

**58th National AARES Conference
ANU Crawford School**

Design features of Hubei ETS pilot in China's context

Prof. Shaozhou Qi

**Climate Change, Energy and Environment Study Centre
European Study Centre
Wuhan University, China**

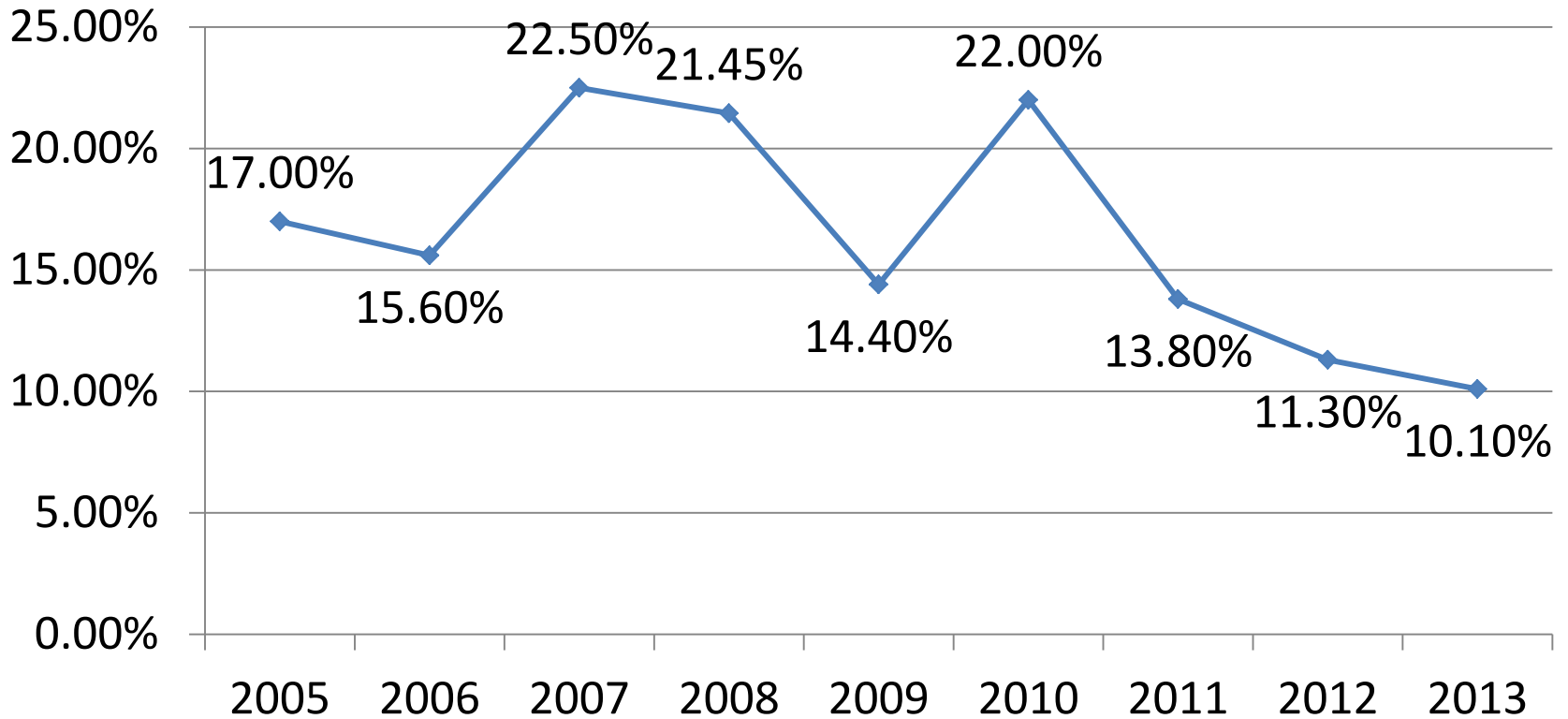
cneus@126.com

Background of Hubei ETS

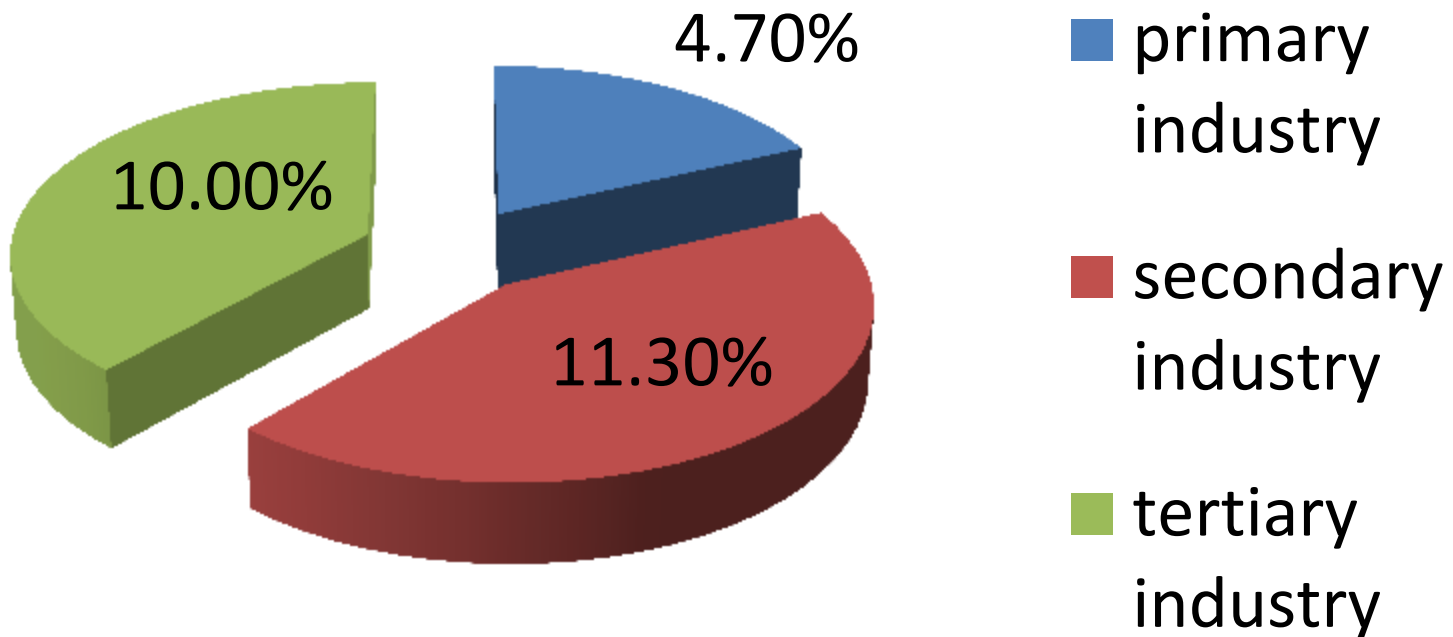
- ◆ The sole ETS pilot from Central China
- ◆ High GDP Growth rate(10.1% in 2013)
- ◆ High investment growth rate(81.79% of GDP in 2013)
- ◆ Heavy & Chemical industry structure
- ◆ Large difference among regions
- ◆ Hubei in China like the epitome of China in the world
- ◆ Hubei ETS succeeds, China ETS succeeds

GDP growth rate of Hubei in 2013

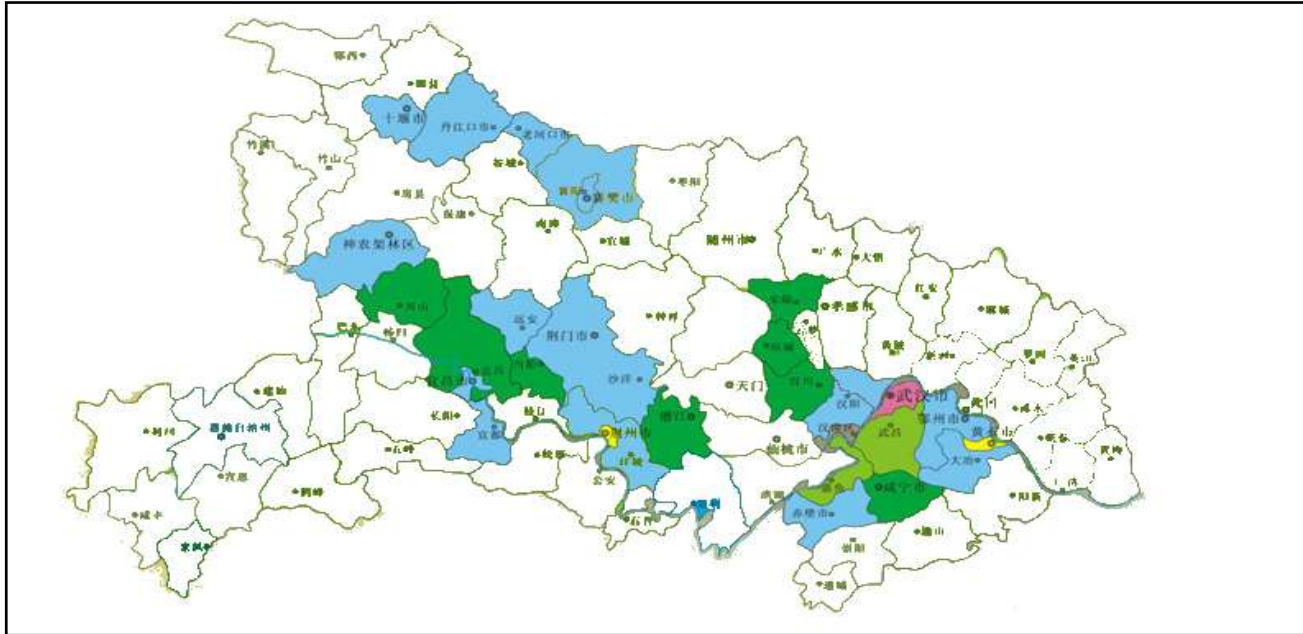
GDP growth rate



Industry growth rate of Hubei in 2013

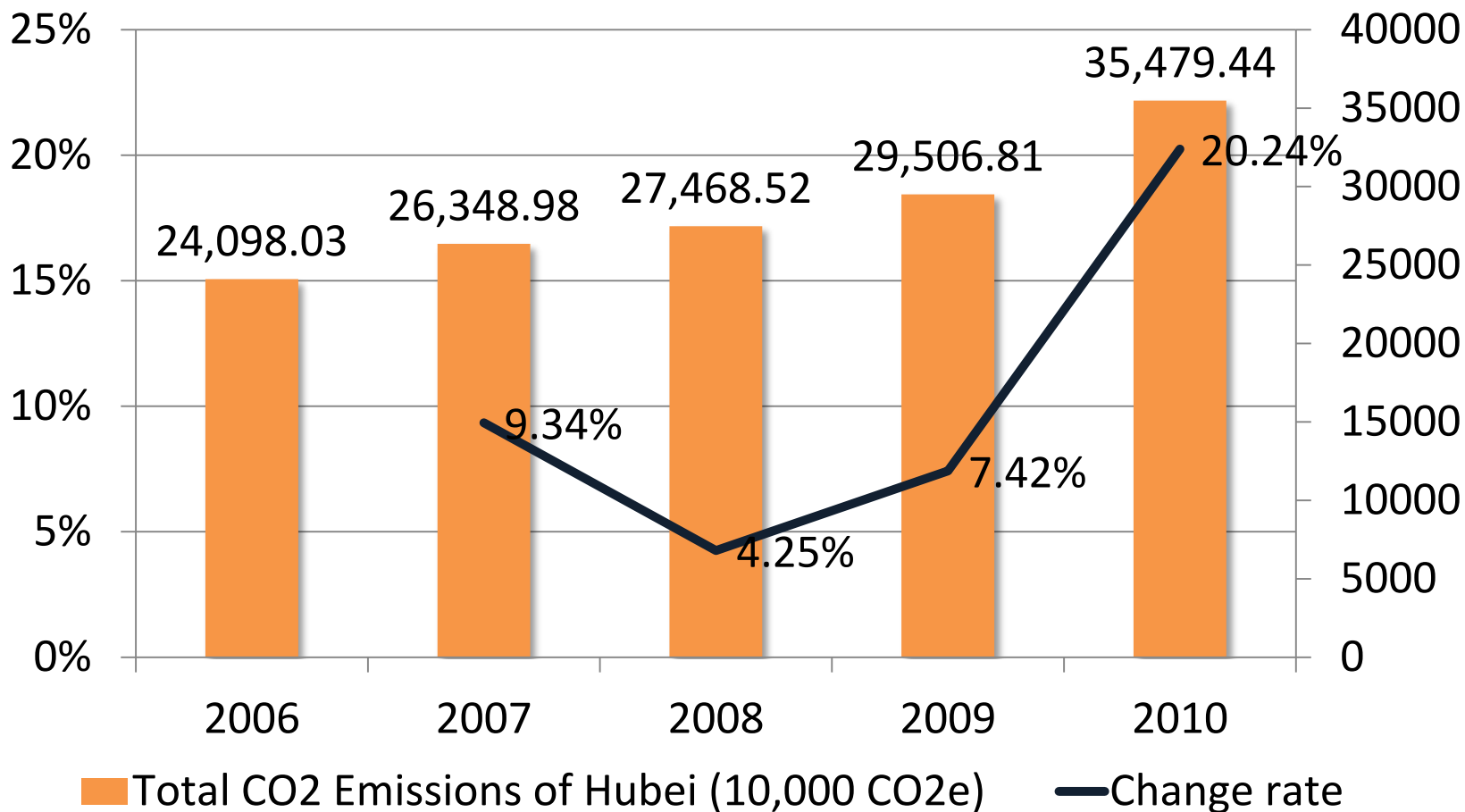


Industry distribution and difference among regions in Hubei



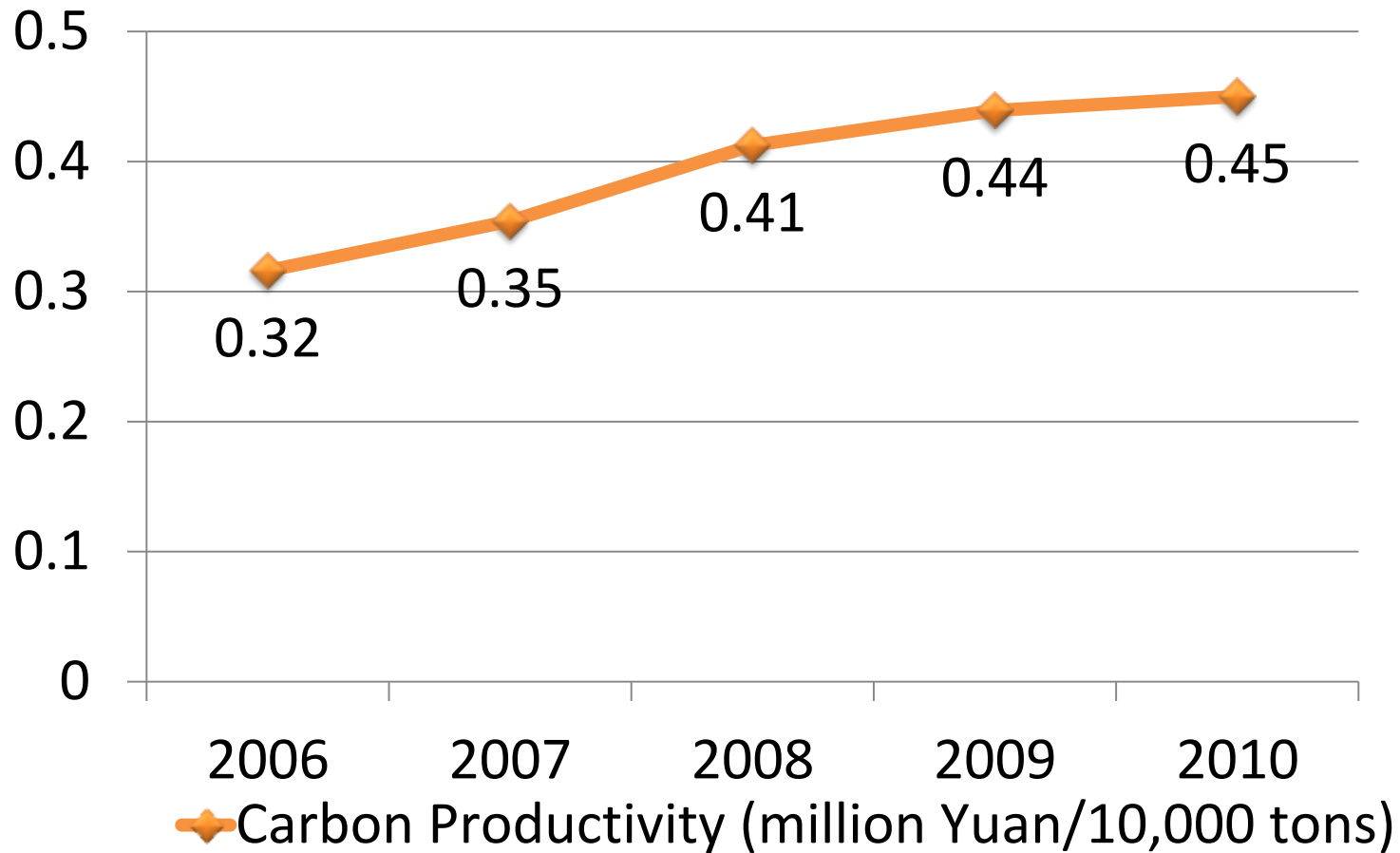
- Yellow area: : secondary industry is more than 70%
- Blue area: secondary industry is more than 60%
- Deep green area: secondary industry is more than 50%
- Aqua area: secondary industry is more than 40%
- Pink area: tertiary industry is larger than secondary industry but the secondary industry is still more than 40%,

CO₂ Emissions and Change Rate in Hubei (2006 – 2010)



Carbon Productivity Change Rate (2006 – 2010)

Unit: 100 million RMB/10000 tons



**What's the design features of
Hubei ETS?**

**What's the significance of
Hubei ETS for China's ETS?**

Feature 1:

Try to balance the growth space and the emission reduction in CAP

- ◆ Middle growth rate +low carbon scenario
(11% in 12th FYP and 10% in 13th FYP)
- ◆ 2014-2015 whole province emission:
 - ◆ 7.31 and 7.93 (100 million ton CO₂)
 - ◆ 3.24 and 3.54 (100 million ton CO₂) covered by ETS
 - ◆ 44.32% and 44.64%

Feature 2:

Rigid CAP and Flexible structure

◆ Rigid CAP

- ◆ Incumbents emission is fixed on the 97% of 2010

◆ Flexible structure

- ◆ Existing firm (**fixed**)
- ◆ New entrants(**Flexible**)
- ◆ Government reserve (**Flexible**)

Feature 3:

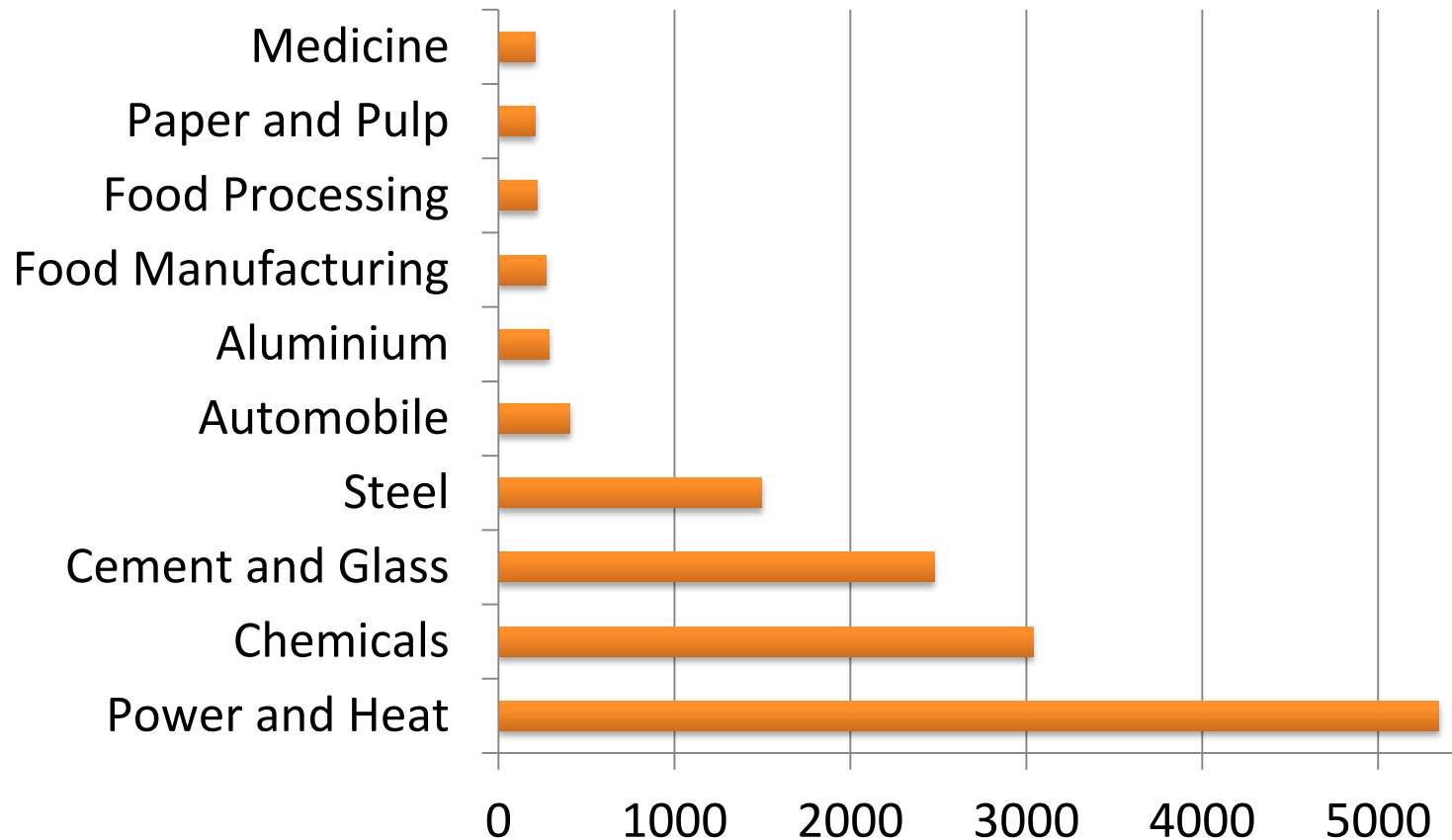
Focus on the major enterprises

- ◆ **60,000** ton of standard coal equivalent based on any year of 2009-2011
- ◆ 138 enterprises covered by Hubei ETS
- ◆ The third largest ETS in the world

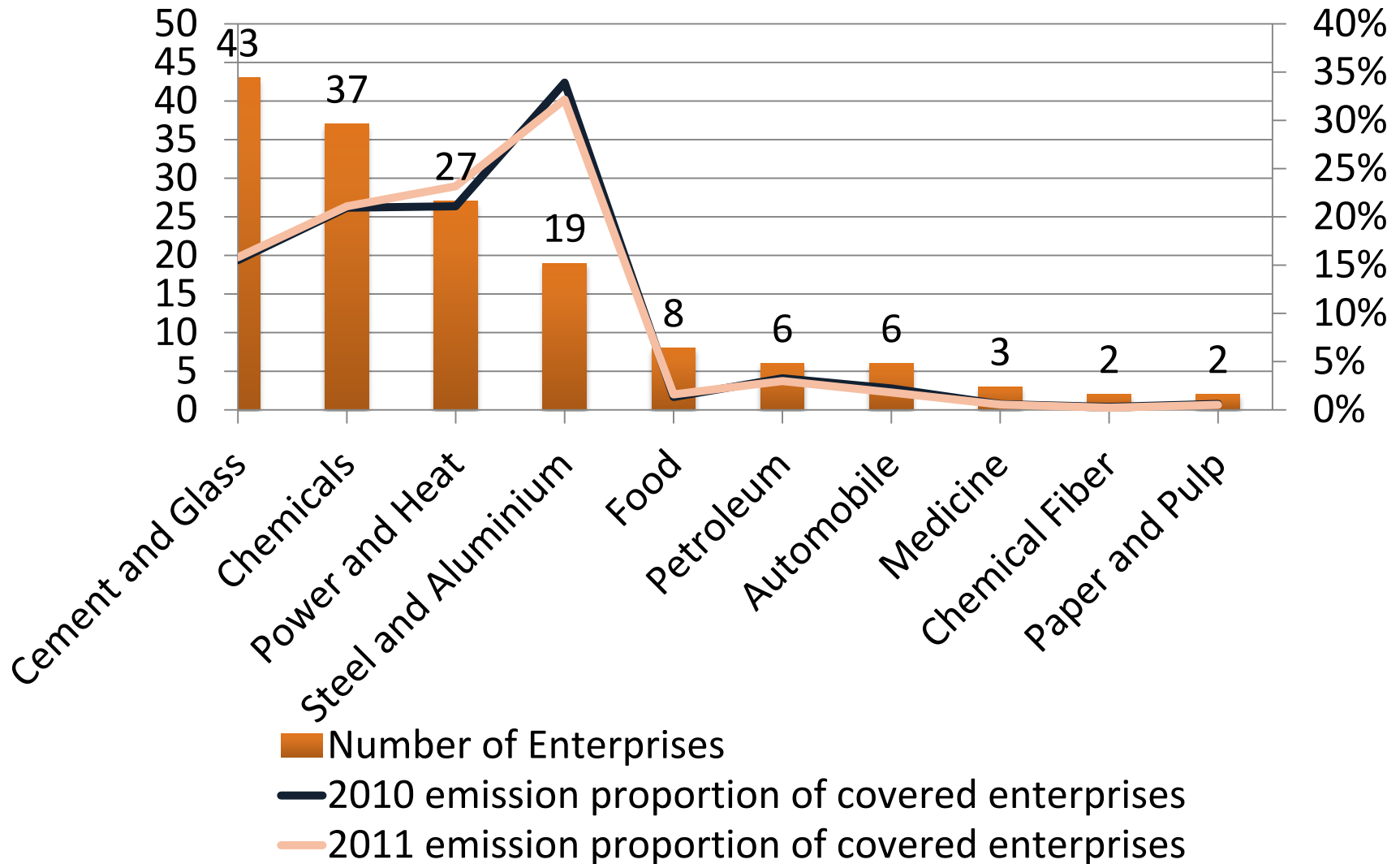
Feature 4: Diversification of Covered sectors and differentiation of MAC

- ◆ Different industry sectors
- ◆ Different regions
- ◆ Different MAC

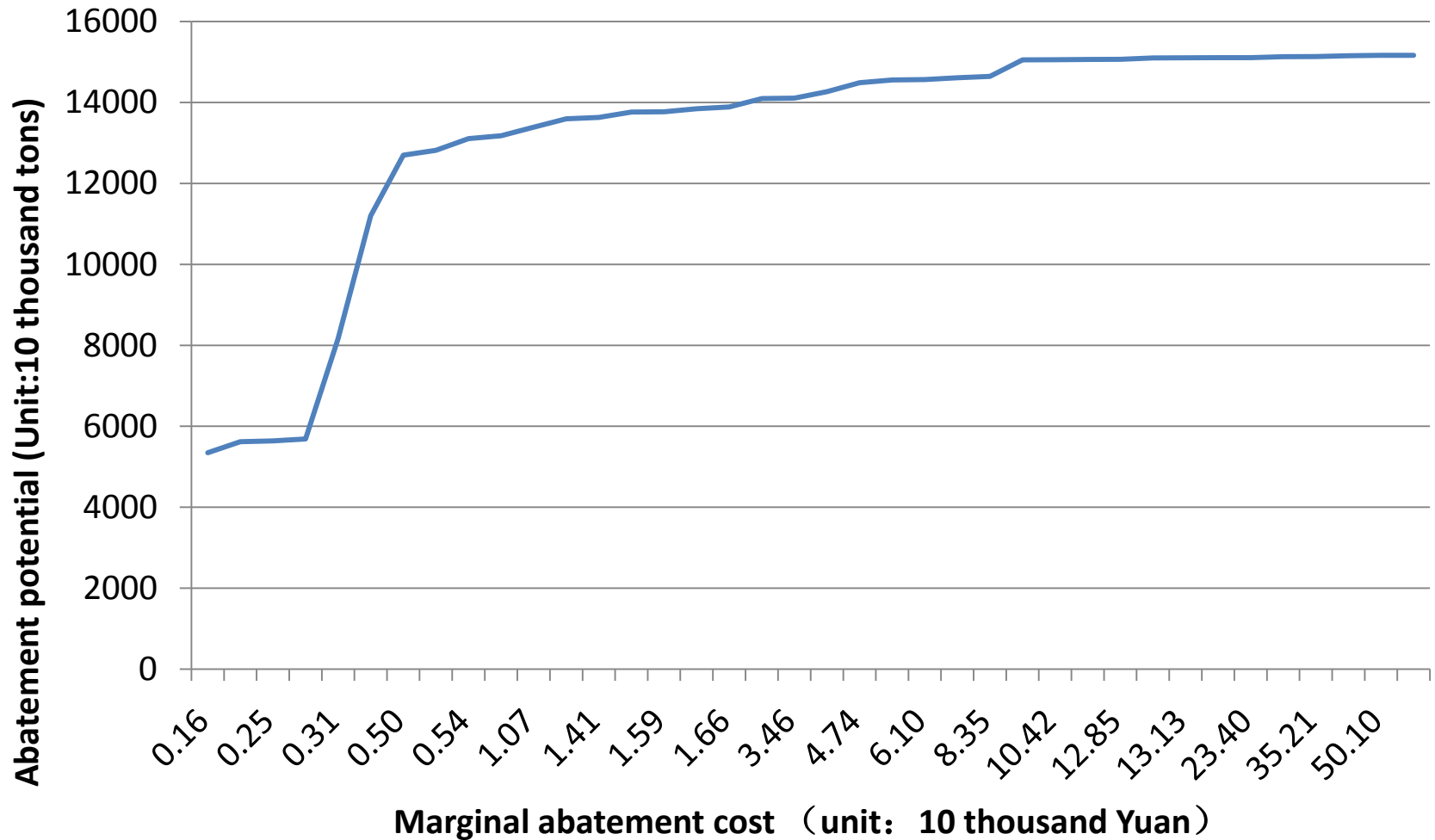
Top Ten CO₂ Emission Industries in 2011 in Hubei (Units: 10,000 tons)



Covered Industries and Its Emission Proportion



Marginal abatement cost and potential



Feature 5: strict offset mechanism

- ◆ 10% CCER to offset
 - ◆ Come from Hubei
 - ◆ Outside the emission boundary
- ◆ CCER to trade
 - ◆ Come from whole China

Feature 6: Initial Carbon Verification

- ◆ Covered enterprises verification one by one
- ◆ Confirm emission boundary
- ◆ Confirm emission data
- ◆ Training and wash brain

Feature 7: Price mechanism

- ◆ Demand and supply decide basically
 - ◆ Institute and **individual** investors can trade
- ◆ Price discovery mechanism
 - ◆ 3% allowance auction
- ◆ Price stability mechanism
 - ◆ Open market operation by government reserve
 - ◆ Post-adjust the structure and amount of the reserve allowance

Feature 8: High cost of default

◆ Double deduction

- ◆ The allocation of allowance in next year will be double deducted based on the balance between the implementation and actual emission

◆ Half allocation

- ◆ The allocation of allowance just be half for enterprises to provide false data or impede MRV

Thank You