

# China Steel Chemical Corp.

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## The Industrial Use for CSCC

Sep. 12<sup>th</sup>, 2013



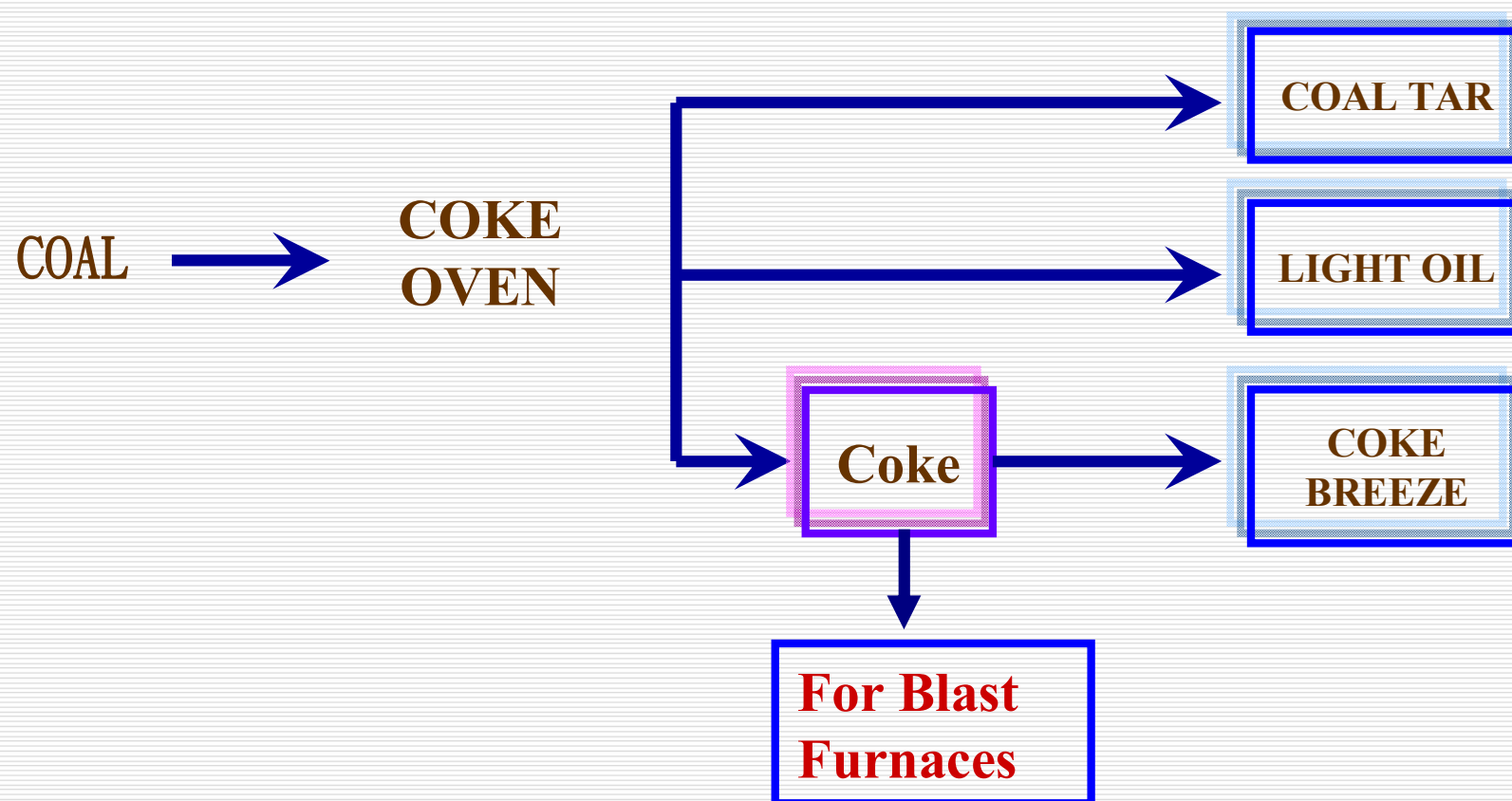
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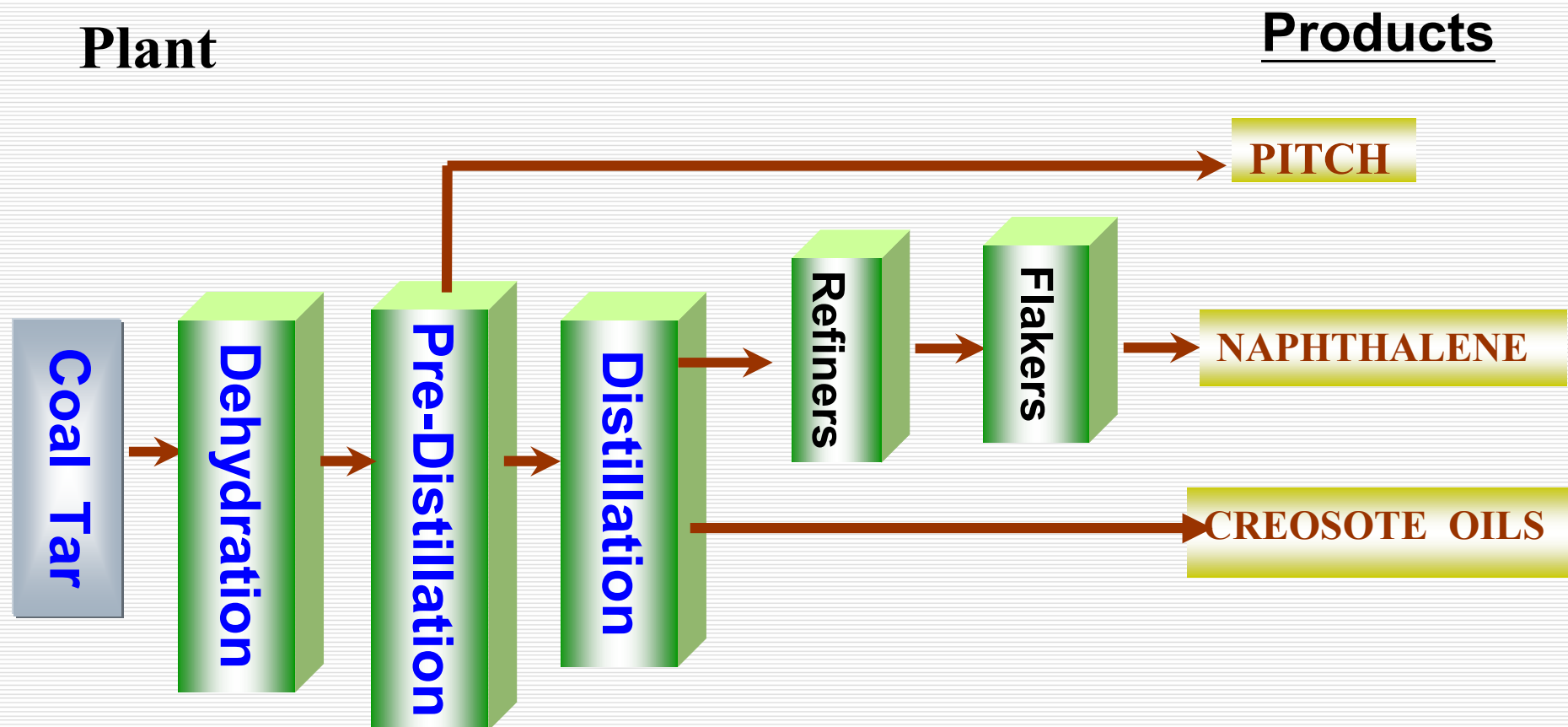


# 1. The Relating Product Map of Coal Chemical Industries



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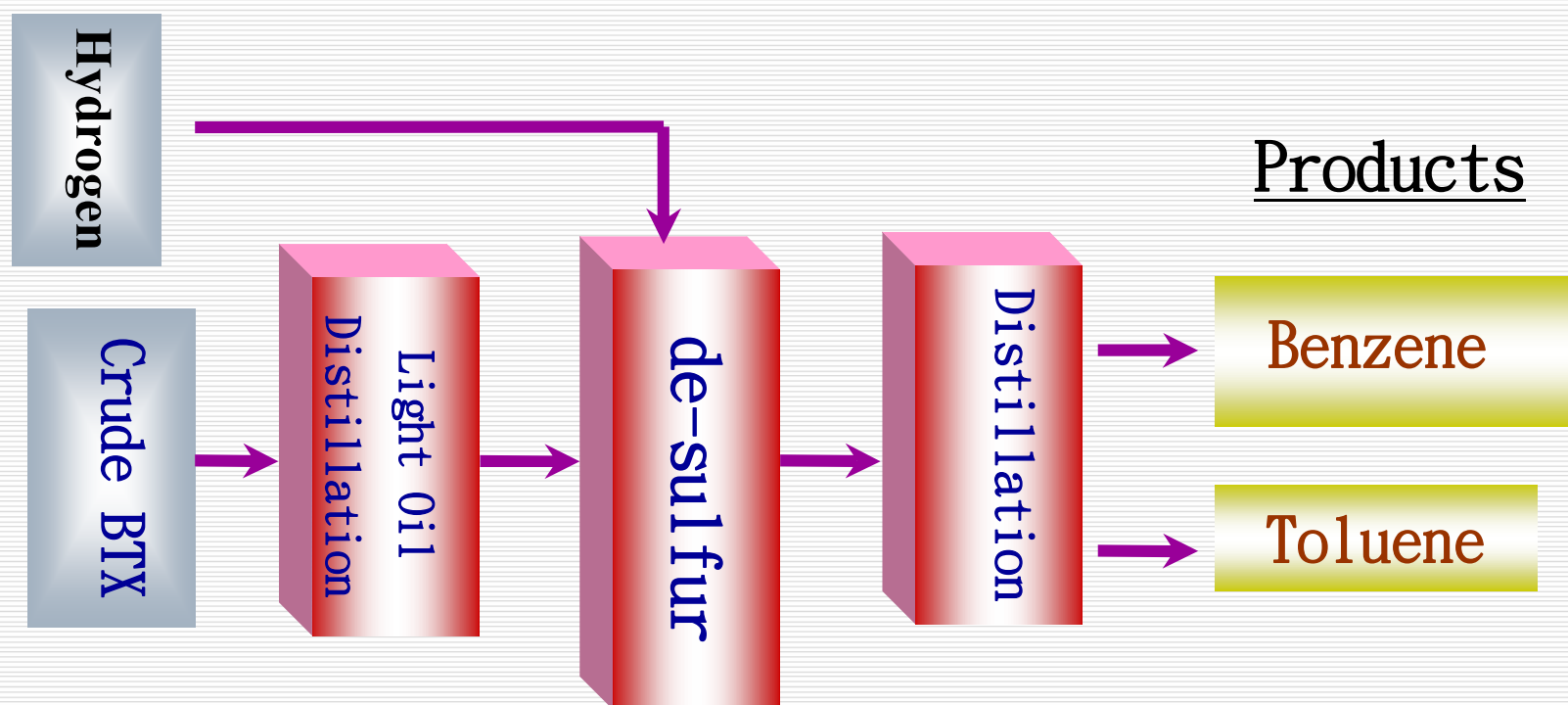
## ✚ The Process of the Coal Tar Distillation Plant





# 1. The Relating Product Map of Coal Chemical Industries

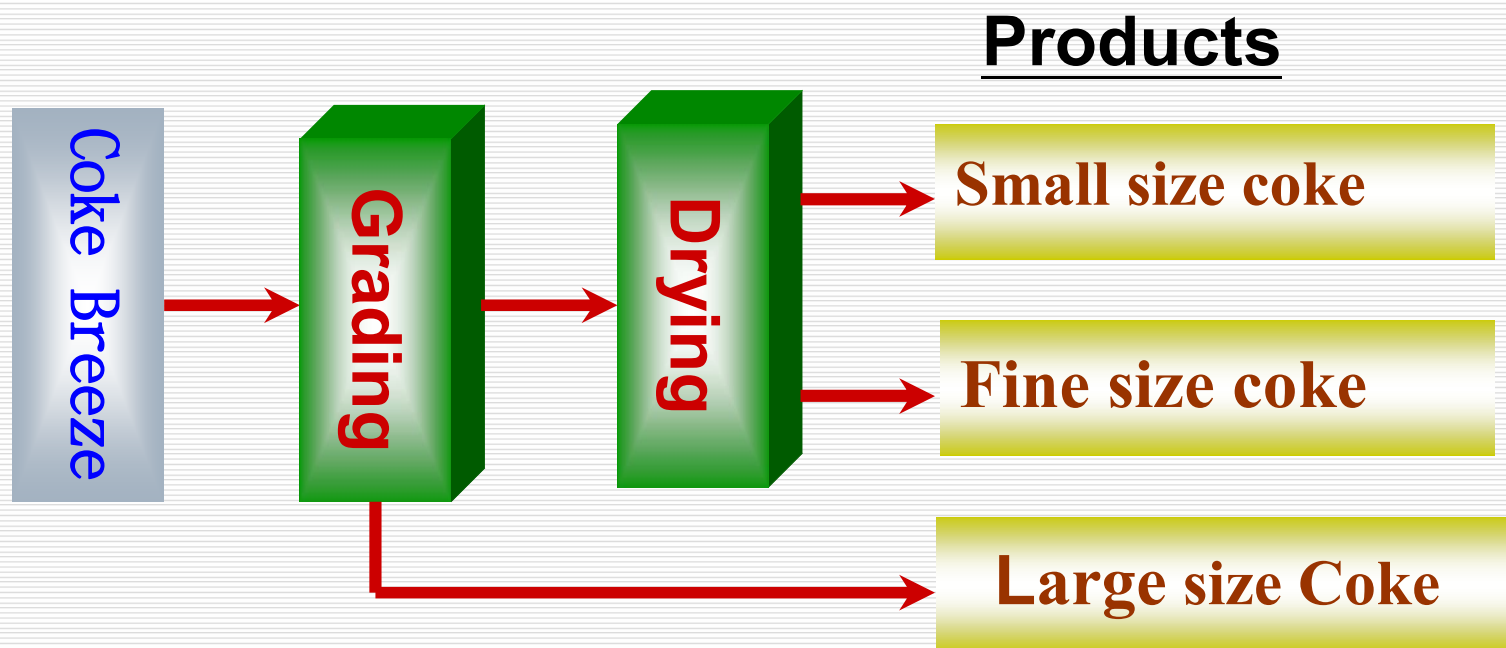
## # The Process of the Light Oil Distillation Plant



# 1. The Relating Product Map of Coal Chemical Industries

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## + The Process of the Coke Breeze Plant



## 2 、 The Global Market Scale of Coal Tar Distillation in 2012

Unit: thousand tons

Area	Production	Percentage
Global	8,456	100.0 %
Western Europe	606	7.2 %
Independent Countries	1,212	14.3 %
Americas	1,228	14.5 %
Asia (excluding China)	372	4.4%
Middle East	668	7.9%
Oceania	364	4.3 %
Africa	256	3.0 %

From : CRU



# 3 、 The Brief Introduction to CSCC

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## Chronology of Major Events

- 1.CSCC established in February 1989.
- 2.Plants completed during 1991~1993.
- 3.CSCC IPO listed in Taiwan in November, 1998
- 4.CSCC was awarded “Industrial Excellence Award “ and “National Outstanding SMES Award” in 2000 and 2001.
- 5.CSCC achieved OHSAS 18001 certification during 2001~2008.
- 6.CSCC achieved CNLA in April, 2002. And granted authentication in April 2005 and November, 2008.
- 7.Refined Naphthalene Unit expansion completed in April 2009.
8. The capacity 1,400 MT/YR of Green Mesophase Powder Plant completed in January 2010.
- 9.The Light Oil Distillation plant phase 2 completed in April 2010.
- 10.The line G5/G6 of Green Mesophase Powder Plant reaching capacity to 2,600 MT/YR completed during the third quarter 2011.
- 11.The line G1N/G2N of Green Mesophase Powder Plant reaching capacity to 5,000 MT/YR completed by the end of 2012.



### 3 、 The Brief Introduction to CSCC

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#### The structure of shareholder

unit : per thousand stocks

Major shareholder	Shares	Percentage
China Steel Corporation	68,787	29.04%
China Synthetic Rubber Corp.	11,759	4.96%
Ever Wealthy International Corp.	6,770	2.86%
Chi-Chen Teh investment company	3,648	1.54%
CTCI Corporation	2,426	1.02%

As of: August 31, 2013



### 3 、 The Brief Introduction to CSCC

#### Financial Review

Unit: NT\$ millions

	2008	2009	2010	2011	2012
Capital stock	2,369	2,369	2,369	2,369	2,369
Revenue	7,541	4,874	8,039	8,915	8,257
Net income after tax	1,444	1,298	1,914	2,247	1,974
EPS ( NT \$ )	6.28	5.64	8.32	9.76	8.58



### 3 、 The Brief Introduction to CSCC

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✚ Table of academic degree in CSCC's employees

Academic Degree	Number	Percentage
Doctor Degree	3	2%
Master Degree	38	23%
Bachelor Degree	59	36%
Junior college and Senior high school	65	39%
Total	165	100%

As of : August 31, 2013



### 3 、 The Brief Introduction to CSCC

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unit : metric tons

Period	2010	2011	2012	2013.1-8
Throughput of Coal Tar	204,800	213,284	203,920	179,806
Throughput of Light Oil	80,013	80,921	77,971	65,804





### 3 、 The Brief Introduction to CSCC

Unit: NT\$ millions

Period Item	2010 (Note 1)	2011 (Note 1)	2012 (Note 1)	2013. 1-8 (Note 2)
Revenue	8,039	8,915	8,257	6,042
Net income after tax	1,914	2,247	1,974	1,760
EPS (NT\$)	8.32	9.76	8.58	7.65

Note 1: The announcement is based on CSCC's individual financial statements.

2. The announcement is based on the consolidated financial statements which are prepared in accordance with IFRS. The Revenue and the Net income before Tax are not audited and are available on the MOPS website of TSE.



## 4、The Industrial Use for CSCC

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✚ Soft Pitch.....P15

✚ Naphthalene ..... P16

✚ Creosote Oil ..... P17

✚ Beneze..... P18

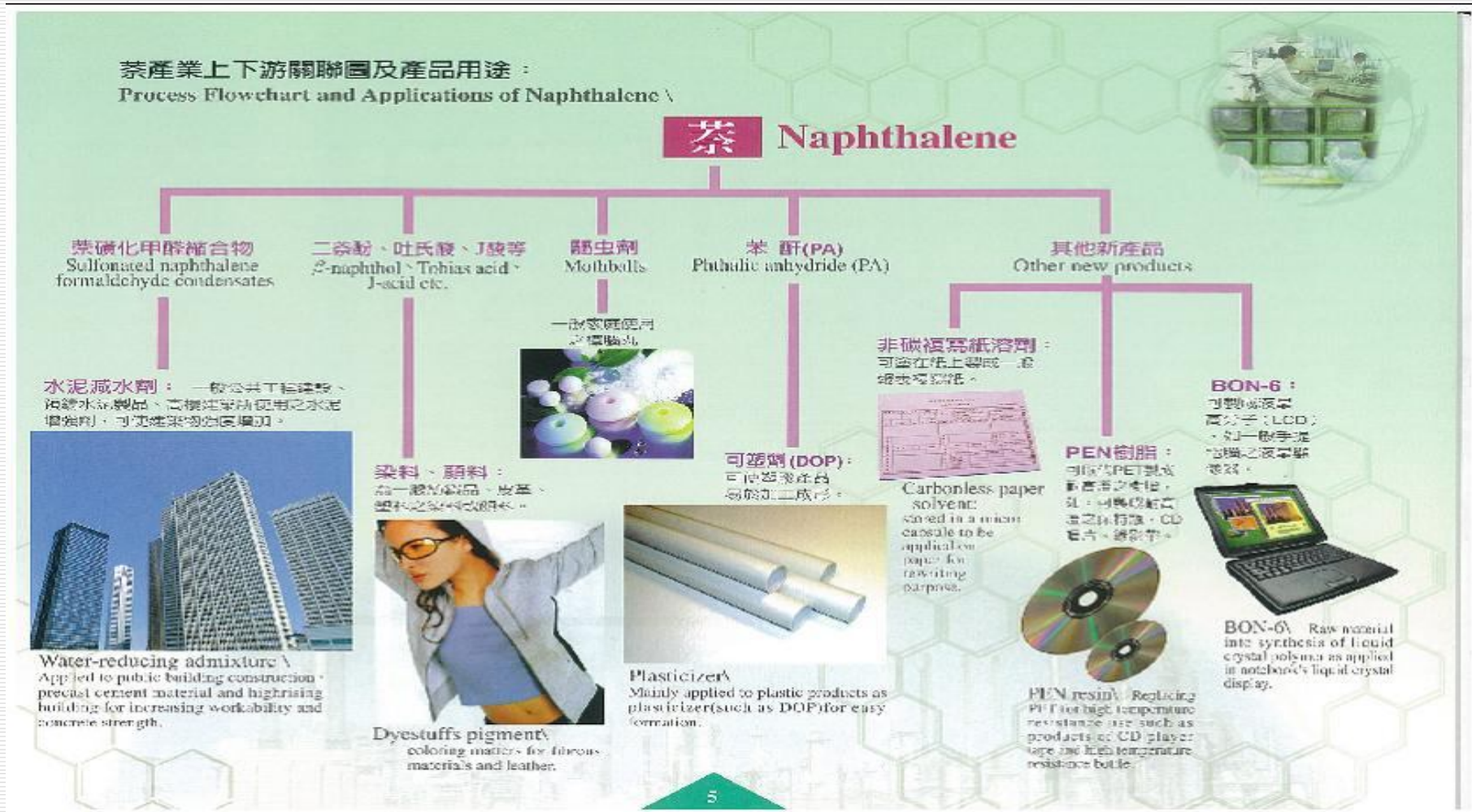
✚ Toluene ..... P19



# Process Flowchart and Application of Soft Pitch



# # Process Flowchart and Application of Naphthalene





# Process Flowchart and Application of Creosote Oils

雜酚油產業上下游關聯圖及產品用途：  
Process Flowchart and Applications of Creosote oils \

## 雜酚油 Creosote oils

碳黑  
Carbon black



輪胎及其他橡膠

Tire and other plastic products.



木材防腐油

塗佈在木材上以防腐蝕木材腐爛。  
如鐵路枕木、電線杆等等。

Wood preservative oil  
To be coated on wood such as railroad sleeper and electric pole for preservation.



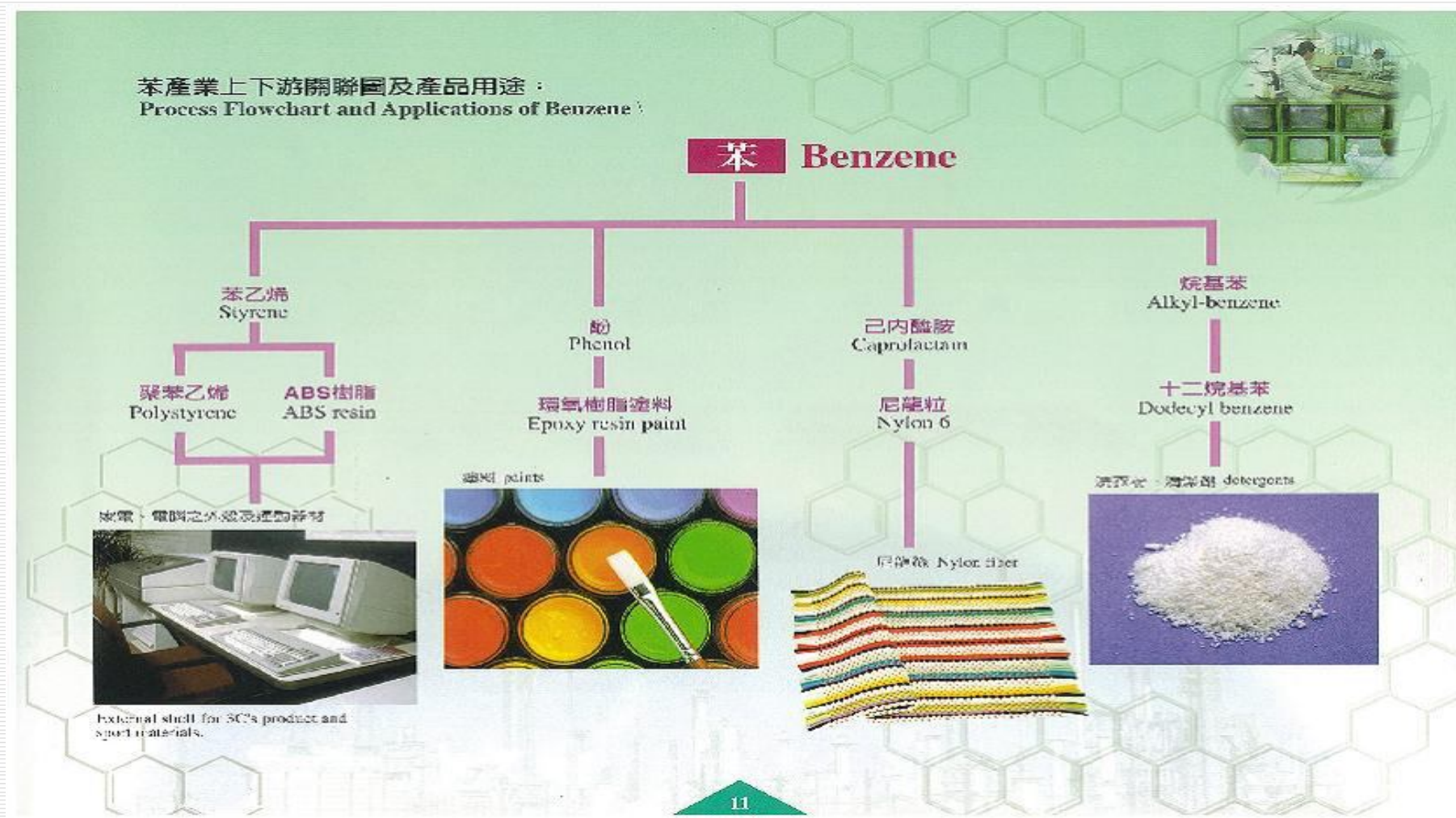
洗油

在一種作業煉鋼廠之製程中使用，  
主要是將凡剛產品經烘乾取出來。

Wash oil  
As absorption oil to extract light oil from the coke oven gas of the integrated steel mill.



# Process Flowchart and Application of Benzene





# Process Flowchart and Application of Toluene



## 5 、 New Products Development

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- ✚ **High Softening-Point Pitch (HSP)** is applied as coating substance on Li-ion Battery (LIB) anode materials and also as binder for refractory industry.
- ✚ **HSP** is above 260°C softening point and with high content of fixed carbon to 80~85%.

The process of making **HSP** is similar to that of making precursor of carbon fiber. HSP can be further modified as feedstock for carbon fiber.

- ✚ The HSP samples made from the pilot line have been offered to the LIB anode suppliers as coating materials and refractory - related customers for the further tests.





## 5 、 New Products Development

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- ✚ The **activated carbon** applied as raw materials for EDLC (electric double-layer capacitor) has built up the pilot line with 2 metric tones annual capacity.

The quality can meet customer's requirements with a few orders coming by during the third quarter.

- ✚ The operation of the induction furnace with 200L capacity keeps running, and the test result will be the basis for the design of production-scale graphite furnace.





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# Thank You

