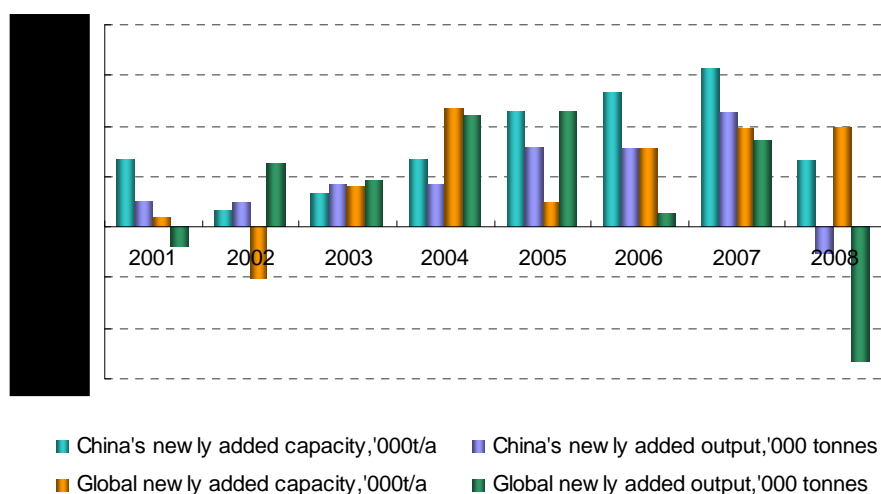


I Overview of global PVC industry

Figure I-4 Newly-added PVC capacity and output in China and the world, 2001~2008



Source: CCM International

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II Governmental regulations on PVC industry in China

II-1 Industrial policy

➤ Policies on electricity price

Table II-1-2 Electricity price policy on high energy-consuming industry in China

Item	Eliminated	Restricted
Price extra addition, Oct-1, 2006 ~ Oct-1, 2007	USD [redacted]/kWh(RMB [redacted])	USD [redacted]/kWh(RMB [redacted])
Price extra addition, Oct-1, 2007 ~ Oct-1, 2008	USD [redacted]/kWh(RMB [redacted])	USD [redacted]/kWh(RMB [redacted])
Price extra addition, Oct-1, 2008 ~	USD [redacted]/kWh(RMB [redacted])	USD [redacted]/kWh(RMB [redacted])

Source: CCM International

Note: Price extra addition means the increase on basis price for high energy-consuming industry

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III-2 PVC production

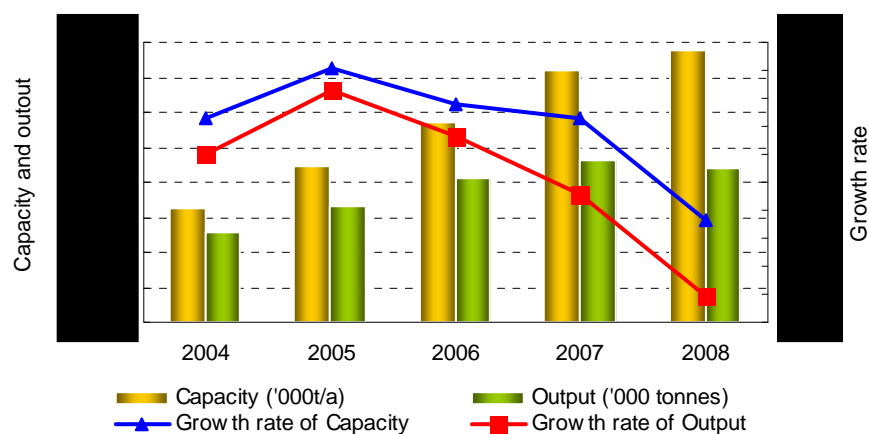
III-2-1 History of PVC production (2004~2009)

PVC, a thermoplastic resin, is the second largest synthetic resin, just next to PE, constituting about [redacted]% of global synthetic resin consumption.

China began to produce PVC in 1958 with only [redacted]t/a capacity. Homemade PVC was mainly used to satisfy domestic demand at that time.

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Figure III-2-1-1 PVC production situation in China, 2004~2008



Source: CCM International

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Table III-2-1-1 Calcium carbide method and ethylene method in China

Item	Calcium carbide method	Ethylene method
Capacity '08, t/a	[Redacted]	[Redacted]
Output '08, tonne	[Redacted]	[Redacted]
Operating rate '08	[Redacted]	[Redacted]
Year of invention	[Redacted]	[Redacted]
Used in China	[Redacted]	[Redacted]
Raw material supply	[Redacted]	[Redacted]
Advantages	[Redacted]	[Redacted]
Disadvantages	[Redacted]	[Redacted]
Distribution	[Redacted]	[Redacted]

Source: CCM International

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Table III-2-1-2 PVC production situation by raw material in China, 2006~2009

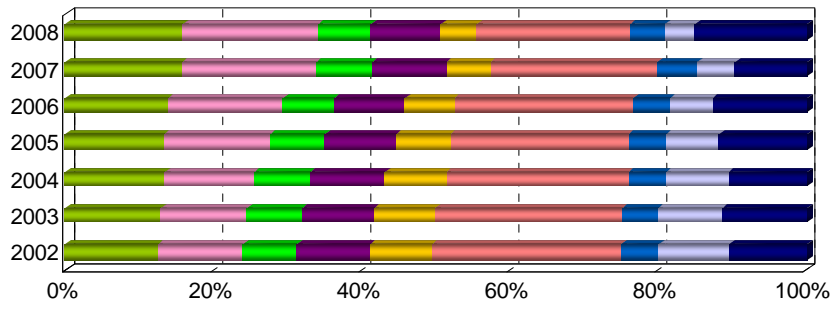
Raw material	Capacity (t/a)				Output (tonne)			Operating rate		
	2009	2008	2007	2006	2008	2007	2006	2008	2007	2006
Calcium carbide	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Ethylene	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Total	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

Source: CCM International

Source: CCM International

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III-3 PVC demand
III-3-1 History of PVC consumption (2004~2009)

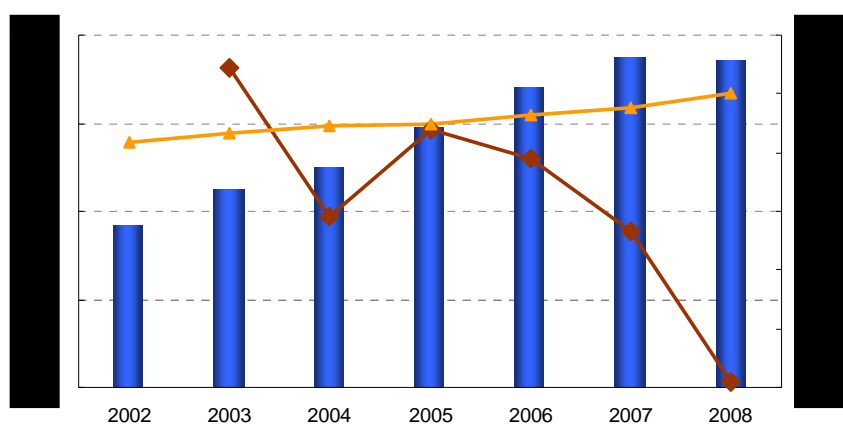
Figure III-3-1-4 Consumption structure of PVC products in China, 2002~2008



Source: CCM International

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- PVC pipe

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 Figure III-3-1-6 PVC consumption situation in pipes in China, 2002~2008



Source: CCM International

PVC consumption in plastic pipes, the major PVC application field, has increased with CAGR

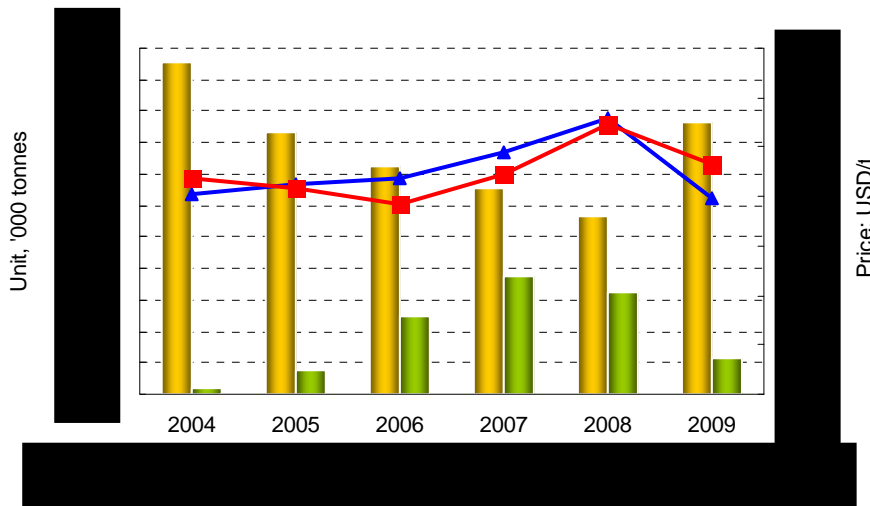
of [redacted] % in 2002~2008, reaching [redacted] tonnes in China in 2008. The content of PVC resin is around [redacted] %~[redacted] % in PVC pipes by quantity. Almost all PVC pipes are made from PVC resin and only some producers with small production scale use PVC compound as raw material in order to reduce investment in equipment.

III-4 Market analysis of PVC

III-4-1 Trade analysis in past 5 years

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Figure III-4-1-1 PVC import and export in China, 2004~2009

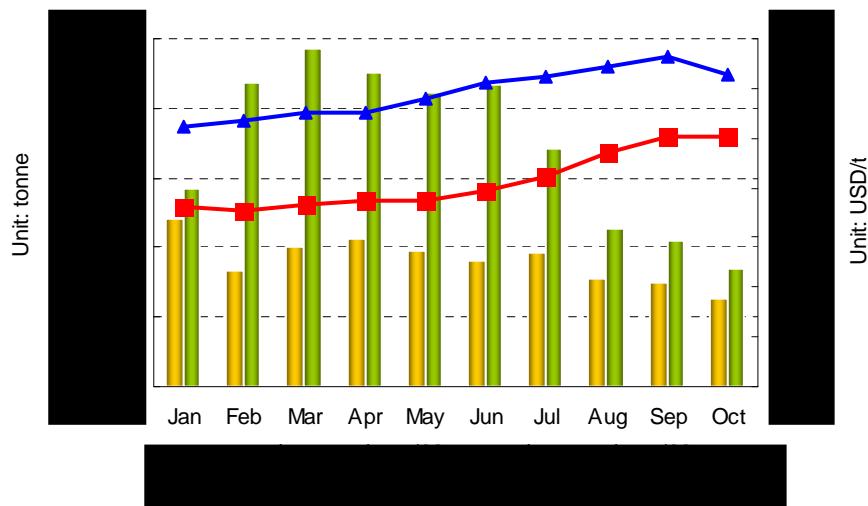


Source: CCM International

Note: Data for 2009 is calculated to Oct. 2009

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Figure III-4-1-5 PVC import in China, Jan. ~ Oct., 2008 & 2009



Source: CCM International

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Table III-4-1-3 China's PVC export destinations, Jan. ~ Oct. 2009

No.	Country or region	Volume (kg)	Value (USD)	Price (USD/kg)
1	Russia			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27	Bengal			
	Others			
	Total			

Source: CCM International

III-4-4 Market by end use segment

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Table III-4-4-1 Consumption situation of PVC in major end-use segments in China

End-use segment	Major PVC products	CAGR 02~08	Influencing factors for PVC consumption	
			Drivers	Barriers
Automobile				
Medical				
Construction				
Packaging				

Source: CCM International

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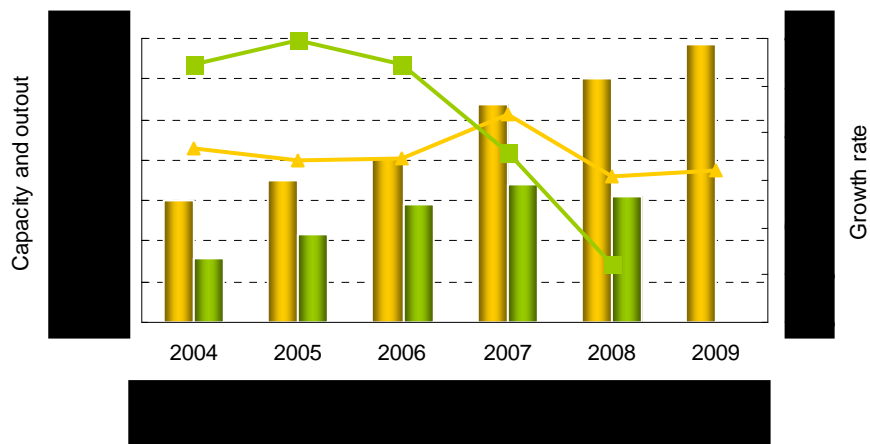
IV PVC by calcium carbide method in China

IV-1 Production, by company

➤ History of PVC production by calcium carbide method (2004~2009)

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Figure IV-1-1 PVC production by calcium carbide method in China, 2004~2009



Source: CCM International

➤ **Forecast on PVC production by calcium carbide method (2009~2019)**

✓ **Development trend**

Table IV-1-2 Factors influencing calcium carbide-based PVC production in China

General trends		
Technology drivers		
Other drivers or barriers		

Source: CCM International

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IV-5 Cost analysis of PVC

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Table IV-5-1-2 Estimated profit of PVC by calcium carbide method in China, Nov. 2009

Item	Unit consumption (t/t)	Price (USD/t)	Cost (USD)
Calcium carbide			
Chlorine			
Raw material cost			
Manufacturing cost			
Production cost			
FOB price			
Gross profit			
Gross profit rate			

Source: CCM International

Production cost of PVC manufacturers that can also produce calcium carbide and generate electricity is much lower than that of those who only produce PVC. Some domestic PVC manufacturers