

Long Term Pricing Mechanism for Implementing Coal Cap Policy by Resources and Environmental Taxation

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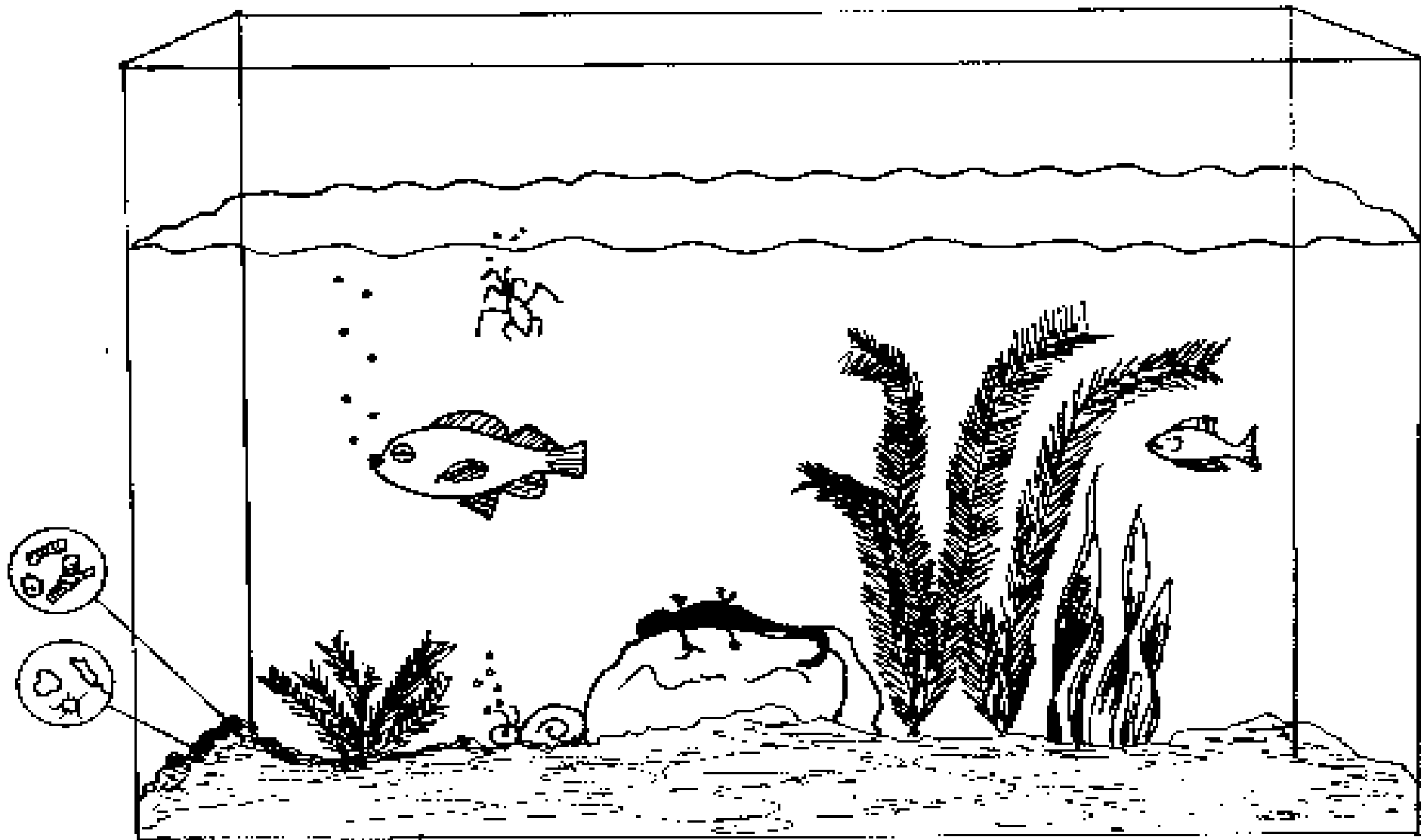
November 24, 2014, WWC

Before/After - APEC Blue



How to cap coal?

Management of Aquarium



Fish food chain



Adjusting the temperature of aquarium



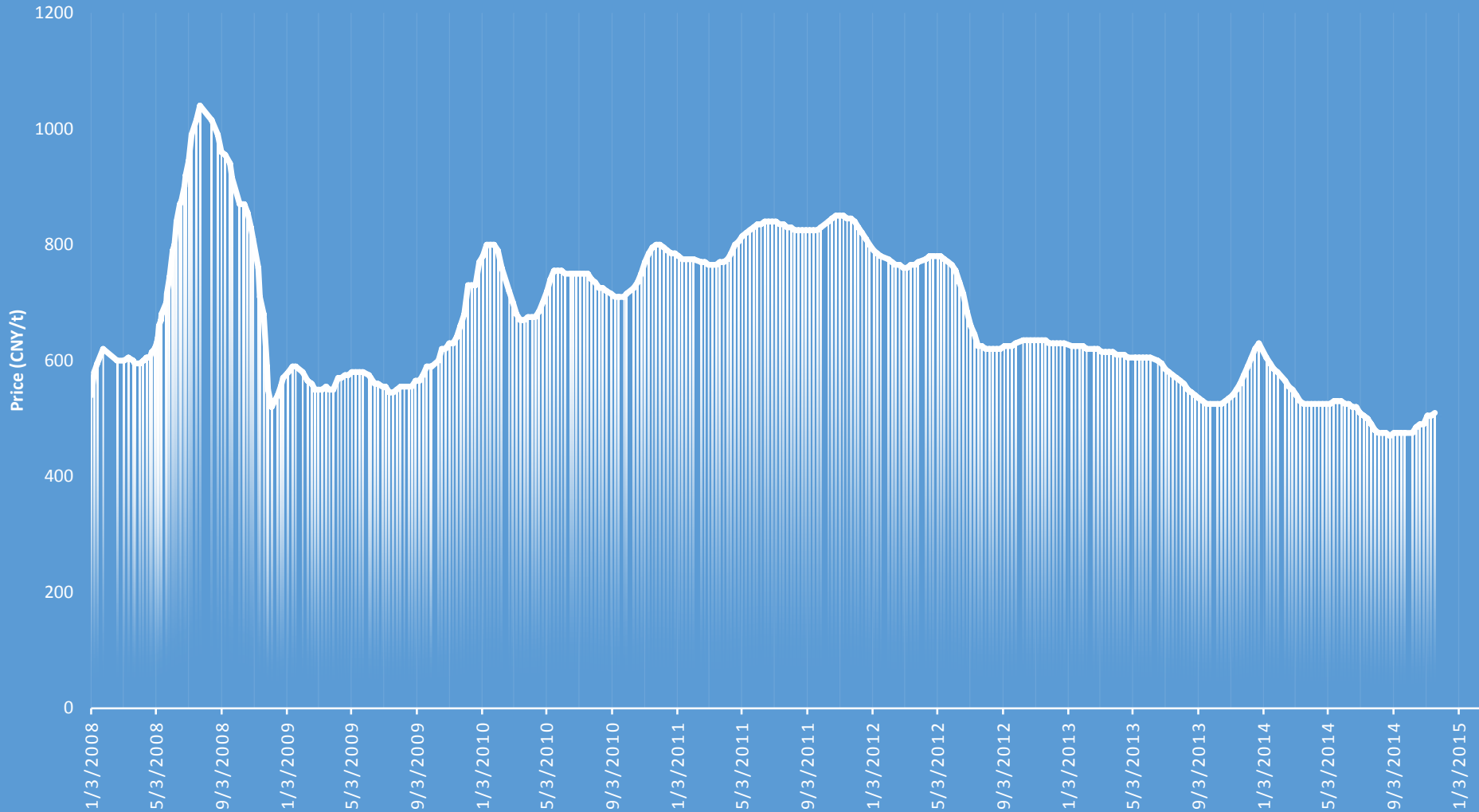
Adjusting the temperature of aquarium



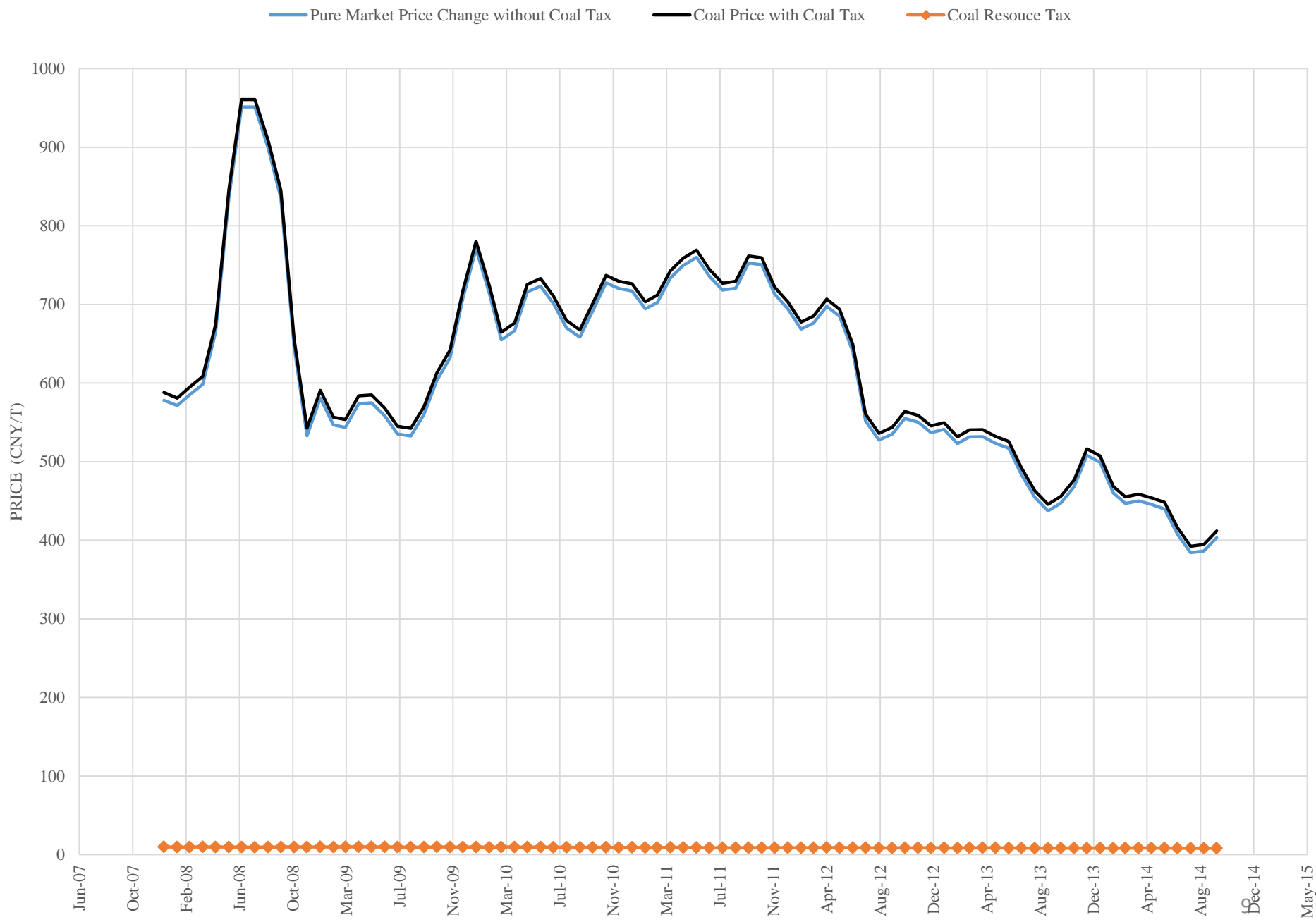
Coal price: BSPI

(Bohai-Rim Steam-Coal Price Index)

BSPI CURVE
(NOMINAL PRICE, 2008-2014)



BSPI PRICE CURVE (ADJUSTED BY INFLATION RATE)



Low coal price Vs. Coal Cap Regulations

A story of my friend at a coal fired power plant



Proposal of Resources and Environmental Tax (RET) Reform

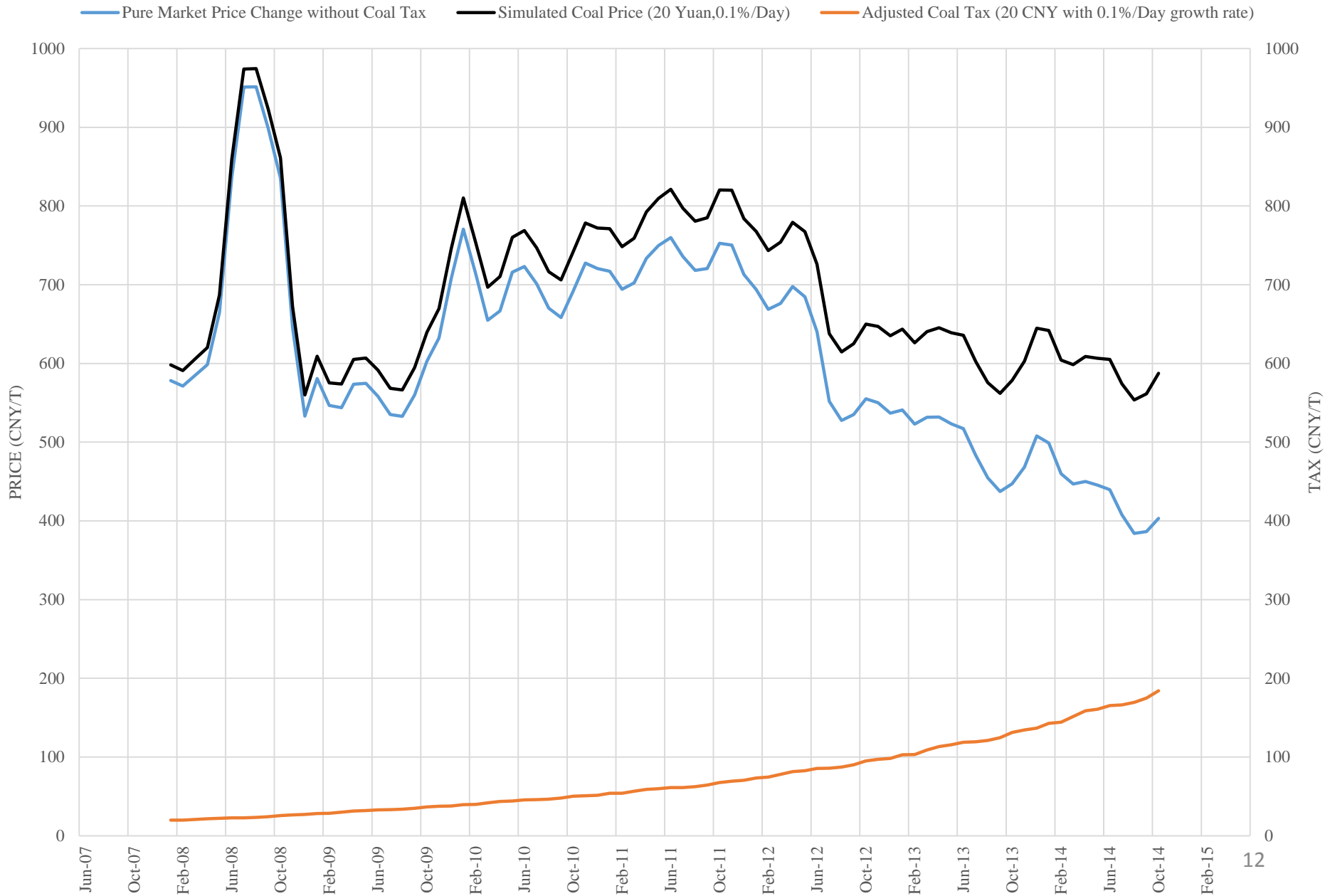
Principle

- **Tax resources and environmental pollutants for internalizing external costs**
 - **from resources origin**
 - **by gradually escalated way**



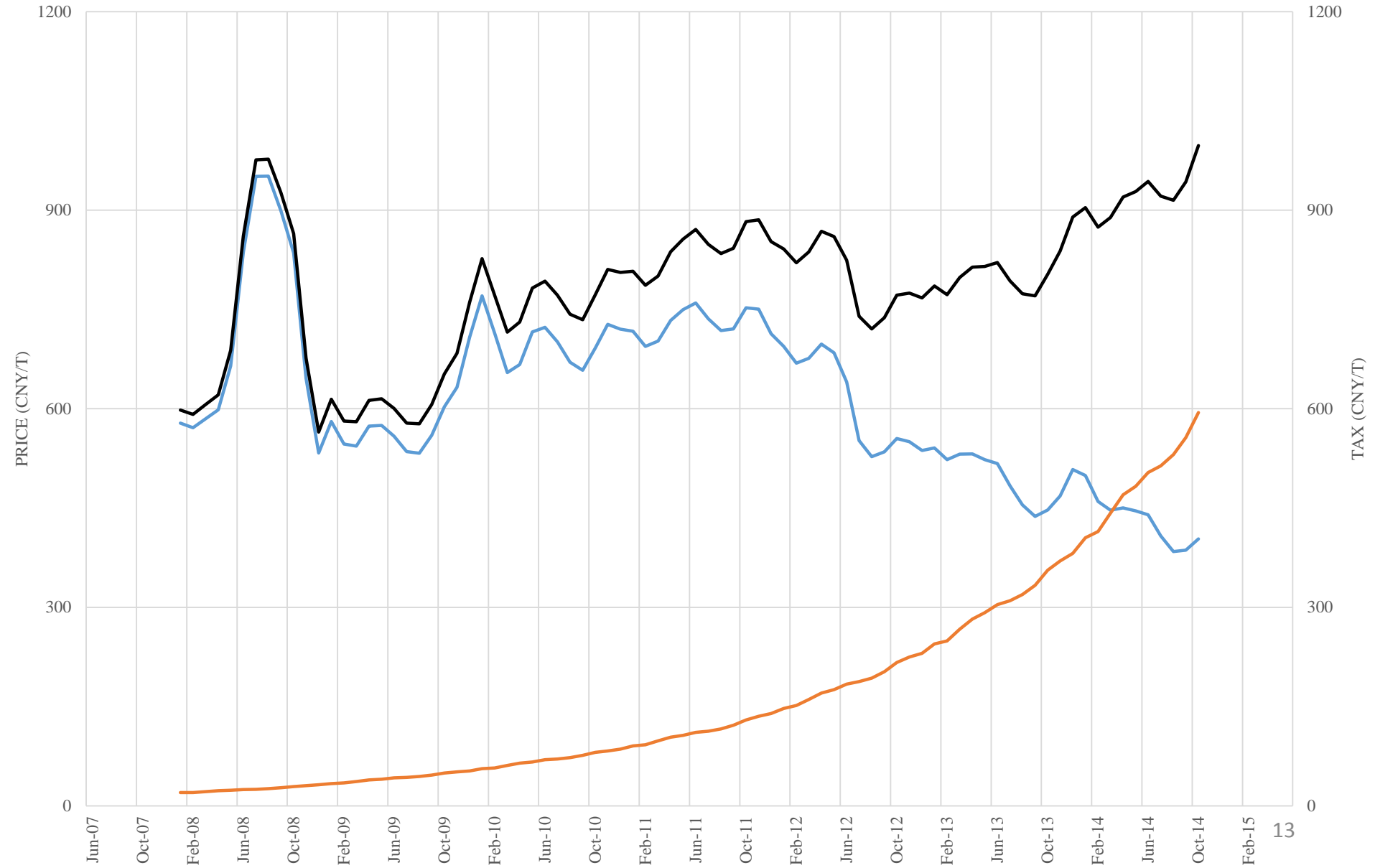
Simulated Coal Price Curve based on Tax Refrom

(from 20 CNY with 0.1%/Day growth rate)



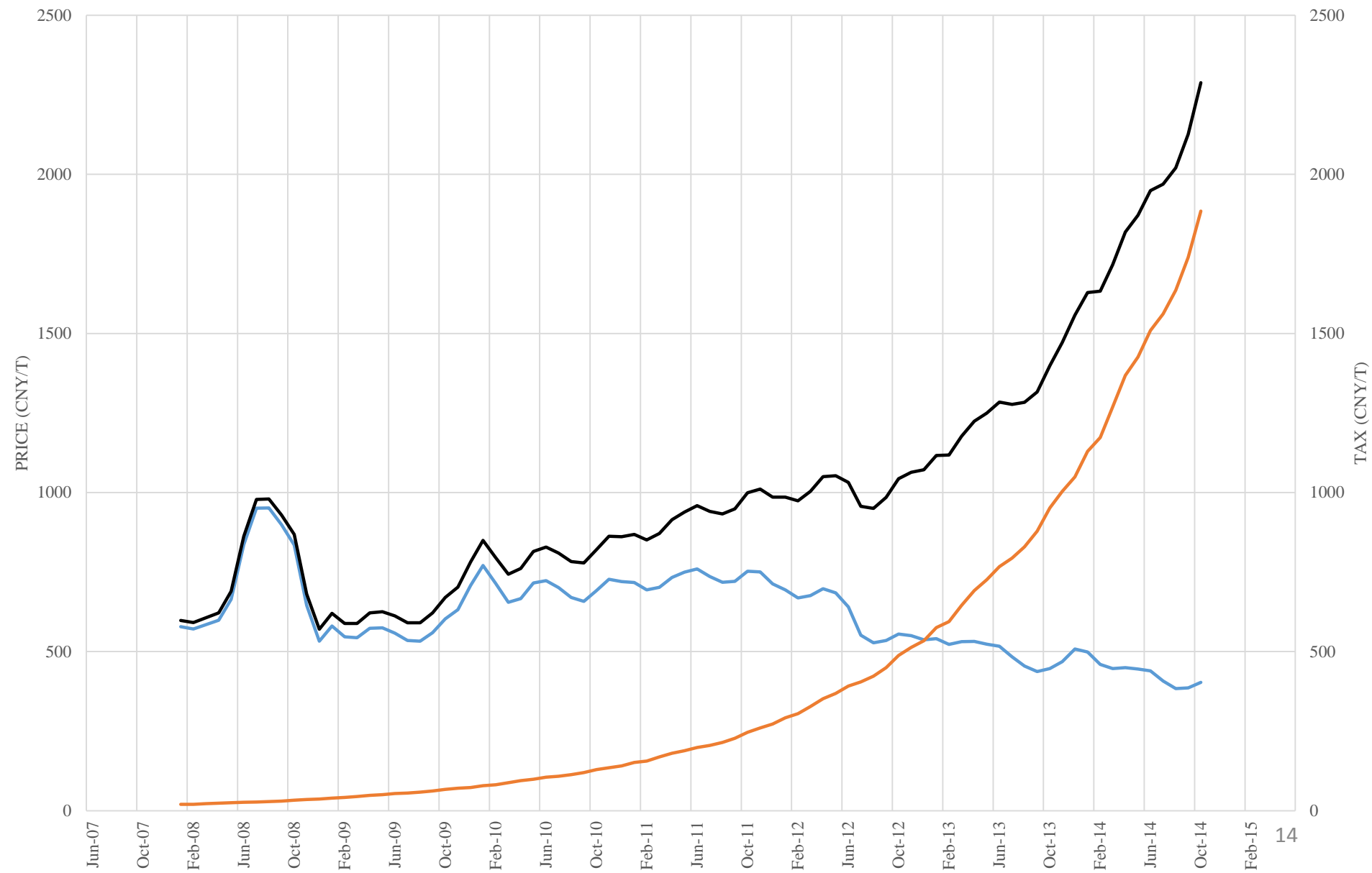
Simulated Coal Price Curve based on Tax Refrom (from 20 CNY with 0.15%/Day growth rate)

Pure Market Price Change without Coal Tax Simulated Coal Price (20 Yuan, 0.15%/Day) Adjusted Coal Tax (20, 0.15%/day)



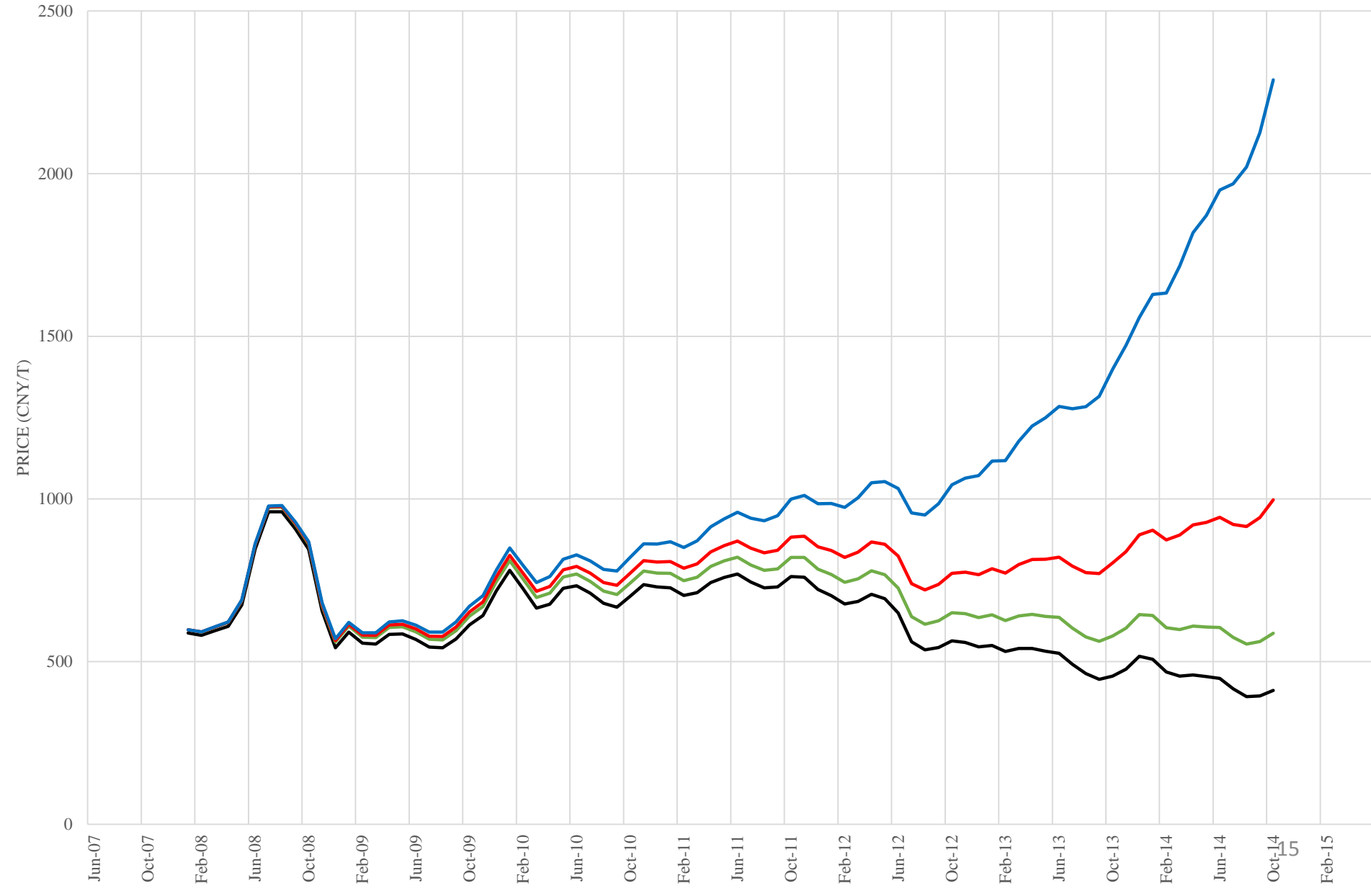
Simulated Coal Price Curve based on Tax Refrom (from 20 CNY with 0.2%/Day growth rate)

Pure Market Price Change without Coal Tax Simulated Coal Price (20 CNY, 0.2%/Day) Adjusted Tax (20 CNY, 0.2%/Day)



Three scenarios with different tax reform

- Coal Price with current Coal Tax
- Simulated Coal Price (20 Yuan, 0.1%/Day)
- Simulated Coal Price (20 Yuan, 0.15%/Day)
- Simulated Coal Price (20 CNY, 0.2%/Day)



Simulated results

- By CGE model simulation
 - SO₂ and NO_x emissions elasticity of coal price is 0.2-0.4
 - Scenario 1: RET escalation rate 0.1%/Day
 - the first year tax rate is 1.44; the 5th year tax rate is 6.2; the 10th years is 38.4
 - Within 5 years, the coal price is about 12.4% increased by proposed RET and then emission would be reduced 2.5 – 5%
 - Within 10 years, the coal price is about 76.8% increased by proposed RET and then emission would be reduced 15 – 30%
 - Scenario 2: RET escalation rate 0.15%/Day
 - Scenario 3: RET escalation rate 0.2%/Day
 - With consideration of Behavioral Economic Effect, it would be much more significant

RET Reform Policy

- It's long term mechanism!
- It reduces both GHGs and air pollutants
- It reduces governmental administrative costs
- It improves efficiencies of economy
- It prevents spill effect from one place to another place

RET Reform Policy

- Proposed RET reform policy is necessary and feasible
- The RET reform policy meets Lkenomics 3 goals: growth stability, structure adjustment and reform promotion
- RET rate is a powerful tool as Central Bank's interest rate
- It's an approach to maximize environmental benefits by minimizing environmental costs of reform

Thank You!