% from previous year. The pickup in growth has been broad based, with notable upside surprises in manufacturing activities and consumer confidence in Europe and Asia. The global economy is expected to maintain near-term momentum through 2018 and 2019, but challenges loom over the medium term.

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

Thailand GDP growth for 2017, as reported by The Office of the National Economic and Social Development Board (NESDB), of 3.9% is an improvement over the 3.3% in 2016. This improvement supported by continued growth in export of goods, private consumption and total investment.

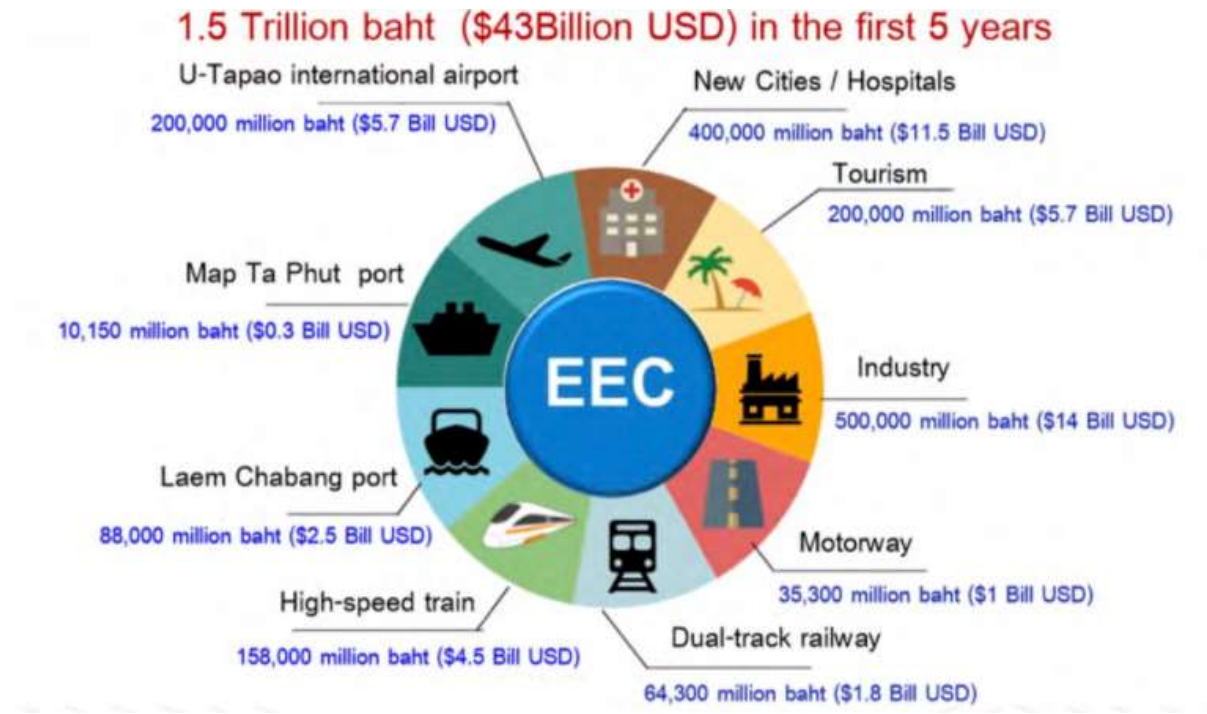
Thai economy is projected to grow at a rate of 3.6-4.6% in 2018, supporting by a positive view of several factors including: the acceleration of the world economic growth; the expansion of government expenditure and the acceleration of public investment; the clearer private investment recovery; the continual expansion of key economic sectors; the improvement of employment and household income conditions; the recovery in export of the manufacturing sector as well as private investment and government infrastructure projects, particularly under the Eastern Economic Corridor.

Figure-1 Thailand's GDP Growth 2003-2018



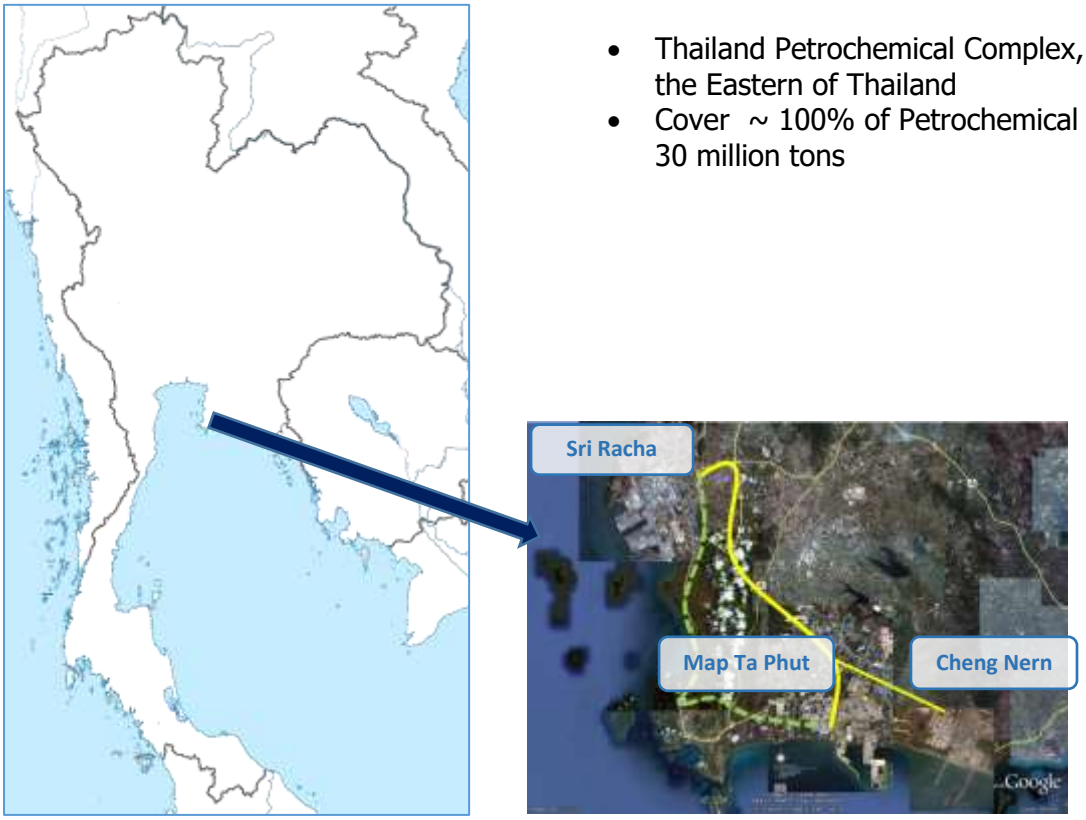
Source: NESDB, BOT

Eastern Economic Corridor (EEC)



Source: Ministry of Industry and Industrial Estate Authority of Thailand

Location of Petrochemical Plants in Thailand- Map Ta Phut



- Thailand Petrochemical Complex, mostly in the Eastern of Thailand
- Cover ~ 100% of Petrochemical Capacity 30 million tons

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

Thailand petrochemical industry continued to expand in 2017. Supported by a strong economic growth, particularly in automotive, real estate and service sector as well as consumption expenditure on non-durable goods. Automotive production increased to 1.98 million cars from 1.94 million cars in the previous year. In additional, demand for petrochemical products used for packaging in food industry is still strong.

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

- Ethylene production increased by 7% in 2017 due to cracker capacity expansion. Propylene production also increased by 5% mainly from a new production unit, which was started up in the 2nd half of 2017.
- Production of major polymers in 2017 increased by 3% from the previous year, supported by a strong demand in both domestic and export market, especially PP and PVC resin. Domestic demand for PP increased by 6% a result of upward trend in packaging segment, while PVC export increased by 43% due to a strong demand from the construction segment in CLMV countries.

Table-2 Production/ Consumption and Import/ Export Figures of Five Major Products 2014-2018

(Unit:'000 T/Y)

Products	2014	2015	2016	2017	2018
Ethylene					
Production	4,345	4,458	4,277	4,575	
Import	46	23	93	28	
Export	66	70	22	129	
Consumption by derivative product(1)	4,382	4,483	4,441	4,369	
Propylene					
Production	2,411	2,361	2,468	2,600	
Import	5	21	3	14	
Export	225	181	212	234	
Consumption by derivative product(2)	2,330	2,340	2,482	2,665	
PTA					
Production	2,084	2,077	2,194	2,251	
Import	0	0	0	0	
Export	892	854	940	960	
Consumption by derivative product(3)	1,192	1,223	1,254	1,291	
PE (including EVA)					
Production	3,694	3,755	3,708	3,843	
Import	321	414	459	472	
Export	2,486	2,574	2,394	2,559	
Consumption (4)	1,503	1,593	1,773	1,755	
PP					
Production	1,843	1,856	1,931	2,042	
Import	212	240	270	276	
Export	818	856	858	887	
Consumption (4)	1,237	1,240	1,344	1,430	

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 2017 (as of March 2018)

(Unit:'000 T/Y)

Ethylene

Company	Capacity
IRPC	433
MOC	900
PTTGC	2,376
ROC	900
Total	4,609

Source: PTIT Industrial Survey, March 2018

Polyethylene

Company	Capacity				
	LDPE/EVA	LLDPE	LLDPE/MDPE	HDPE	Total
IRPC				152	152
PTTGC	300	400		800	1,500
Siam Polyethylene		650			650
SSLC (Specialty Elastomers)		220			220
TPE	152		120	920	1,192
TPI Polene	156				156
Total	608	1,270	120	1,872	3,870

Source: PTIT Industrial Survey, March 2018

Vinyl Chloride Monomer

Company	Capacity
TPC	590
VNT	400
Total	990

Source: PTIT Industrial Survey, March 2018

Polyvinyl Chloride

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

Source: PTIT Industrial Survey, March 2018

Propylene

Company	Capacity
HMC	310
MOC	800
IRPC	732
PTTGC	512
ROC	450
SPRC	130
Total	2,934

Source: PTIT Industrial Survey, March 2018

Table-3 Capacity of Major Petrochemicals 2017 (as of March 2018)

(Unit:'000 T/Y)

Polypropylene

Company	Capacity
HMC	810
IRPC	775
TPP	720
Total	2,305

Source: PTIT Industrial Survey, March 2018

Styrene Monomer

Company	Capacity
IRPC	260
SSMC	280
Total	540

Source: PTIT Industrial Survey, March 2018

Polystyrene

Company	Capacity
Siam Polystyrene	150
IRPC (Thai ABS)	125
Thai Styrenics	90
Total	365

Source: PTIT Industrial Survey, March 2018

Butadiene

Company	Capacity
BST	140
IRPC	56
PTTGC	75
Total	271

Source: PTIT Industrial Survey, March 2018

Synthetic Rubber

Company	Capacity			
	ESBR	SSBR	BR	NBL
BST Elastomer	72			110
JSR BST Elastomer		100		
Thai Synthetic Rubber			72	
Total	354			

Source: PTIT Industrial Survey, March 2018

II. Committee Meetings

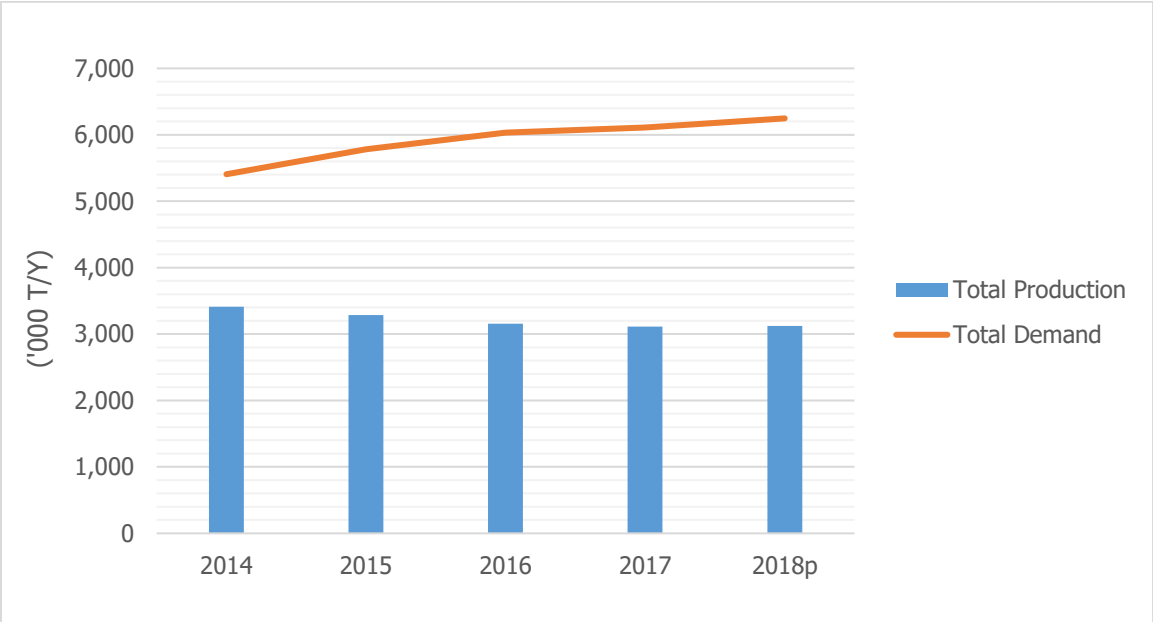
General Matters & Raw Materials Committee

II-1. General Matters & Raw Materials Committee

Capacity, Production and Demand of Light Naphtha

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Production	**3,411**	**3,287**	**3,157**	**3,115**	**3,123**
Feedstock	5,330	5,690	5,917	6,000	
Solvents	76	93	116	110	
Total Demand	**5,406**	**5,783**	**6,033**	**6,110**	**6,247**



1. Review of 2017

   Thailand's light naphtha production in 2017 slightly decreased by 1% from the previous year mainly due to a strong demand for refinery gasoline production and a production unit maintenance shutdown. However, the latter was partly compensated by the start up of a new production unit. Meanwhile, domestic demand for light naphtha as petrochemical feedstock and solvent increased by 1% as a result of an increase in ethylene production and a decrease in gas-based feedstock utilization.

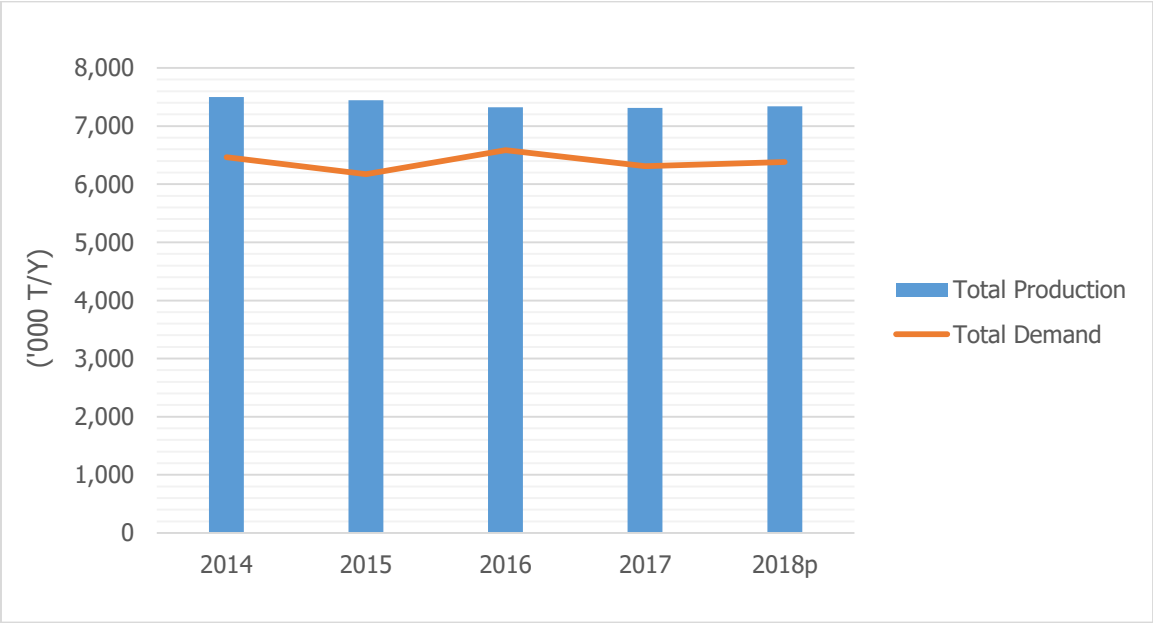
2. Outlook for 2018

   Production of light naphtha is expected to slightly increase from 2017, while domestic consumption for light naphtha in Thailand is projected to increase from that of 2017 coinciding with the expected increase in ethylene and propylene production.

Capacity, Production and Demand of Heavy Naphtha

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Production	**7,501**	**7,446**	**7,321**	**7,315**	**7,340**
Feedstock	6,462	6,174	6,471	6,309	
Total Demand	**6,462**	**6,174**	**6,471**	**6,309**	**6,383**



1. Review of 2017

   Domestic production of heavy naphtha dropped slightly from that of 2016. Meanwhile, domestic demand for petrochemical feedstock decreased by 3% due to aromatic production units maintenance shutdown.

2. Outlook for 2018

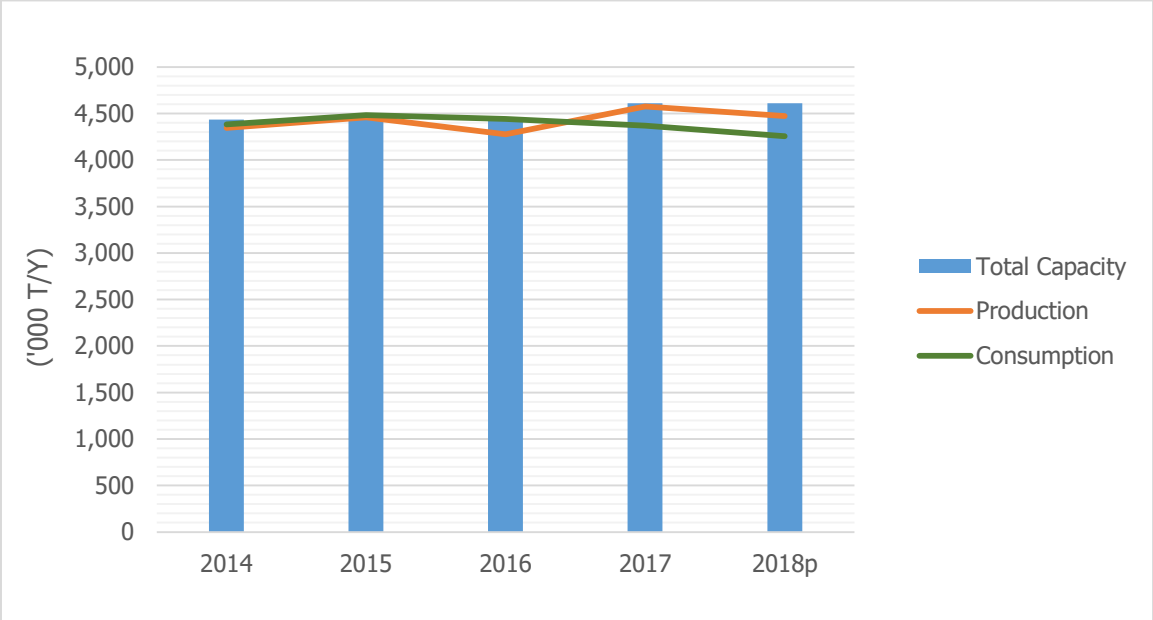
   Thailand's domestic production and consumption of heavy naphtha is expected to increase slightly from that of 2017.

Capacity, Production and Consumption of Olefins: Ethylene

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	4,436	4,436	4,436	4,609	4,609
Production	4,345	4,458	4,277	4,575	4,471
Consumption by Derivative Prod.	4,324	4,441	4,348	4,369	4,257*
Export	66	70	22	129	
Import	46	23	93	28	

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 2017

   Ethylene production increased by 7% in 2017 following an increase in ethylene cracker capacity, and also supported by a strong demand in derivative market. Ethylene export significantly increased due to cracker maintenance/shutdown in China and Indonesia.

2. Outlook for 2018

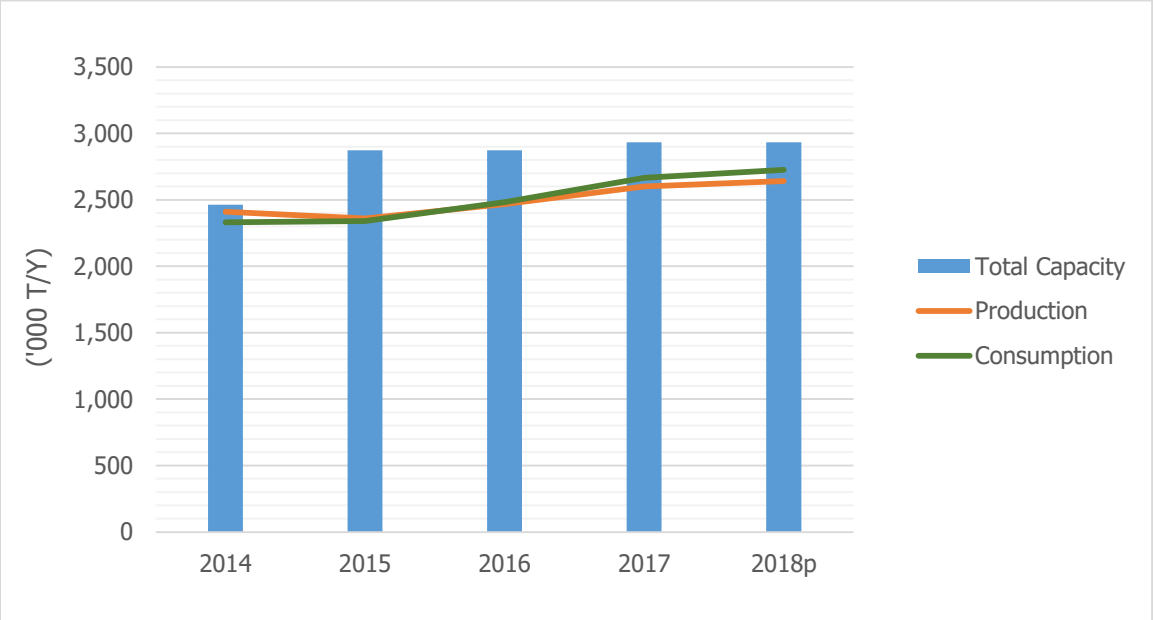
   Ethylene consumption is expected to slightly decrease at an assuming production rate of ethylene derivatives.

Capacity, Production and Consumption of Olefins: Propylene

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	2,464	2,872	2,872	2,934	2,934
Production	2,411	2,361	2,468	2,600	2,641
Consumption by Derivative Prod.	2,330	2,340	2,482	2,665	2,726*
Export	225	181	212	234	
Import	5	21	3	14	

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 2017

   Propylene production increased by 5% from 2016 and consumption increased by 7% supported by a high demand for derivative.

2. Outlook for 2018

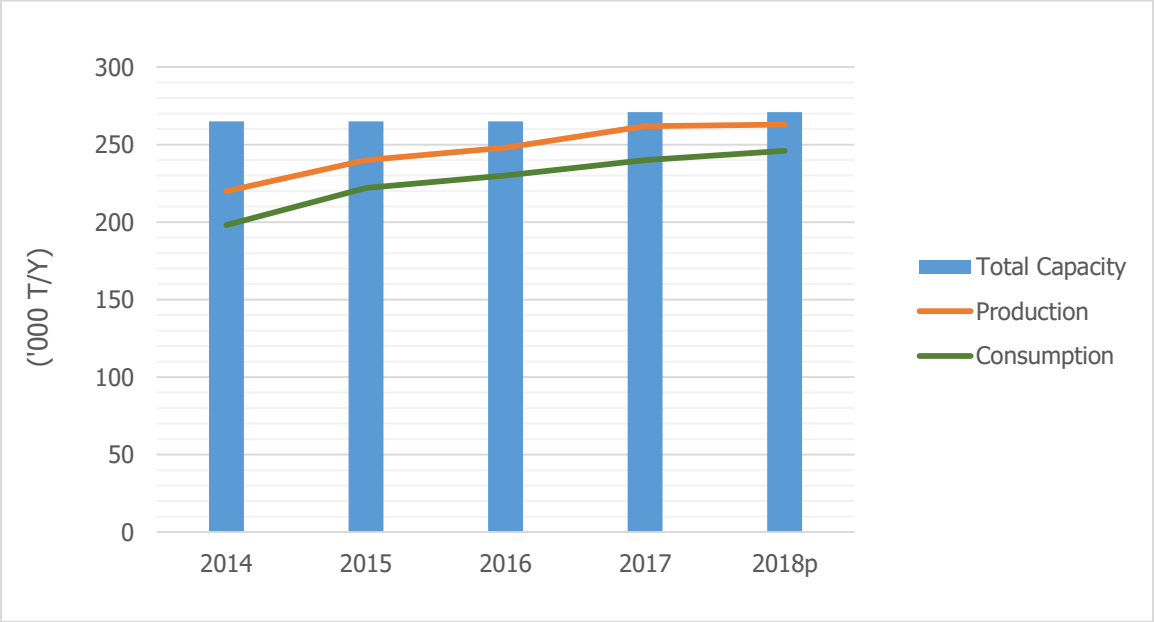
   Assuming a 90% operating rate, propylene production in 2018 is expected to be 2,641,000 tons supported by demand from downstream market, especially PP.

Capacity, Production and Consumption of Olefins: Butadiene

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	265	265	265	271	271
Production	220	240	248	262	263
Consumption by Derivative Prod.	198	222	230	240	246*
Export	51	80	59	65	
Import	18	13	12	14	

Source: PTIT Industrial Survey, The Customs Department
Note: *Consumption netbacked from SBL, ESBR, 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 2017

   Butadiene production increased by 6% and butadiene consumption also increased by 6% from the previous year for support demand increased of derivative products for automotive production.

2. Outlook for 2018

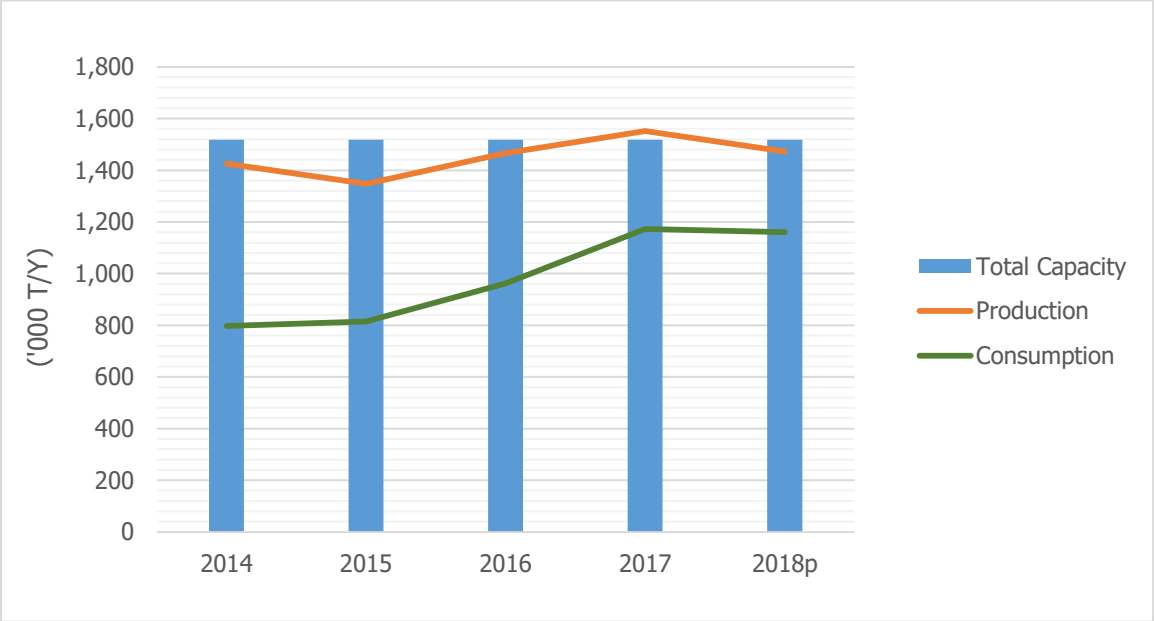
   Butadiene production is estimated to remain at the same level as 2017, whilst consumption is estimated to increase from high operating rate of derivative, supported by the automotive production in Thailand.

Capacity, Production and Consumption of Aromatics: Benzene

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	1,519	1,519	1,519	1,519	1,519
Production	1,425	1,348	1,467	1,552	1,473
Consumption by Derivative Prod.	798	815	962	1,173	1,160*
Export	672	592	516	487	
Import	0	0	0	13	

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 2017

Benzene production was at 1,552,000 T/Y, an increase by 6% compared with that of 2016 supported by a strong demand for its derivative production including caprolactam.

2. Outlook for 2018

At 97% operating rate, Benzene production is expected to be 1,473,000 ton/year whilst demand for benzene consumption is expected to slightly decrease from that of 2016 at the above assuming operating rate for benzene derivative productions.

Capacity, Production and Consumption of Aromatics: Toluene

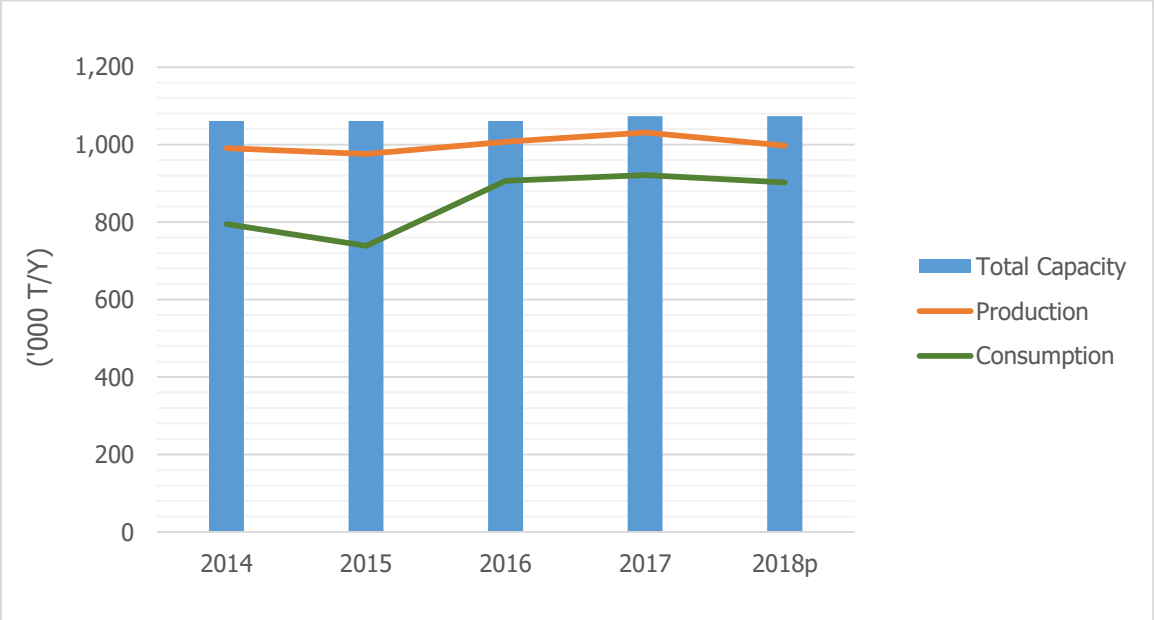
(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	1,061	1,061	1,061	1,073	1,073
Production	991	976	1,007	1,031	997
Consumption by Derivative Prod.	795	739	906	921	902*
Export	196	237	263	284	
Import	0	0	0	1	

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 2017

Toluene production and consumption in 2017 increased by 2%. Toluene production figures also included toluene volume which PTTGC used in its benzene and p-Xylene production process. India and China are major export markets for toluene.

2. Outlook for 2018

Toluene production in 2018 is assumed to be at a 93% operating rate whilst demand for toluene is estimated by assuming at 90% operating rate for toluene's derivatives.

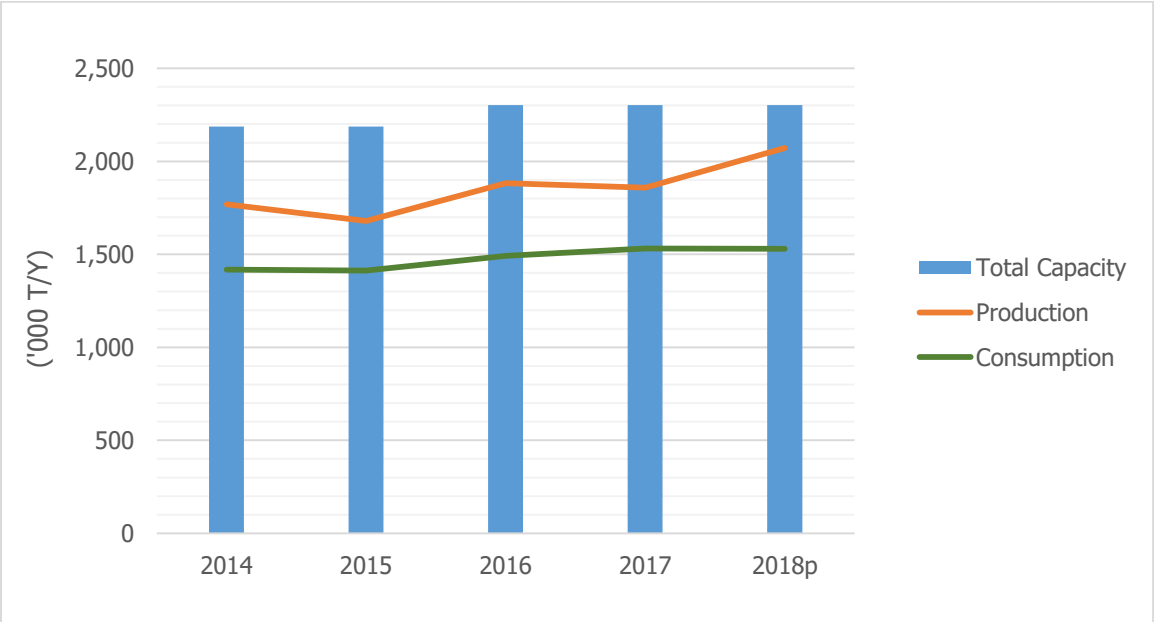
Capacity, Production and Consumption of Aromatics: P-Xylene

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	2,187	2,187	2,302	2,302	2,302
Production	1,769	1,680	1,883	1,858	2,072
Consumption by Derivative Prod.	1,417	1,412	1,492	1,531	1,529*
Export	549	443	505	456	
Import	151	142	54	122	

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 2017

Thailand p-xylene production in 2017 slightly decreased by 1% compared with that of the previous year. Domestic p-xylene consumption increased by 3% supported by a high demand of PTA derivative product. China is the major export market for p-xylene.

2. Outlook for 2018

Thailand p-xylene production is expected to increase in 2018 whilst p-xylene consumption is estimated to be almost at the same level as in 2017.

Polyolefins Committee

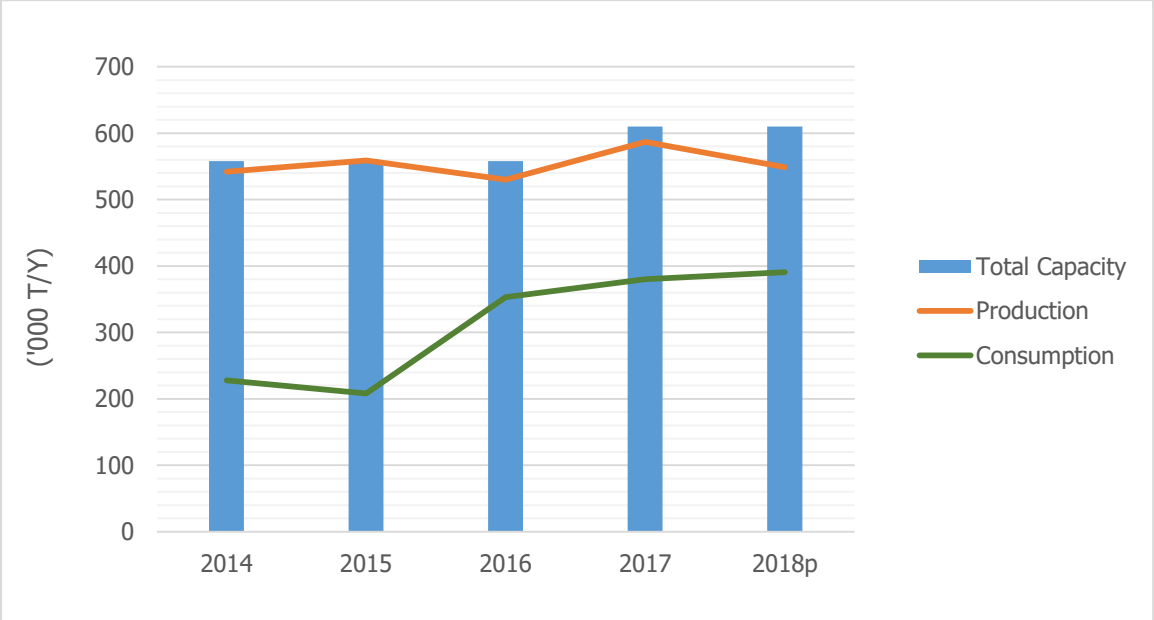
II-2. Polyolefins Committee

Capacity, Production and Consumption of LDPE/EVA

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	558	558	558	610	610
Production	542	559	530	587	549*
Consumption**	228	208	353	380	391
Export	415	450	298	319	
Import	100	99	121	112	

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

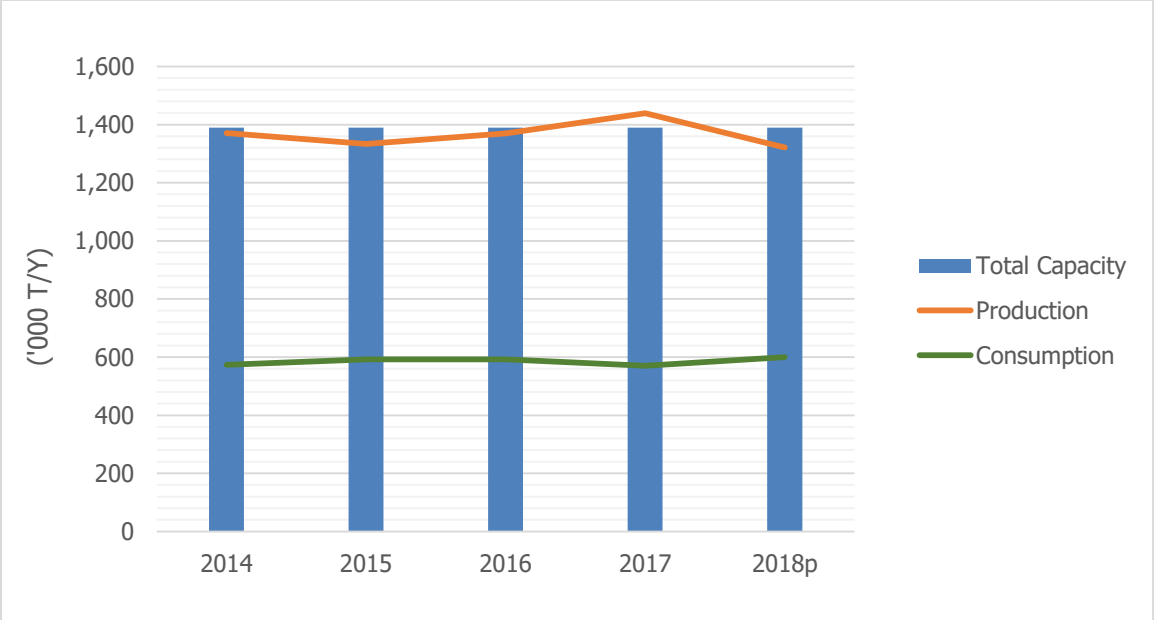


Capacity, Production and Consumption of LLDPE

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	1,390	1,390	1,390	1,390	1,390
Production	1,371	1,333	1,370	1,439	1,321*
Consumption**	576	592	592	570	600
Export	954	920	971	1,073	
Import	159	179	193	205	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures : assume 95% operating rate.
**Some consumption figures are deviated from normal calculation (Production + Import – Export) because of its inventory change

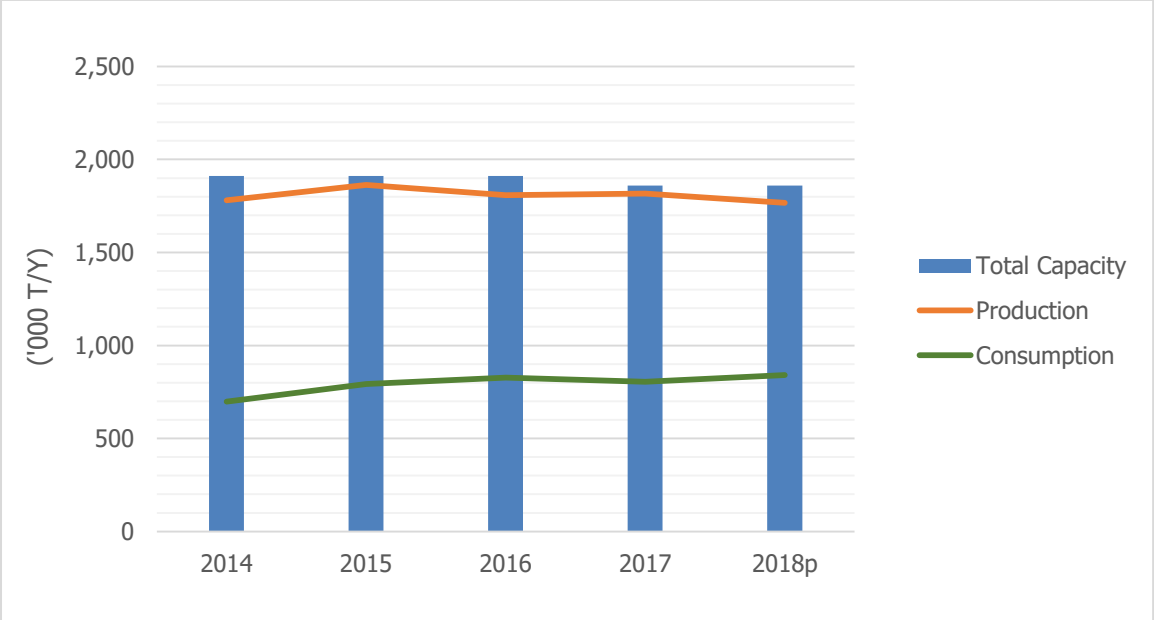


Capacity, Production and Consumption of HDPE

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	1,912	1,912	1,912	1,860	1,860
Production	1,781	1,863	1,808	1,817	1,767*
Consumption	699	793	828	805	841
Export	1,206	1,205	1,125	1,167	
Import	124	135	145	155	

Source: PTIT Industrial Survey, The Customs Department
Note: *Projected production figures: assume 95% operating rate.
**Some consumption figures are deviated from normal calculation (Production + Import – Export) because of its inventory change



1. Review of 2017

Polyethylene production increased by 4% from that of 2016 whilst consumption slightly decreased by 1%.Export volume of PE increased by 7% supported by a strong demand from China.

2. Outlook for 2018

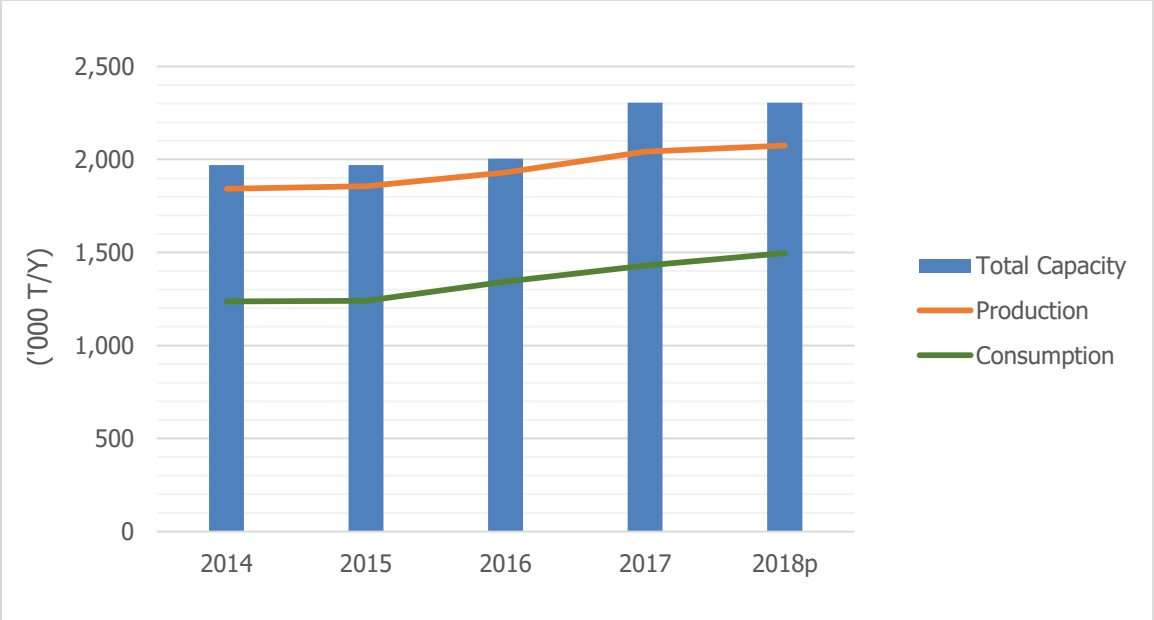
Thailand polyethylene production is expected to same as 2017. The overall domestic demand of PE resin tends to increase supported by growth consumption in packaging segment.

Capacity, Production and Consumption of PP

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	1,970	1,970	2,005	2,305	2,305
Production	1,843	1,856	1,931	2,042	2,075*
Consumption**	1,237	1,240	1,344	1,430	1,497
Export	818	856	839	887	
Import	212	240	270	276	

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 2017

Polypropylene production in 2017 increased by 6% since IRPC has expanded its production capacity by 300,000 ton/year. Polypropylene consumption also increased by 6% from a strong demand in packaging segment.

2. Outlook for 2018

Polypropylene consumption is projected to increase from a strong demand in automotive and packaging segment.

Styrenics Committee

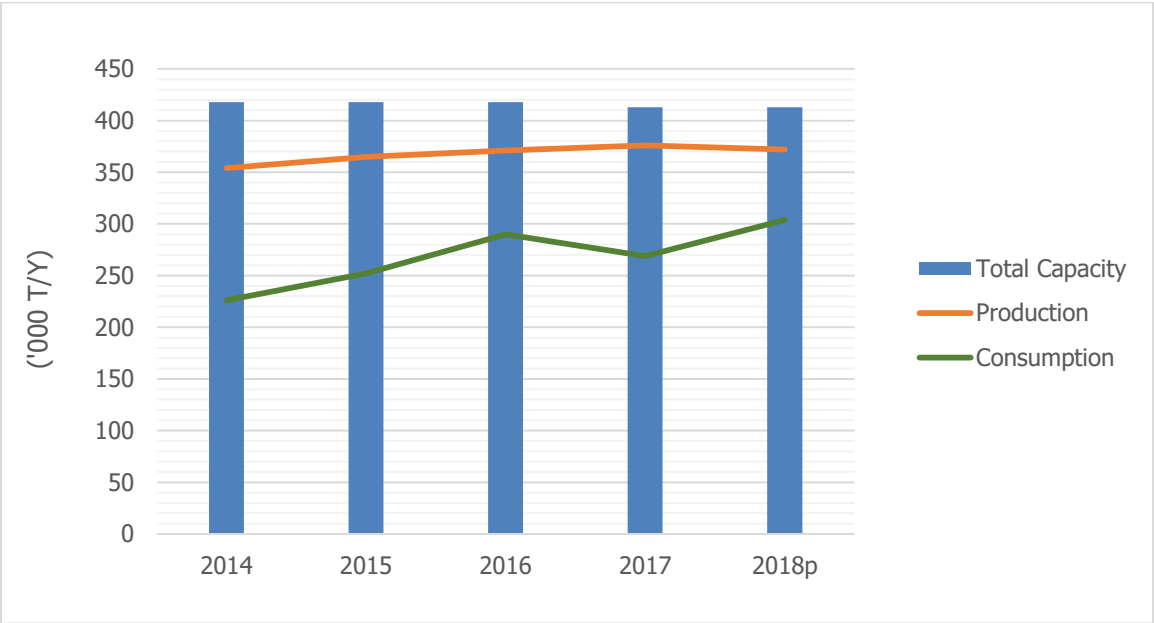
II-3. Styrenics Committee

Capacity, Production and Consumption of PS/EPS

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	418	418	418	413	413
Production	354	365	371	376	372*
Consumption by Derivative Prod.	226	252	290	269	276
Export	98	162	170	195	
Import	41	48	89	88	

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



1. Review of 2017

   Domestic production of PS/EPS in 2017 slightly increased by 1% whilst domestic consumption decreased by 7% following a weak demand in electrical appliances. PS/ESP export increased by 15%.

2. Outlook for 2018

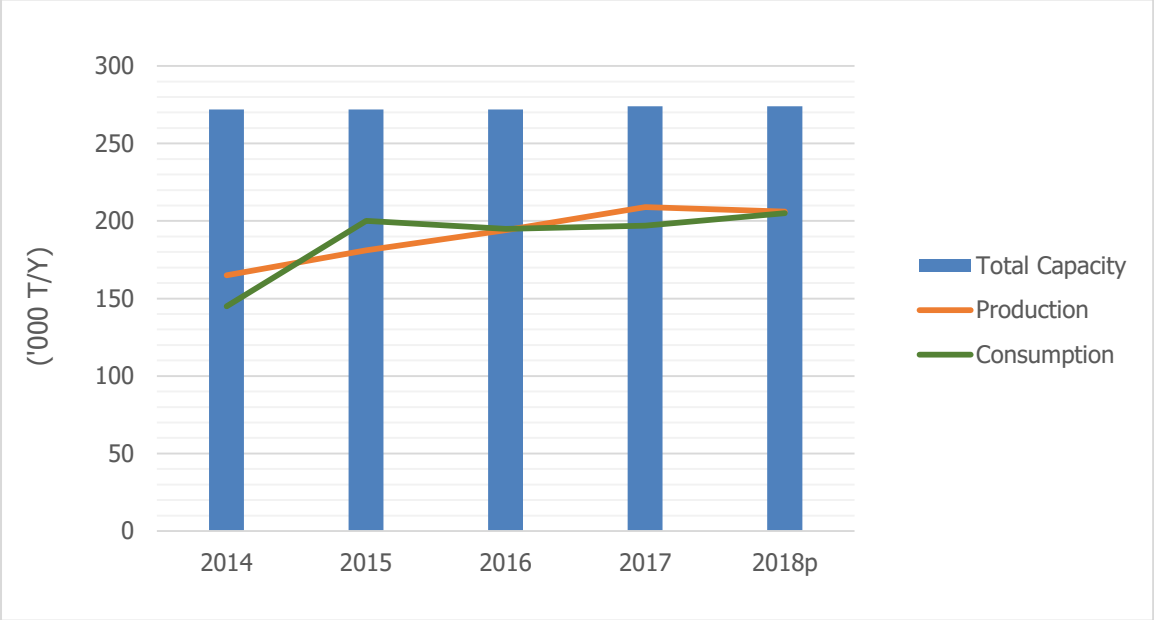
   PS/EPS production is estimated by assuming at 90% operating rate while domestic consumption is projected to increase from an improvement in demand in end-use markets.

Capacity, Production and Consumption of ABS/SAN

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	272	272	272	274	274
Production	165	181	194	209	206
Consumption	145	200	195	197	205*
Export	146	135	167	176	
Import	126	154	168	164	

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



1. Review of 2017

   Domestic ABS/SAN production increased by 8% compare with the previous year, whilst consumption slightly increased by 1%. ABS/SAN export increased by 5% from that of 2016 due to a strong demand from China.

2. Outlook for 2018

   Domestic ABS/SAN production is estimated to be at 75% operating rate, whilst consumption is projected to grow up by 4% due to a strong demand in automotive sector.

Capacity, Production and Consumption of SM

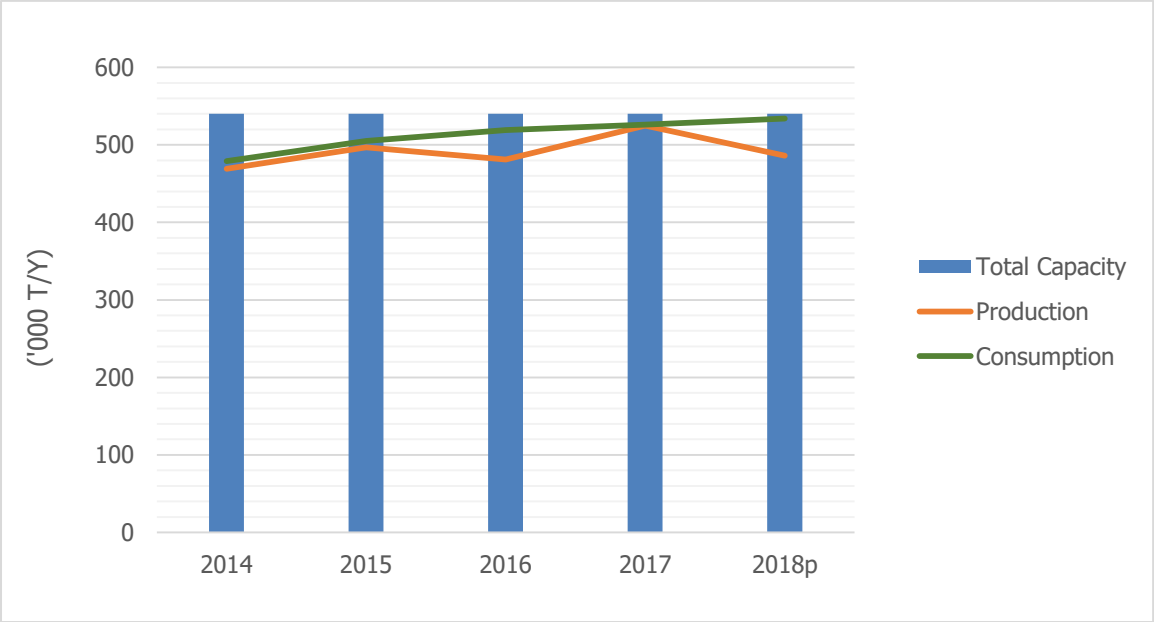
(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	540	540	540	540	540
Production	469	497	481	525	486
Consumption by Derivative Prod.	479	505	519	538	534*
Export	21	53	15	4	
Import	47	81	90	88	

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 2017

   SM production increased by 9% from last year. SM consumption increased by 4% as a result of an increase in its derivative productions.

2. Outlook for 2018

   Assuming a 90% operating rate, SM production is expected to decrease to 486,000 tons/year whilst consumption is estimated to slightly decrease.

PVC Committee

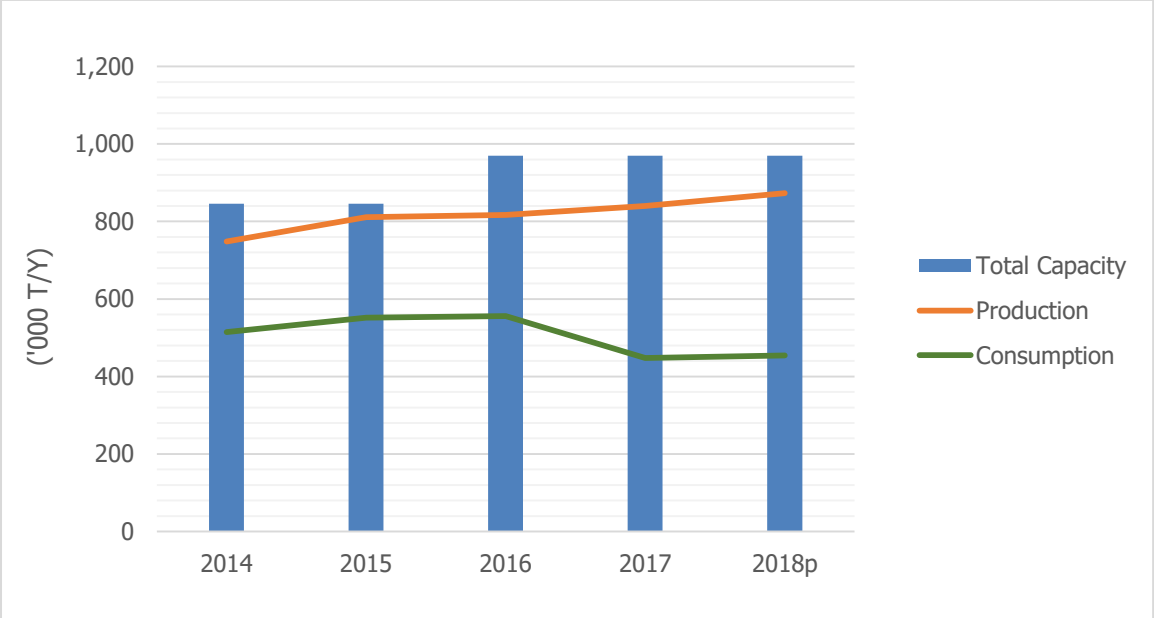
II-4. PVC Committee

Capacity, Production and Consumption of PVC

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	846	846	970	970	970
Production	748	811	817	845	873*
Consumption	515	552	615	448	454
Export	334	373	366	524	
Import	101	113	164	126	

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



1. Review of 2017

Thailand's PVC production in 2017 increased by 3% from that of 2016 due to an increase in demand from export plummeted market in CLMV. However, Thailand's PVC consumption decreased due to slowly growth in investment of infrastructure.

2. Outlook for 2018

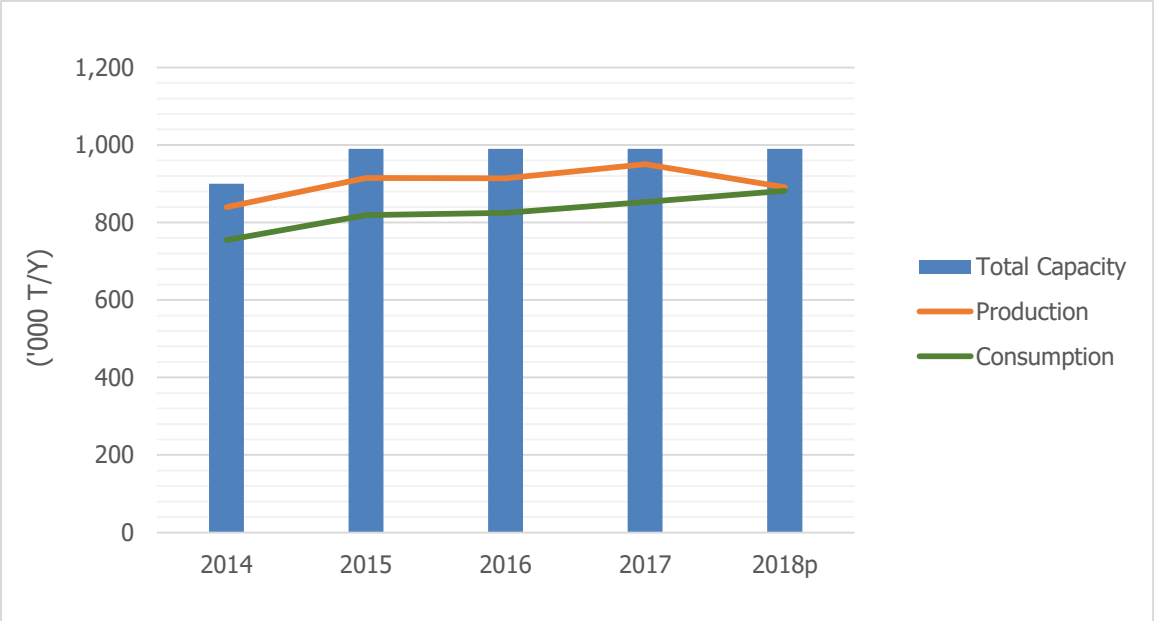
Thailand's domestic PVC consumption in 2018 is forecasted to slightly improve as a result of an investment in the country infrastructure.

Capacity, Production and Consumption of VCM

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	900	990	990	990	990
Production	840	915	914	950	891
Consumption by Derivative Prod.	755	819	825	853	882*
Export	72	86	96	112	
Import	1	0	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 2017

Thailand's VCM production in 2017 increased by 4% whilst its consumption increased by 3% in line with PVC production. VCM export volume increased by 17% due to a strong demand from Vietnam and Indonesia.

2. Outlook for 2018

Domestic demand is forecasted to increase by 3% supporting by a strong demand for PVC production.

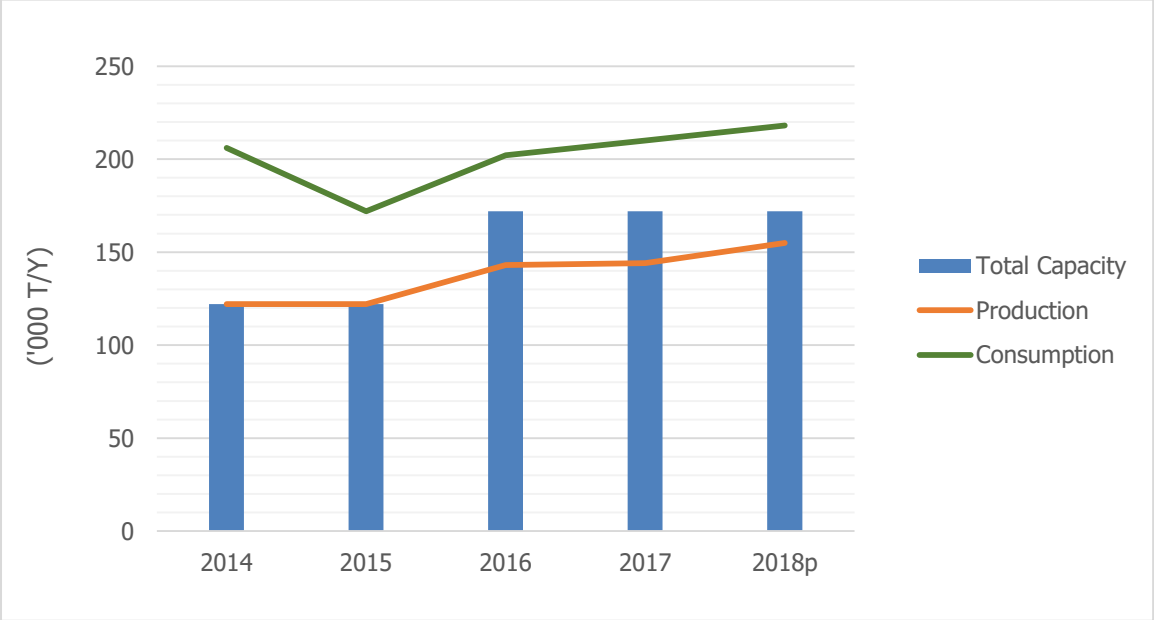
Synthetic Rubber Committee

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

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	122	122	172	172	172
Production	122	122	143	144	155*
Consumption**	206	172	202	210	218
Export	61	86	91	38	
Import	145	136	150	169	

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 2017

   SBR production minimally increased from that of 2016. Domestic consumption increased by 4% supported by a strong demand from automotive sector.

2. Outlook for 2018

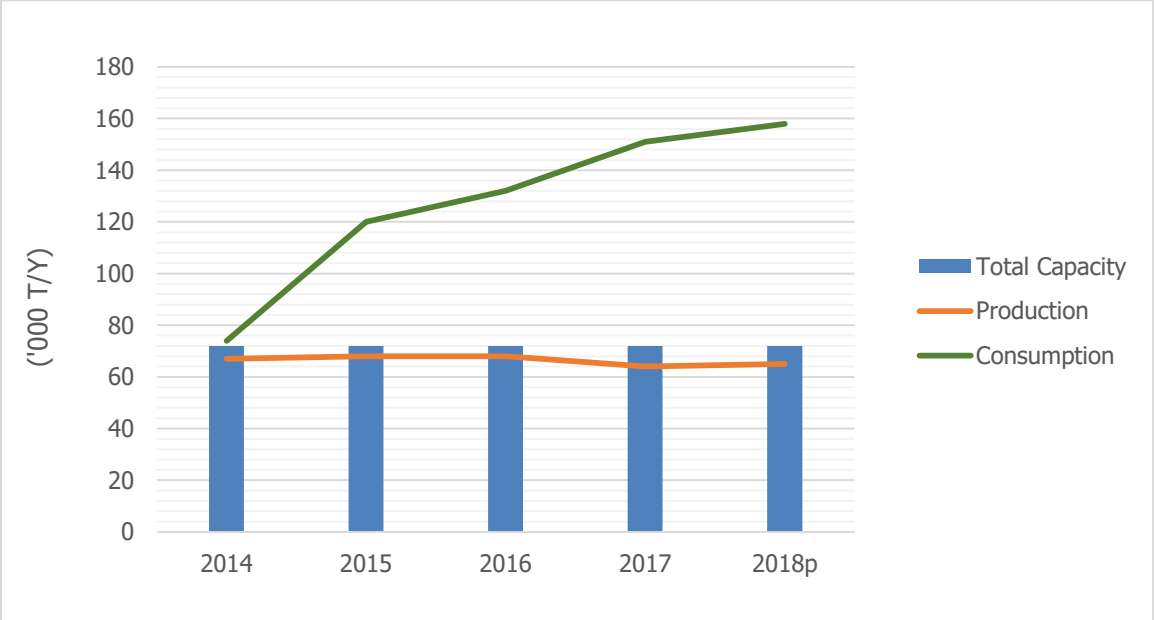
   SBR domestic consumption is expected to further improve in 2018, supporting by the government policy in transportation and logistics.

Capacity, Production and Consumption of BR

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	72	72	72	72	72
Production	67	68	68	64	65*
Consumption**	74	120	132	151	158
Export	44	40	41	36	
Import	20	92	105	123	

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 2017

   The production of BR decreased by 6% while domestic consumption significantly increased by 14% compared with the previous year as a result high domestic demand for automotive sector.

2. Outlook for 2018

   Domestic BR consumption is expected to further increase with a strong demand from automotive industry.

Synthetic Fiber Raw Materials Committee

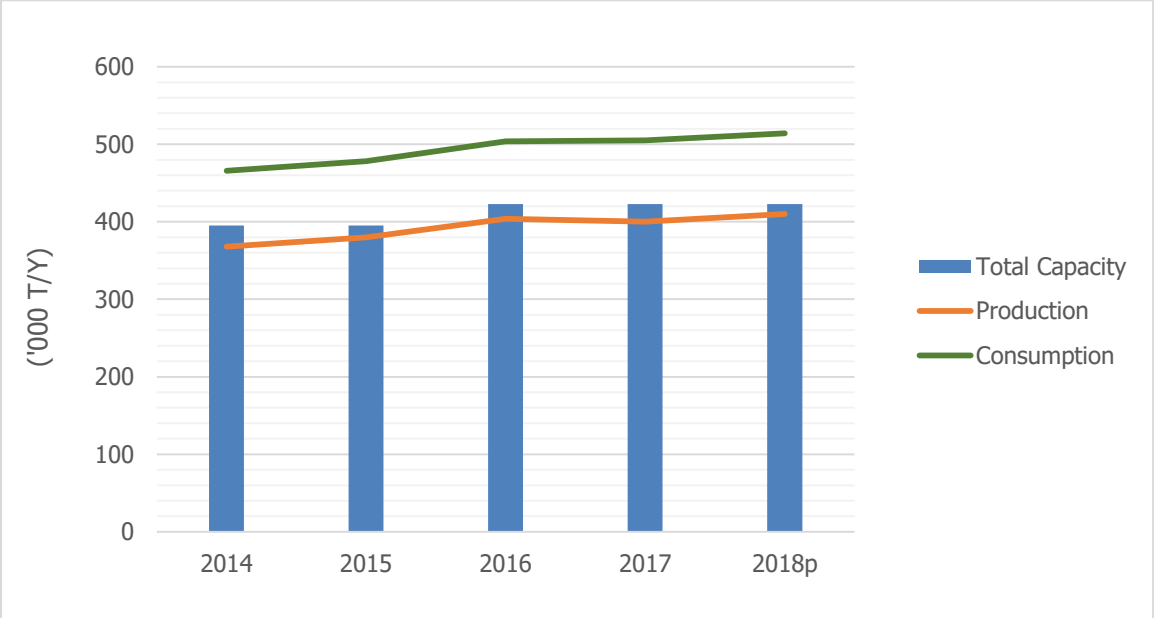
II-6. Synthetic Fiber Raw Materials Committee

Capacity, Production and Consumption of Ethylene Glycol

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	395	423	423	423	423
Production	368	380	404	400	410
Consumption*	466	478	490	505	514
Export	48	65	22	32	
Import	169	183	139	144	

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 2017

MEG production slightly decreased whilst domestic consumption increased around 3% compared with the previous year due to domestic demand for PET in downstream market supporting by upward trend of textiles production and PET bottle.

2. Outlook for 2018

In 2018, MEG production and consumption is forecasted to increase, supporting by a higher demand in MEG's downstream segment in this region.

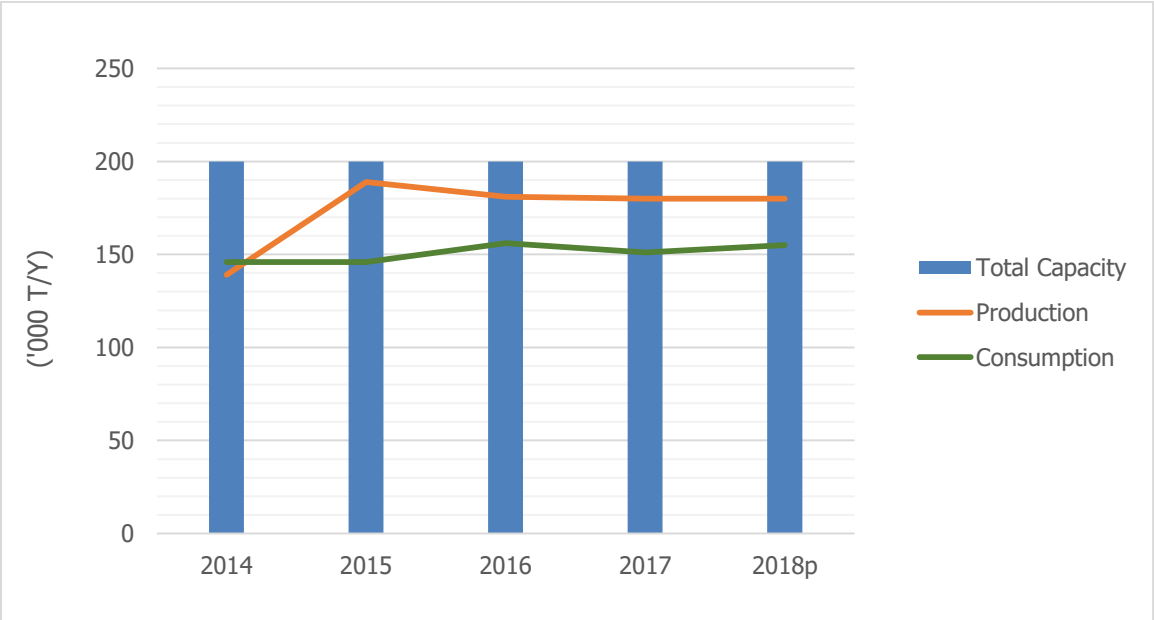
Capacity, Production and Consumption of Acrylonitrile

(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	200	200	200	200	200
Production	139	189	181	180	180
Consumption by Derivative Prod.*	146	146	156	151	155
Export	55	56	53	45	
Import	62	34	26	13	

Source: PTIT Industrial Survey, The Customs Department

Note: *Consumption netbacked from ABS/ SAN and acrylic fibre production with an assumed operating rate of 75% and 87%, respectively.
'0' means below 500T/Y



1. Review of 2017

Thailand's ACN production in 2017 minimally decreased from the previous year. Domestic consumption decreased by 3% due to slowly growth of ABS/SAN demand.

2. Outlook for 2018

CAN Production is estimated to remain unchanged in 2018, whilst domestic CAN consumption is expected to increase, supporting by 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 products especially air condition, automobile parts products.

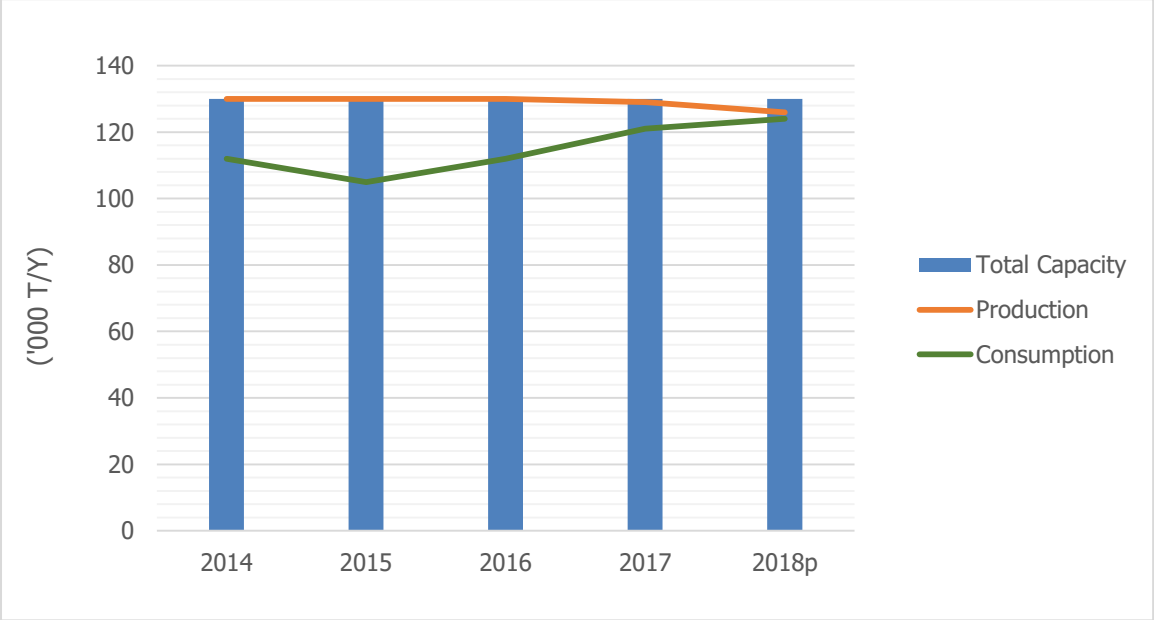
Capacity, Production and Consumption of Caprolactam

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	130	130	130	130	130
Production	130	130	130	129	126
Consumption by Derivative Prod.*	112	105	112	121	124
Export	27	27	27	18	
Import	9	7	6	10	

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 2017

   Domestic production caprolactam in 2017 was still close to its production capacity, whilst its consumption increased by 8%, supported by a strong demand from Nylon 6 production in Thailand and export market.

2. Outlook for 2018

   Caprolactam production is estimated to be at 97% operating rate, whilst its consumption is expected to slightly increase by 2% in 2018, with Nylon 6 still being the key market for carprolactam.

Capacity, Production and Consumption of Terephthalic Acid

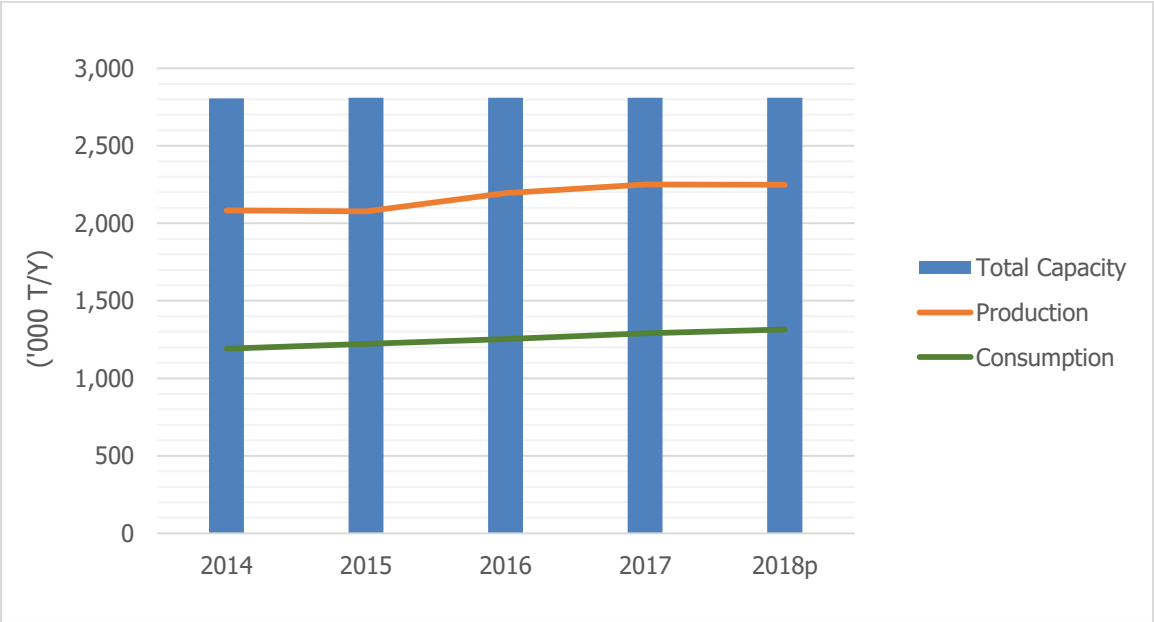
(Unit:'000 T/Y)

	Historical				Estimated
	2014	**2015**	**2016**	**2017**	**2018**
Total Capacity	2,807	2,811	2,811	2,811	2,811
Production	2,084	2,077	2,194	2,251	2,249
Consumption by Derivative Prod.	1,192	1,223	1,254	1,291	1,315*
Export	892	854	940	960	
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 2017

Thailand's PTA production inflated from a strong polyester's demand in both domestic and regional markets especially China and Middle East.

2. Outlook for 2018

In 2018, domestic PTA production is estimated to be at 80% operating rate, whilst domestic consumption is expected to continue to increase.

Chemicals Committee

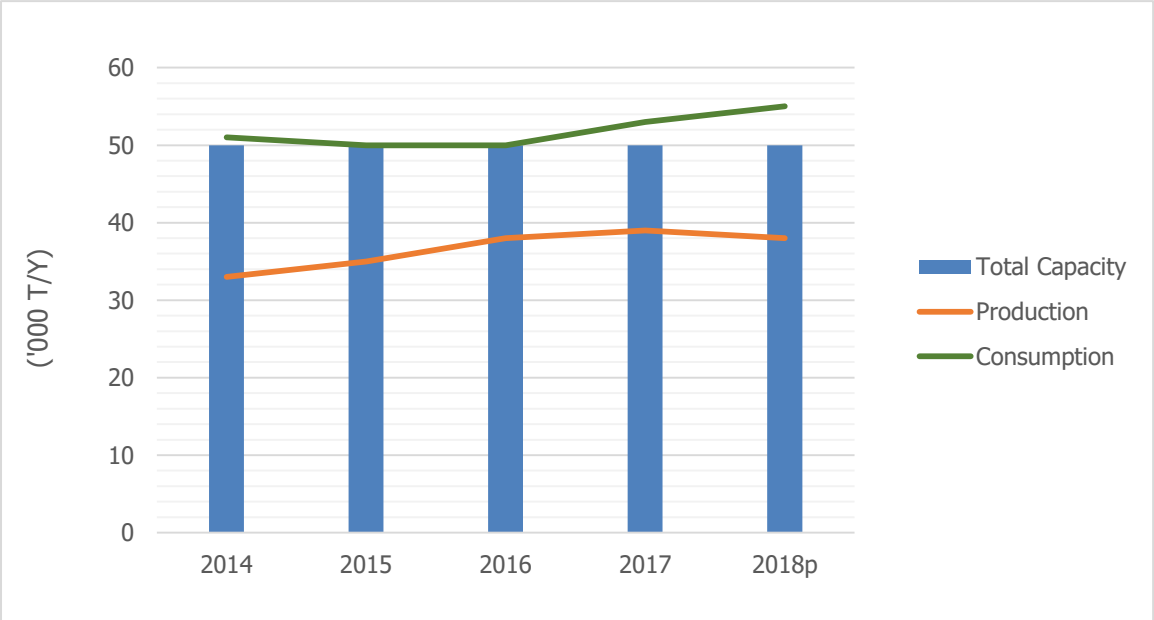
II-7. Chemicals Committee
Capacity, Production and Consumption of Phthalic Anhydride (PA)

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	50	50	50	50	50
Production	33	35	38	39	38
Consumption by Derivative Prod.	51	50	50	53	55*
Export	9	19	21	24	
Import	24	24	31	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 2017

Domestic PA production and consumption in 2017 relatively stagnated, supporting by strong exported market, plasticizer demand especially construction industries in ASEAN.

2. Outlook for 2018

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.

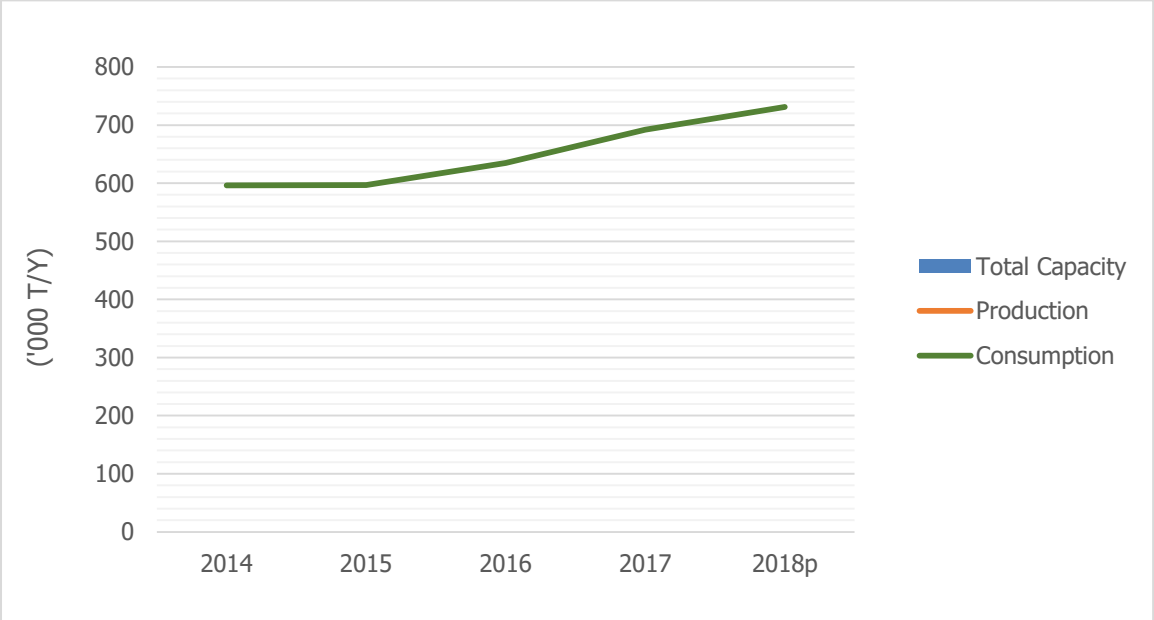
Capacity, Production and Consumption of Methanol

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity					
Production					
Consumption by Derivative Prod.	596	597	635	692	731*
Export	0	0	0	0	
Import	657	664	706	746	

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 2017

   Domestic consumption of methanol increased by 9% in demand from derivative products especially demand from biodiesel production.

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

2. Outlook for 2018

   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.

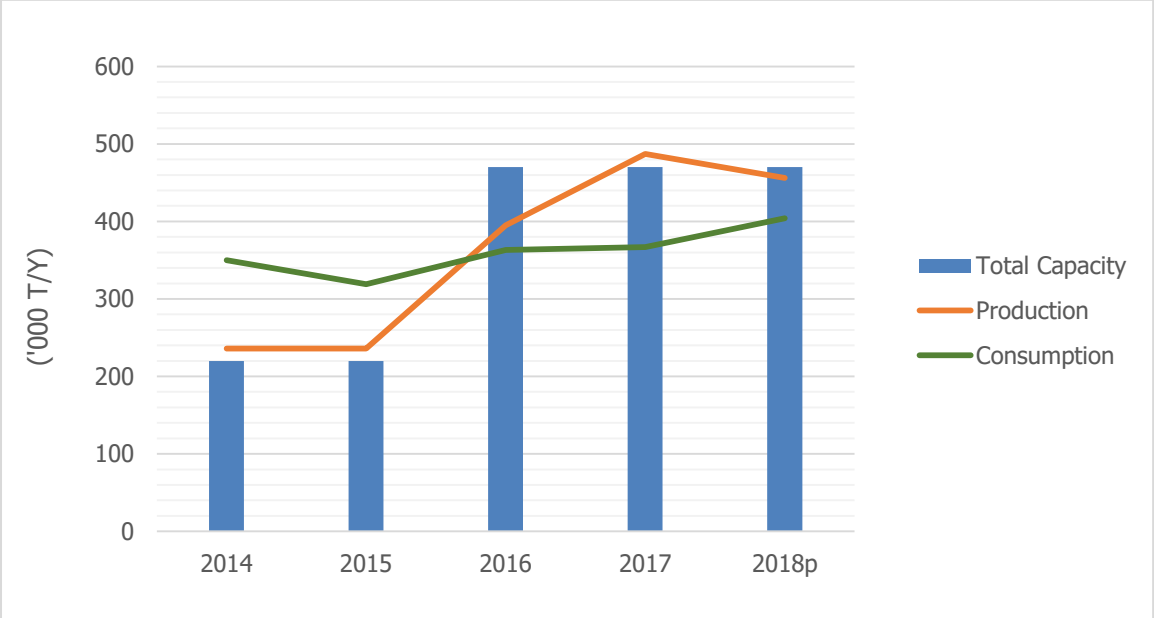
Capacity, Production and Consumption of Phenol

(Unit:'000 T/Y)

	Historical				Estimated
	2014	2015	2016	2017	2018
Total Capacity	220	220	470	470	470
Production	236	236	395	487	456
Consumption by Derivative Prod.	350	319	363	367	404*
Export	53	49	120	158	
Import	166	138	88	73	

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 2017

Domestic phenol production increased and phenol consumption also increased supported by high demand of derivative products especially Bisphenol A. Export market raised due to a strong demand from China.

2. Outlook for 2018

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