

# China Steel Chemical Corp.

---

## The Industrial Use for CSCC

**June 20, 2012**



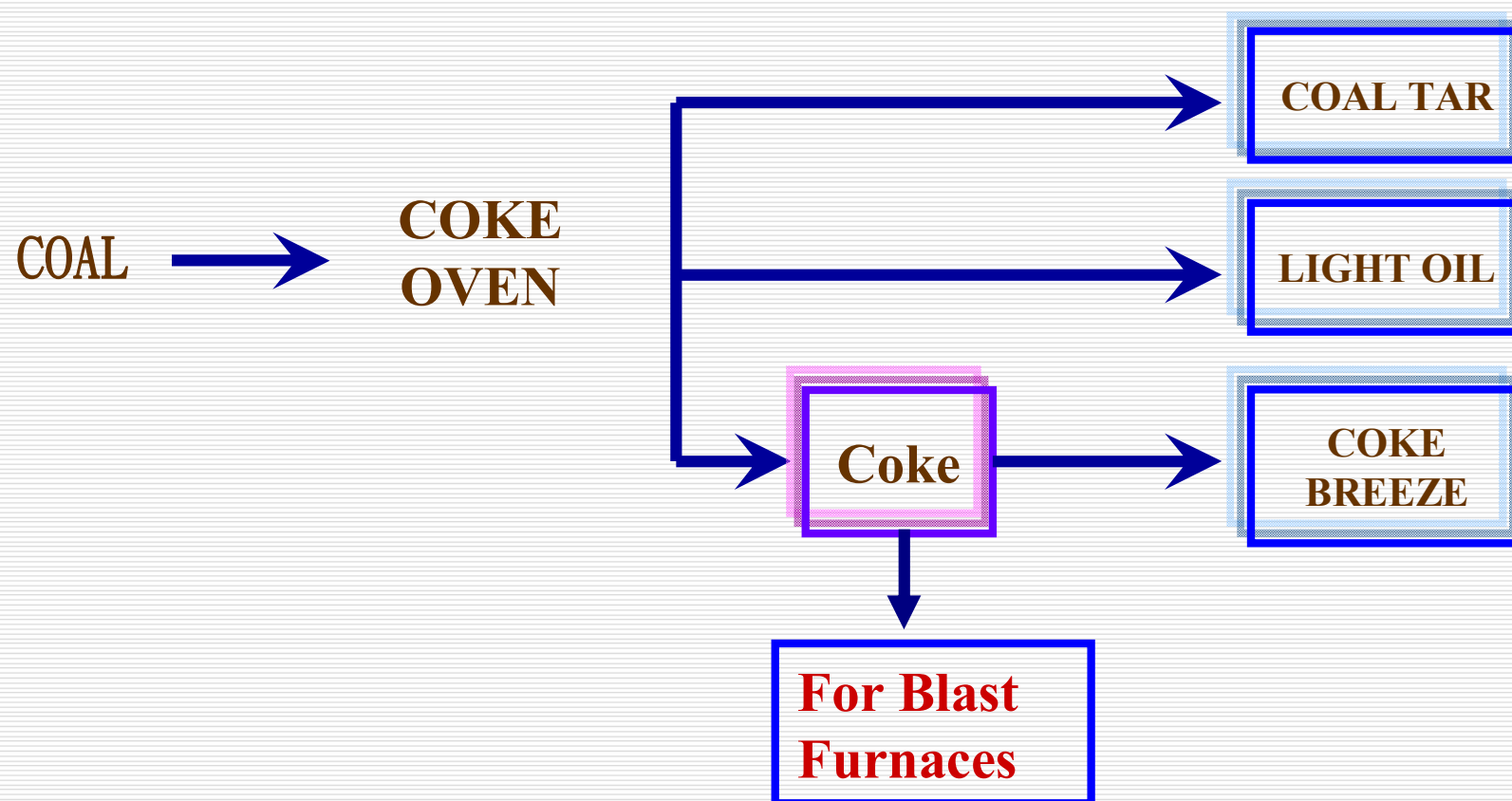
# Table of Content

---

- 1 、 The Relating Product Map of Coal Chemical Industries
- 2 、 The Global Market Scale of Coal Tar in 2011
- 3 、 The Brief Introduction to CSCC
- 4 、 The Industrial Use for CSCC
- 5 、 The New Products Development

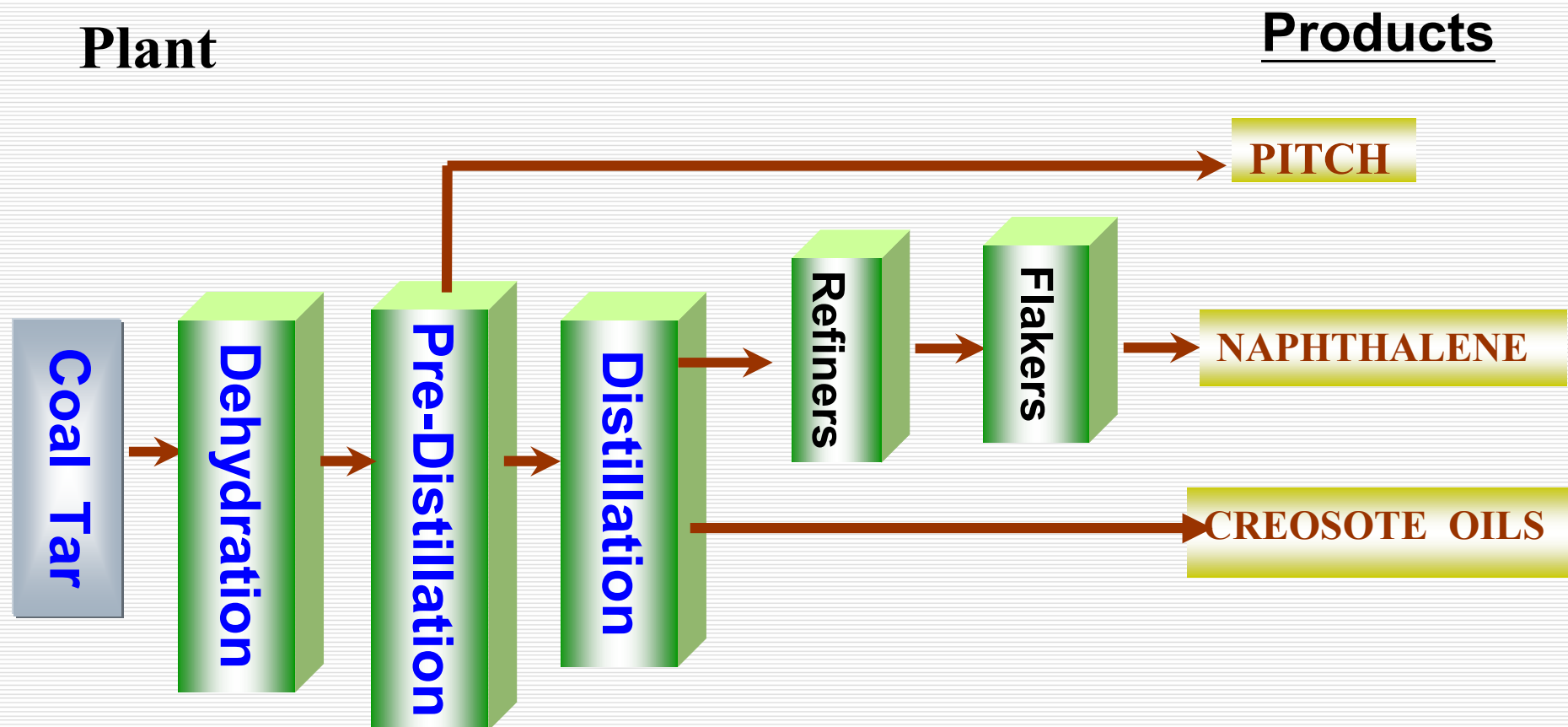


# 1. The Relating Product Map of Coal Chemical Industries



# 1. The Relating Product Map of Coal Chemical Industries

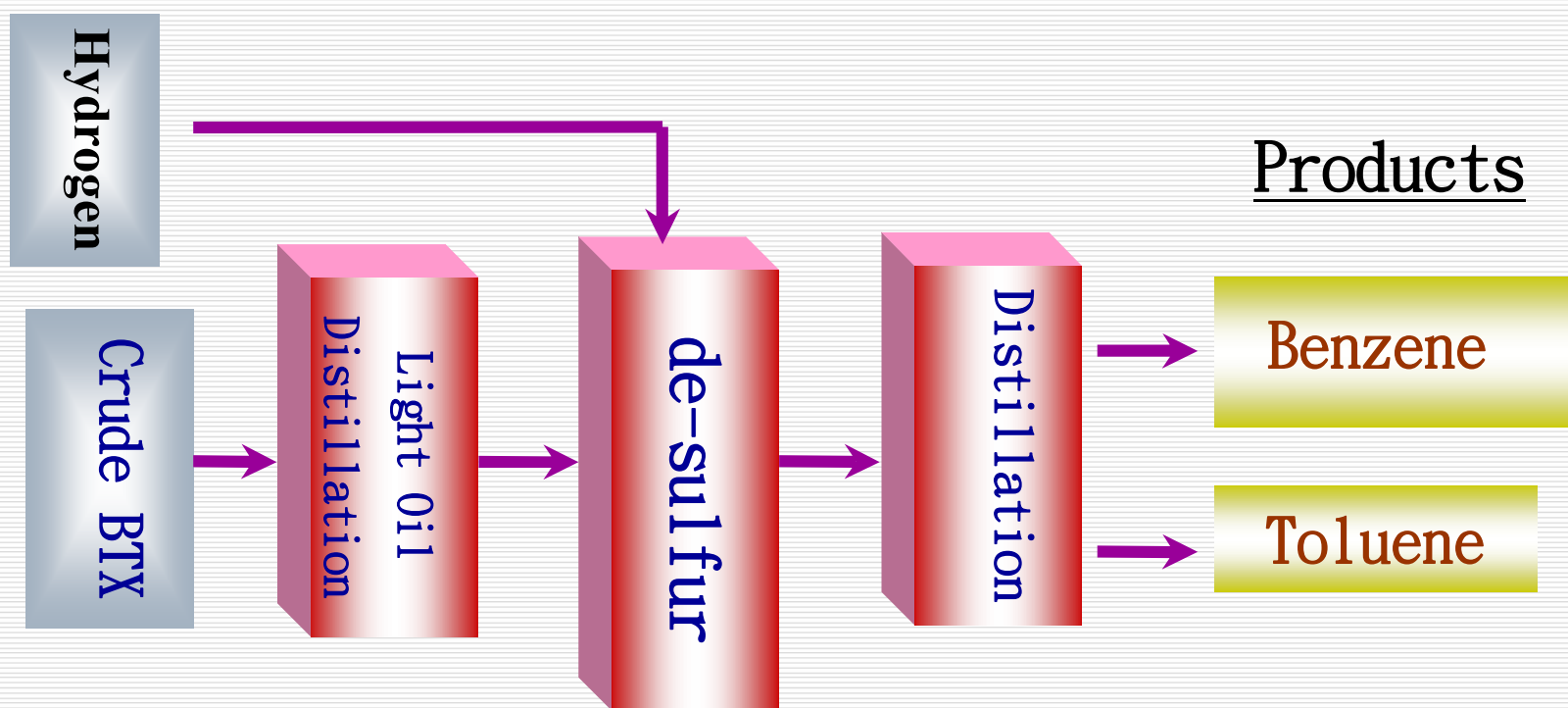
## ✚ The Process of the Coal Tar Distillation Plant





# 1. The Relating Product Map of Coal Chemical Industries

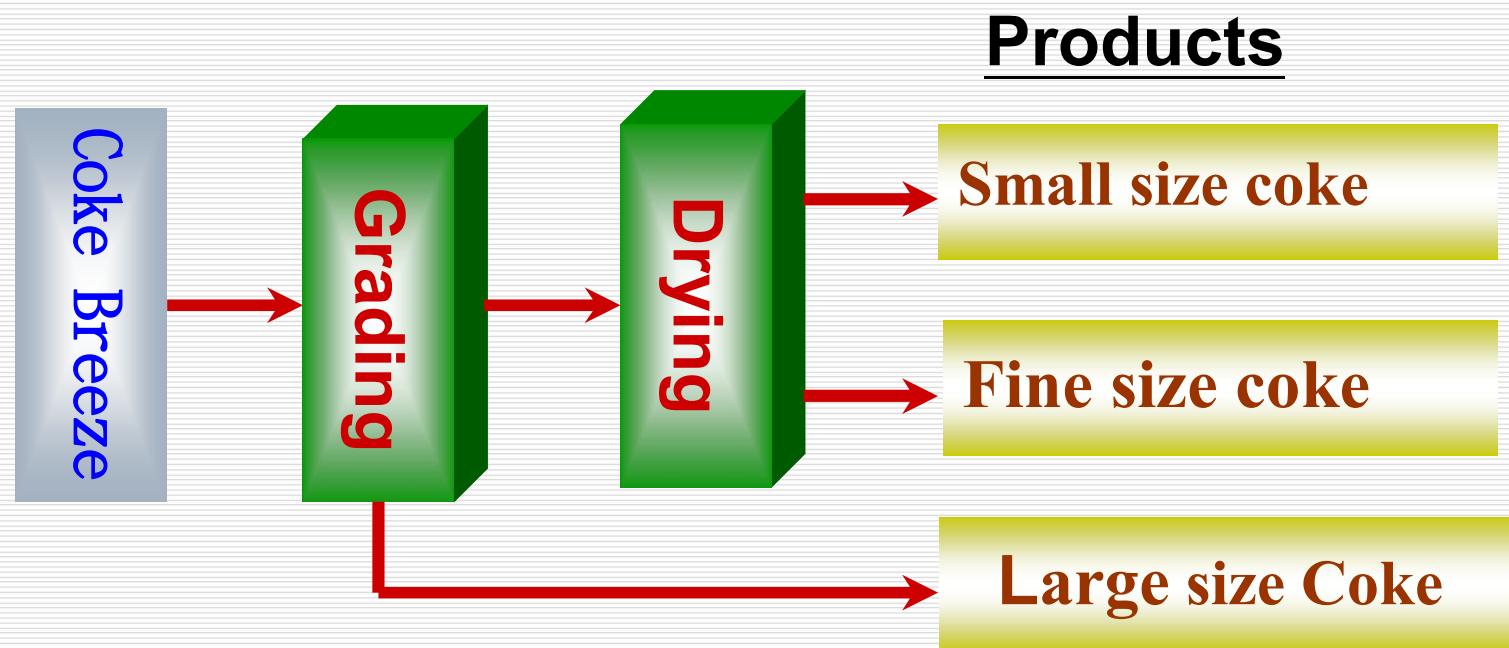
## # The Process of the Light Oil Distillation Plant



# 1. The Relating Product Map of Coal Chemical Industries

---

## + The Process of the Coke Breeze Plant



## 2 、 The Global Market Scale of Coal Tar in 2011

Unit: thousand tons

Area	Production	Percentage
Global	23,000	100%
Europe (excluding Independent countries)	1,987	8.6%
Independent Countries	199	0.9%
Americas	3,541	15.4%
Asia (excluding China)	983	4.3%
Oceania	973	4.2%
China	15,317	66.6%

From : CRU



# 3 、 The Brief Introduction to CSCC

---

## 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 expectantly completes until the second quarter 2012 .



### 3 、 The Brief Introduction to CSCC

---

#### 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: June 13, 2012



### 3 、 The Brief Introduction to CSCC

#### Financial Review

Unit: NT\$ hundred millions

	2007	2008	2009	2010	2011
Capital stock	22.34	23.69	23.69	23.69	23.69
Revenue	50.64	75.41	48.74	80.39	89.15
After-tax revenue	14.51	14.44	12.98	19.14	22.47
Earning Per Share (per stock)	6.69	6.28	5.64	8.32	9.76



### 3 、 The Brief Introduction to CSCC

---

✚ Table of academic degree in CSCC's employees

Academic Degree	Number	Percentage
Doctor Degree	2	1%
Master Degree	27	19%
Bachelor Degree	52	36%
Junior college and Senior high school	63	44%
Total	144	100%

As of : June 13, 2012



### 3 、 The Brief Introduction to CSCC

unit : metric tons

period	Jan.~ Dec. 2010	Jan.~ Dec. 2011	Jan.-May 2012
Throughput of Coal Tar	204,800	213,284	80,718
Throughput of Light Oil	80,013	80,921	33,638





### 3 、 The Brief Introduction to CSCC

---

Period \	Jan.~ Dec. 2010	Jan.~ Dec. 2011	Jan.-May 2012
Revenue (thousand)	8,039,367	8,915,116	3,757,707
Earning (thousand)	1,914,346	2,246,795	860,378
EPS (NT\$)	8.32	9.76	3.74



## 4、The Industrial Use for CSCC

---

✚ Soft Pitch.....P15

✚ Naphthalene ..... P16

✚ Creosote Oil ..... P17

✚ Beneze..... P18

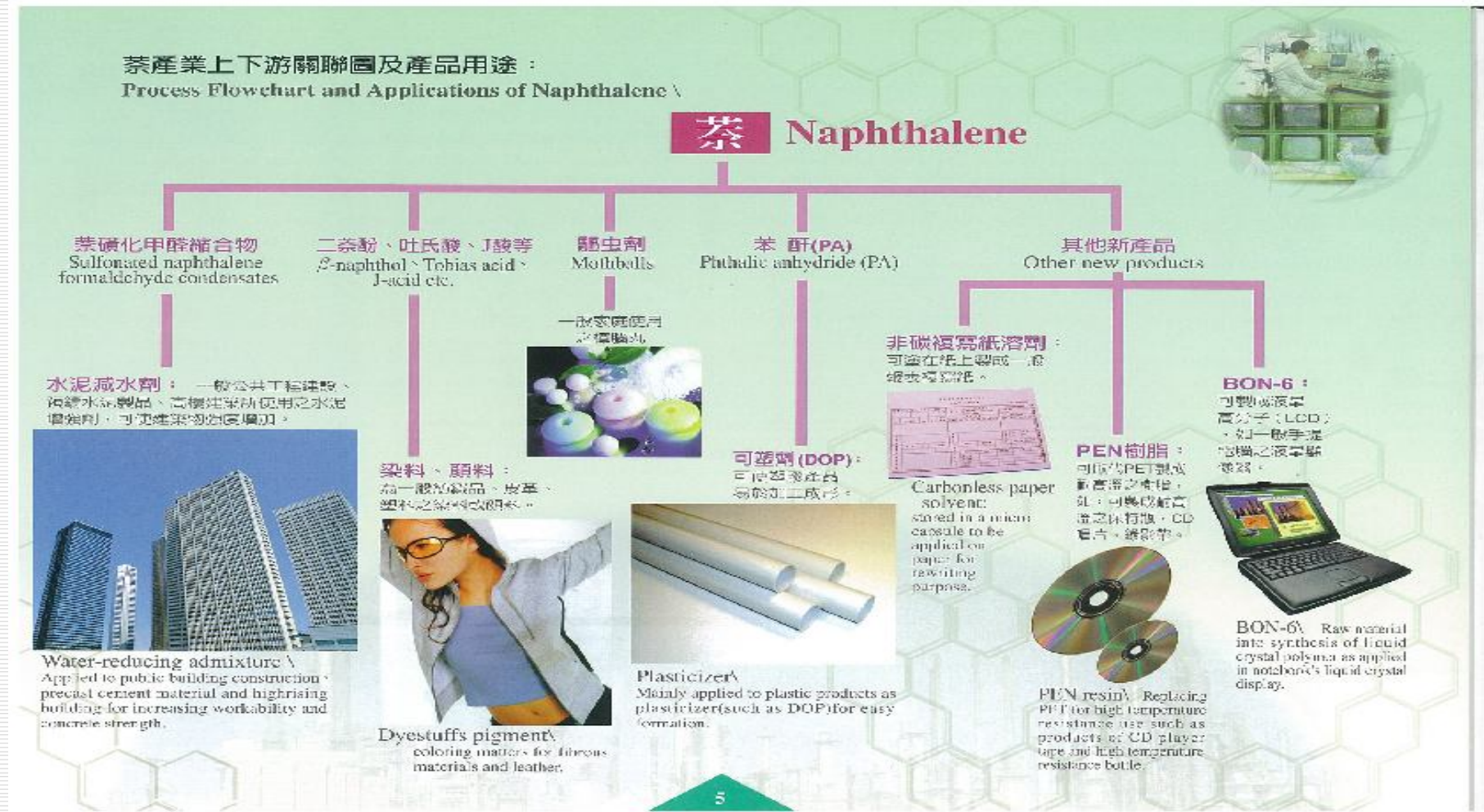
✚ Toluene ..... P19



# Process Flowchart and Application of Soft Pitch



# # Process Flowchart and Application of Naphthalene

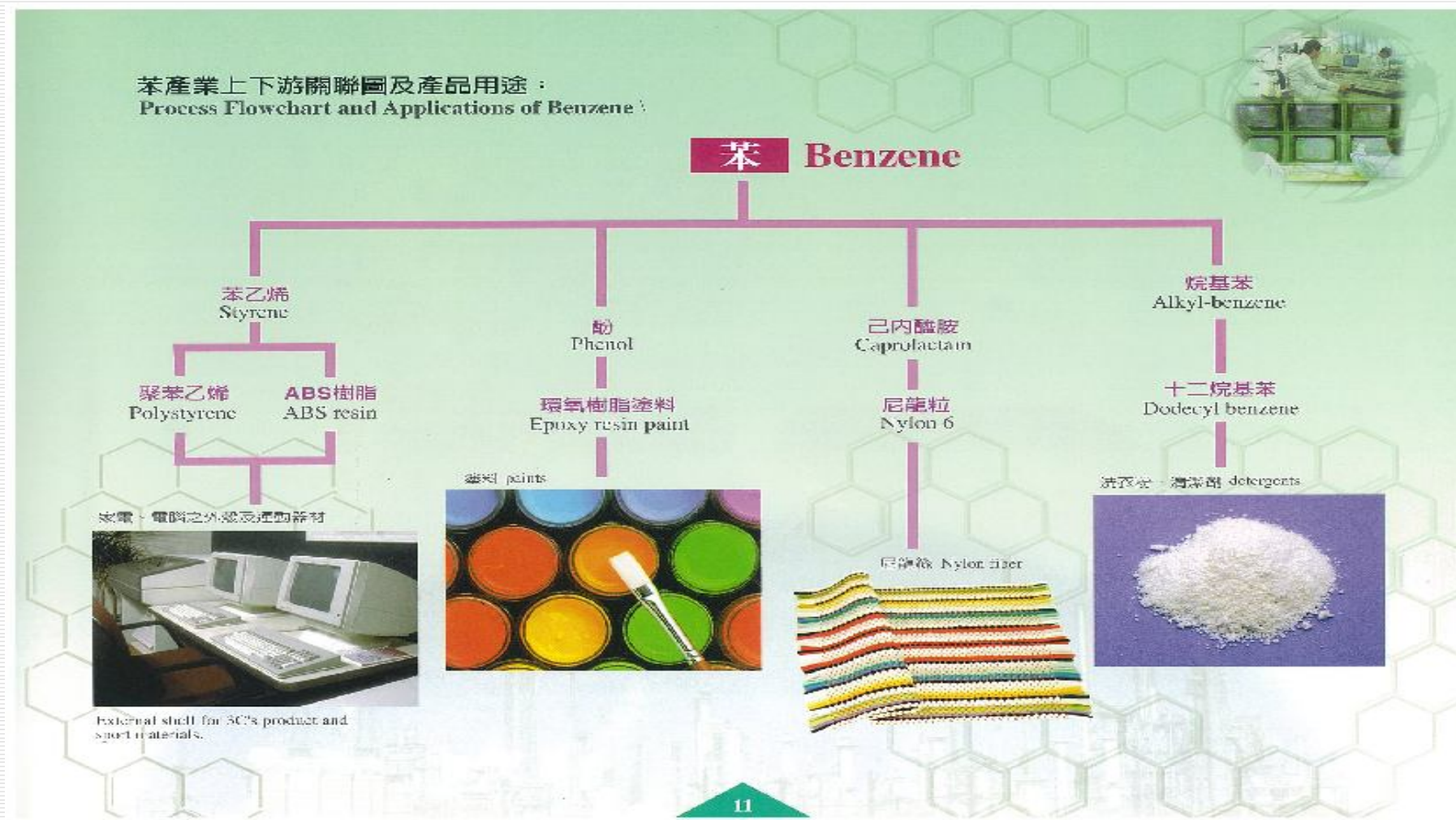




# Process Flowchart and Application of Creosote Oils

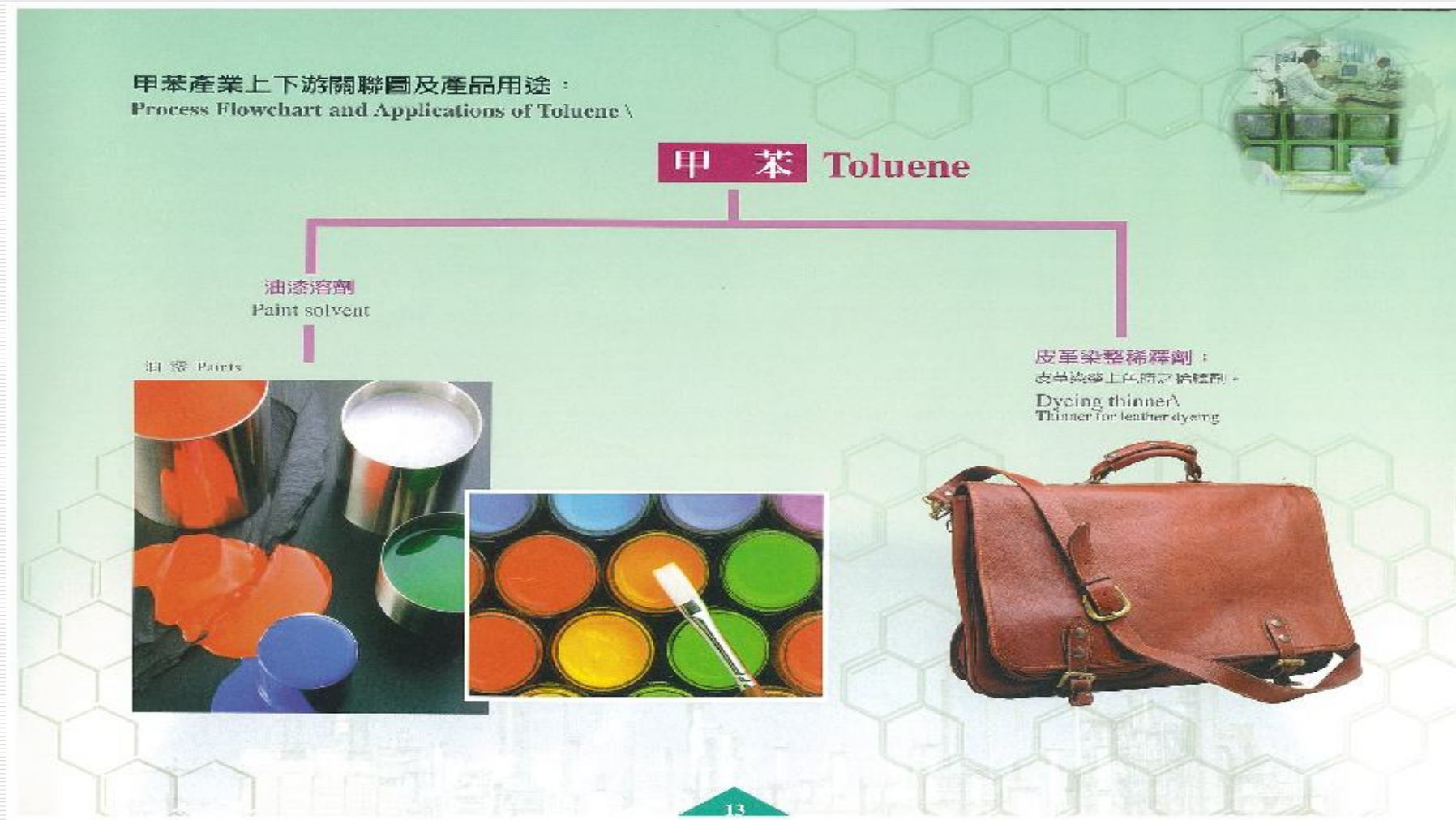


# Process Flowchart and Application of Benzene





# Process Flowchart and Application of Toluene



## 5 、 New Products Development

---

- ✚ **High Softening-Point Pitch (HSP)** is applied as coating substance on 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.

A pilot-scale plant is ready to run in July, and samples will be offered to related customers.





## 5 、 New Products Development

---

- ✚ **The pitch-based activated carbon** with ultra high surface area is applied as raw materials for supercapacitors -- electron double-layer capacitors (EDLC), which are used in energy storage and backup power supplies to support 3C products and electric vehicles.

The small number of lab samples has been certified by end users and the pilot factory has been running smoothly, making products meet specifications. The pilot samples are going to be sent to end users for testing.





---

# Thank You

