

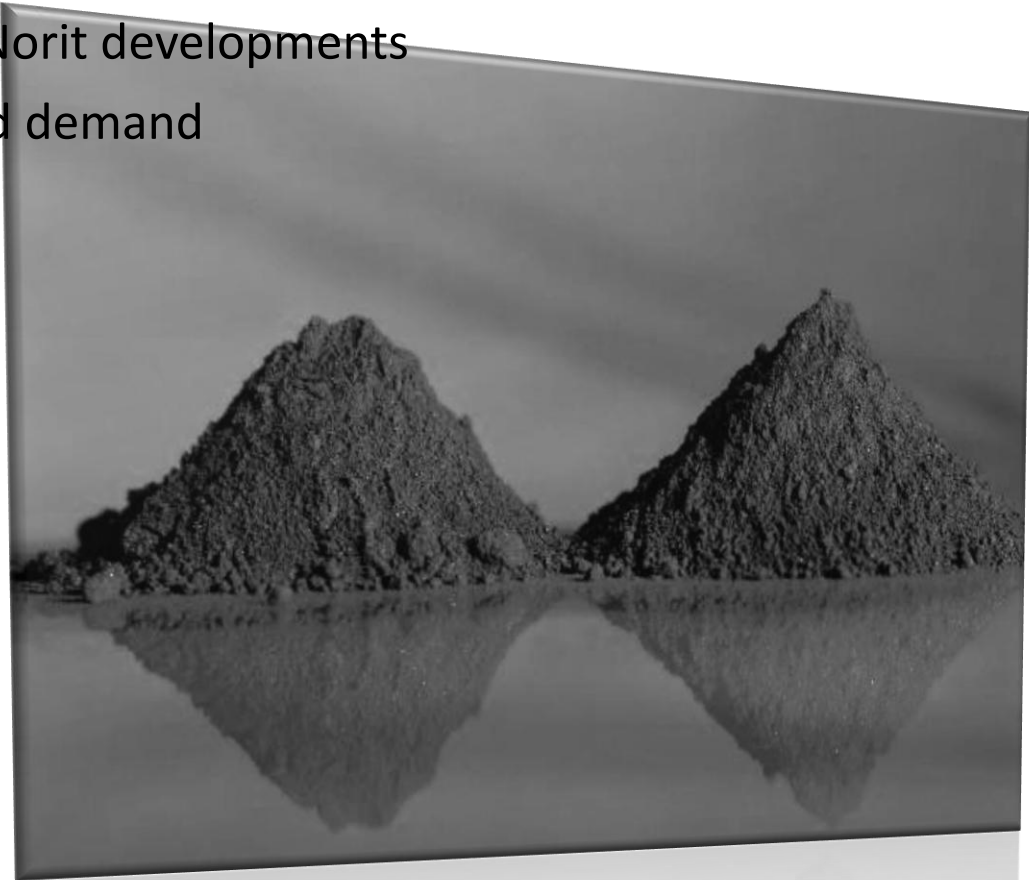


Hot Topic Hour 4/18/13

Mercury Control – Activated Carbon Update

Outline

- ◆ Cabot Norit Activated Carbon introduction
- ◆ Factors impacting the demand on activated carbon
- ◆ Latest testing on Cabot Norit developments
- ◆ Current view of activated demand
- ◆ Impact on suppliers

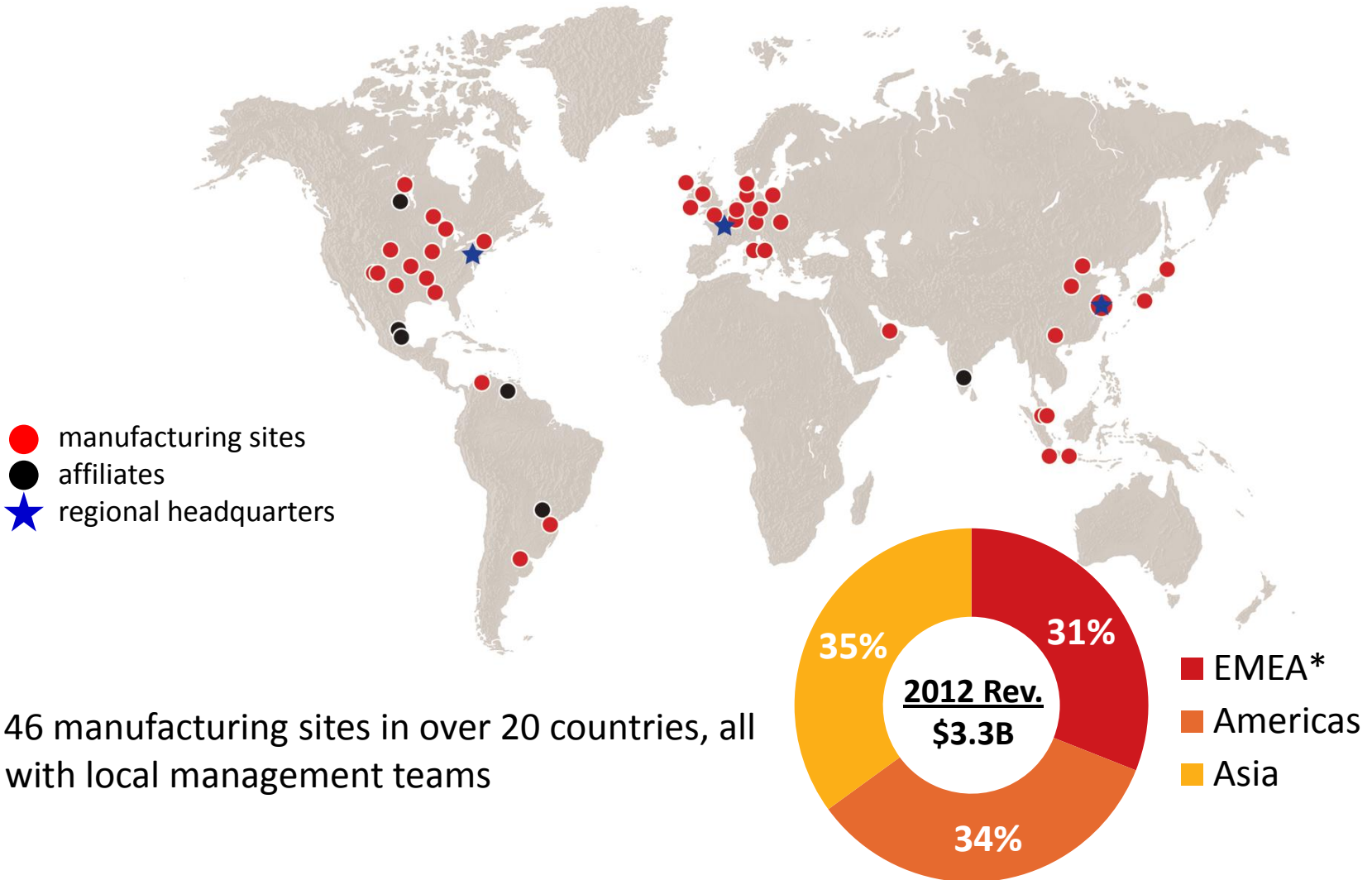


Cabot Norit Activated Carbon

- ◆ The world's largest producer of activated carbon products
- ◆ Manufacturing locations in Brazil, Canada, Italy, Mexico, the Netherlands, UK, and US
- ◆ Acquired by Cabot Corporation in 2012

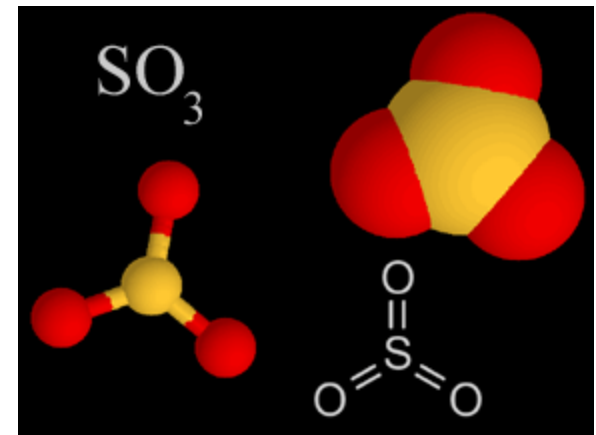


Cabot is Geographically Diversified

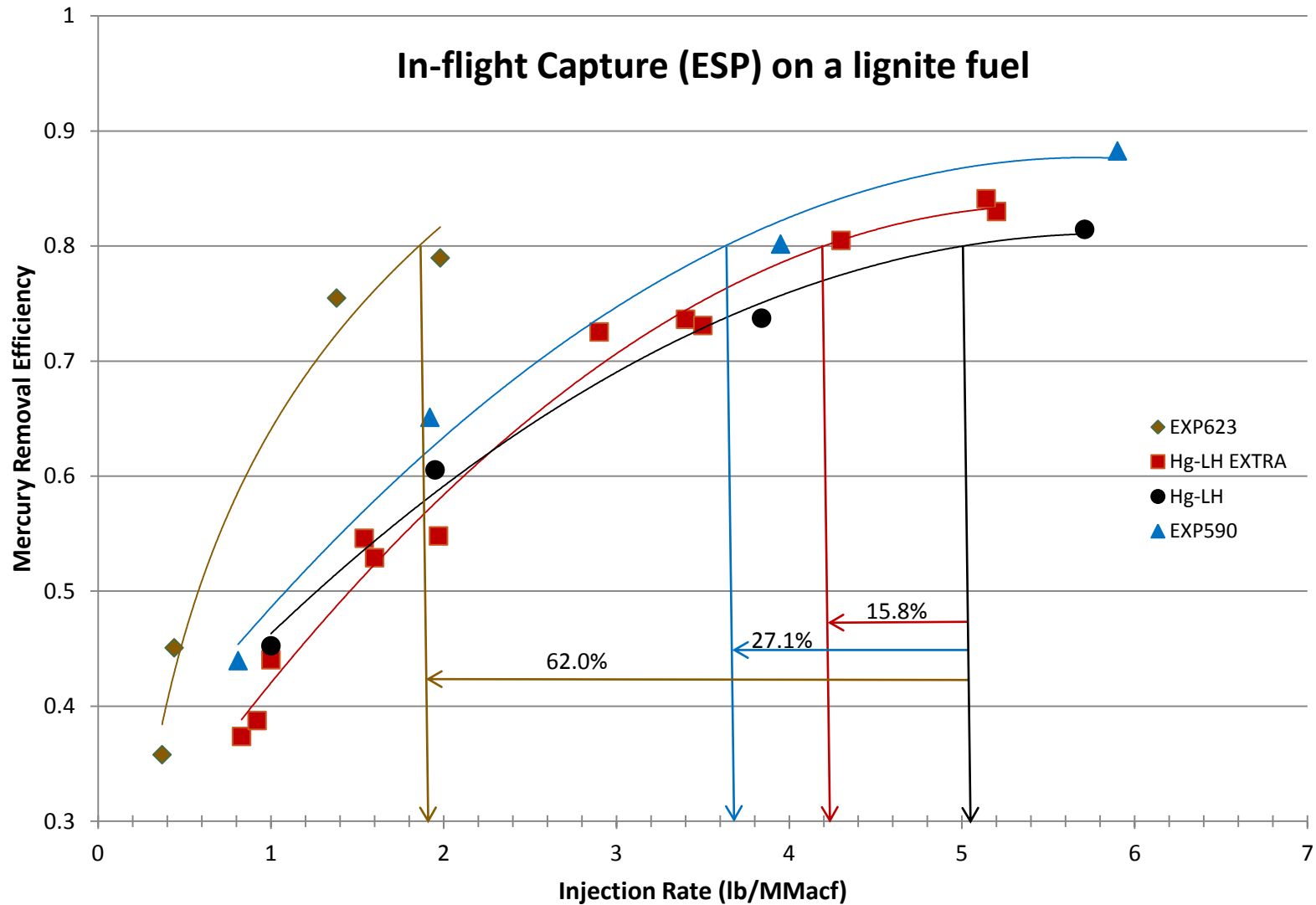


Factors impacting the demand for activated carbon.

- ◆ Activated Carbon is the leading mercury removal technology for coal fired utilities.
- ◆ Factors impacting performance
 - ◆ APC configuration
 - ◆ SO₃ content
 - ◆ Native
 - ◆ Injected
 - ◆ Mercury Oxidation
 - ◆ Fuel halogen level
 - ◆ SCR
 - ◆ Fuel additives
 - ◆ Many others
- ◆ **Activated carbons are being developed to limit the effect of negative impact factors**

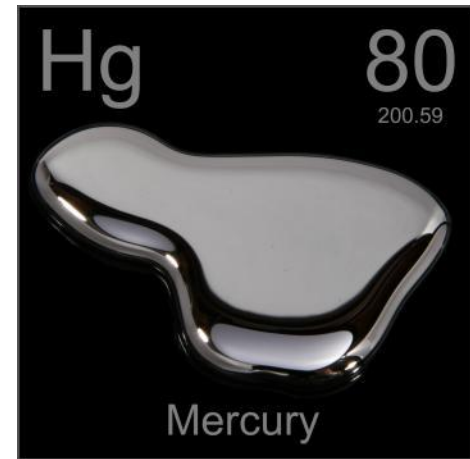


Activated Carbon Efficiency Improvements



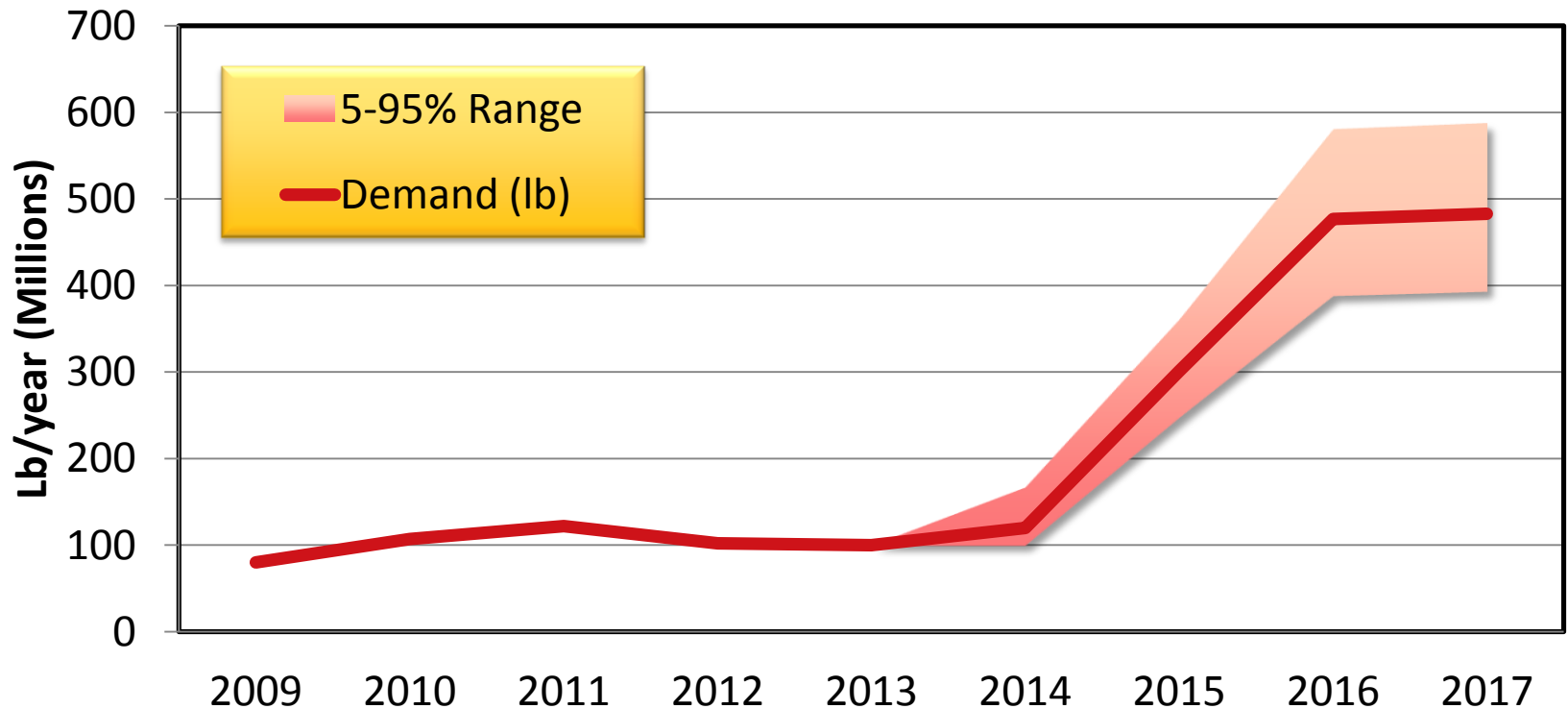
What impacts the demand of activated carbon?

- ◆ Optimization of activated carbon utilization
 - ◆ System (ACI) improvements
 - ◆ Product/product combination improvements
- ◆ Alternative technologies
 - ◆ Non-carbon sorbents
 - ◆ Boiler additives
 - ◆ Advantages
 - ◆ Disadvantages
- ◆ Co-benefit technologies
 - ◆ DSI
 - ◆ Advantages
 - ◆ Disadvantages
 - ◆ Wet scrubbing
 - ◆ Re-emission
 - ◆ Water treatment regulations



Market Demand Growth Through 2017

Coal Fired Utility Activated Carbon Demand



Cabot Norit Activated Carbon prepared for expansion

Conclusions

- ◆ Market size uncertainty diminishing
- ◆ Product and system optimization more clearly defining applications and rates
- ◆ Cabot Norit permitted for sufficient production and mine expansion to meet market needs
- ◆ Early adoption by utilities still critical to planning





Thank-you

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