

KY Department for Environmental Protection - DEP Update-

Presentation to the
Kentucky Professional Engineers in Mining Seminar

August 17, 2012



To Protect and Enhance Kentucky's Environment

Kentucky
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Presentation Overview

- I. Section 1: KY DEP regulatory issues
- II. Section 2: EPA Clean Air Act regulatory issues
- III. Section 3: Clean Water Act (CWA) 402 inspection and enforcement issues
- IV. Section 4: Clean Water Act (CWA) 402 permitting issues
- V. Section 5: In addition to the regulatory challenges: what does the economic data say?



Section 1

KY DEP

Regulatory Issues



Selected DEP regulation revisions

- **Triennial Review of KY Water Quality Regulations** – proposed changes:
 - Adding 27 new Outstanding State Resource Waters (OSRW's)
 - Adding 16 new exceptional waters
 - Clarification of eutrophication (nutrient) definition and dissolved oxygen criteria
 - Adopt federal criteria for acrolein and phenol and remove acute criteria for selenium



Selected DEP regulation revisions

- **Wastewater Lab Certification regulation:**
 - 2011 HB385 authorizes agency to develop certification requirements for laboratories performing wastewater analysis
 - Workgroup formed to develop regulations, anticipated to be ready to officially propose regulations in Fall 2012
- **KPDES regulations:**
 - Minor revisions, filed proposed regulations on July 15, 2012 with LRC, public hearing scheduled for August 28, Statement of Consideration (SOC) due either Sept. 15 or Oct. 15, 2012.



Section 2

USEPA CAA Regulatory Issues



Clean Air Act: Utility MACT

- **CAA Utility MACT:**
 - Utility MACT, final rule published Feb. 16, 2012, effective April 16, 2012
 - Compliance required by April 16, 2015 with possible one year extension to April 16, 2016
 - All existing or new Electric Generating Units (EGU's) greater than 25 megawatts that burn oil or coal
 - Establishes numerical emission limits for mercury, particulates, HCl (surrogate for acid gases) for all new coal-fired EGU's



Clean Air Act: GHG NSPS

- **CAA GHG NSPS:**

- GHG NSPS, proposed April 13, 2012, comments were due June 26, 2012
- For all new EGU's starting operation after April 13, 2012. Does not apply to existing, modified, or reconstructed EGU's.
- Establishes numerical limit on GHG emissions of 1000 lbs CO₂/MWhour.
- Potential “Game-changer” regulation



Section 3

CWA 402

Inspection & Enforcement



CWA 402 Enforcement

- **CWA 402 DMR enforcement:**
 - In last two years, DEP DENF has reviewed approximately 84,000 DMR's for 20 mining companies related to 450 SMCRA permits (25% of total coal mining permitted universe)
 - DENF will continue to review DMR's for other coal mining operations and as new DMR's are submitted
 - Working on information to assist mining operations in the submission of DMR's
 - Working toward eventual electronic submission of DMR's direct to DEP



CWA 402 Inspection

- **CWA 402 Inspection:**
 - DNR has historically performed inspections of coal mining operations formally for SMCRA compliance and informally for CWA 402 issues
 - DEP and DNR have been working together and training the DNR inspectors to conduct formal CWA 402 inspections for coal mining operations (i.e., document the actual inspection)
 - Anticipate to formally begin by the end of CY2012
 - DNR will perform inspections on approximately one hundred CWA 402 permitted operations in FY2013.



Section 4

CWA 402

Permitting Issues



CWA 402 Permitting issues

- 1) Of the ~10,000 KPDES active permitted entities, approximately 2000 KPDES permits are for coal mining operations in Kentucky.
- 2) Currently, there are approximately 1066 pending permit applications being processed by KY DOW. Of that total, approximately 210 of these are for coal mining operations (105 IP's and 105 GP's) that are being reviewed and processed.
- 3) Substantially increased oversight by USEPA of proposed CWA 402 permits:
 - a) Particularly for proposed surface coal mining individual permits in Appalachia, with new and evolving EPA requirements. 36 EPA permit objections still pending.
 - b) Has impacted the ability of the program to process CWA 402 permit applications for all permitted entities in Kentucky including non-coal related activities, further complicated by historical backlog and budget reduction challenges.



Permits Section restructuring

Sara Beard

Operational Permits (18)

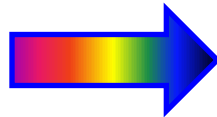
Permit writers (11)

Pretreatment (1)

Effluent Toxicity program
(1)

Administrative review (2)

Data quality review (1)



Effective March 1, 2012

Sara Beard

Operational Permits (14)

Permit writers (7)

Permit writers (2 – existing
staff reassigned)

Pretreatment (1)

Effluent toxicity program (1)

Administrative review (2)

Effective March 1, 2012

Jeff Pratt (Acting)

Resource Extraction (10)

Permit writers (4)

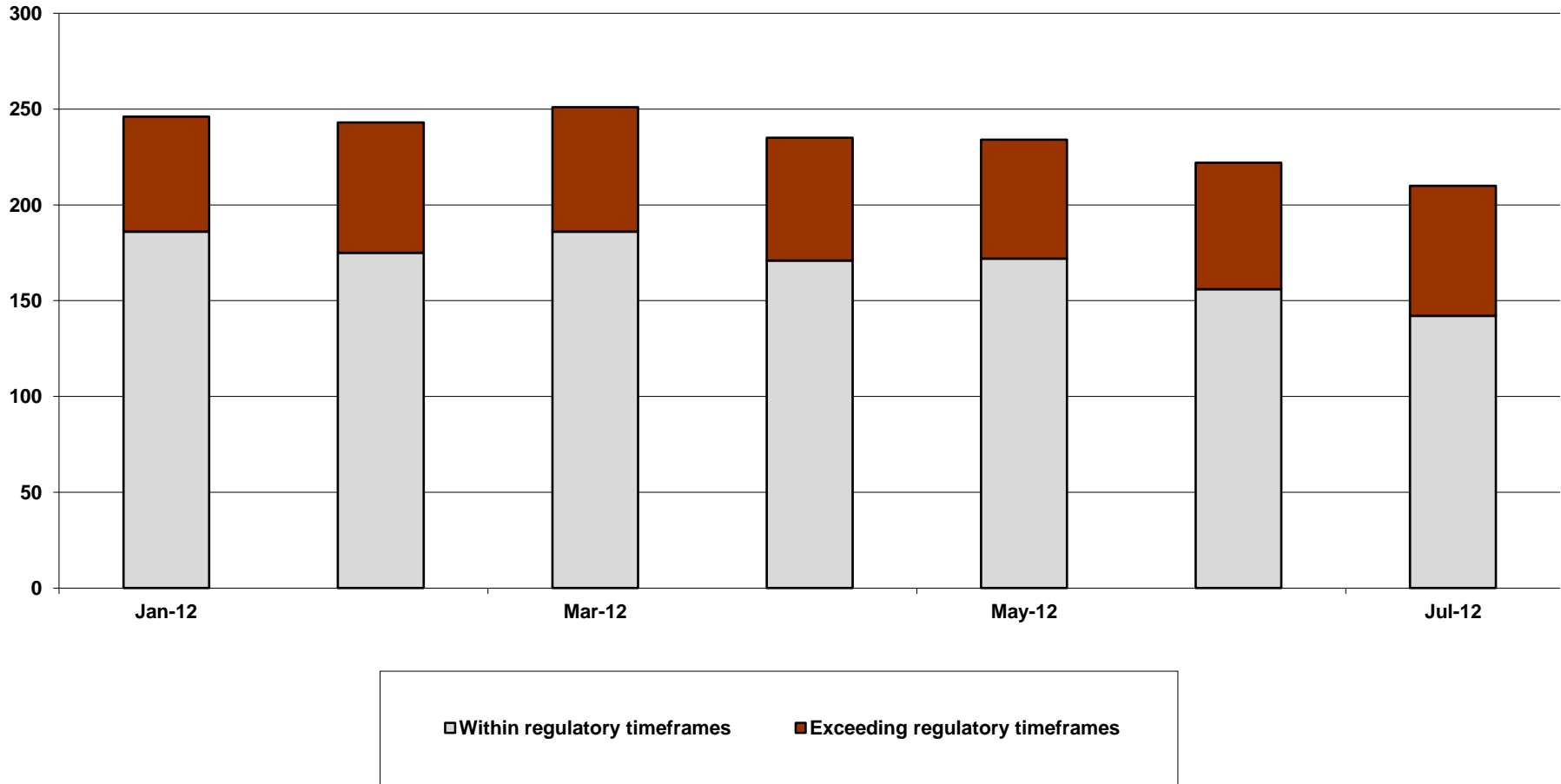
Permit writers (4 – existing
staff reassigned)

Data quality review (1)



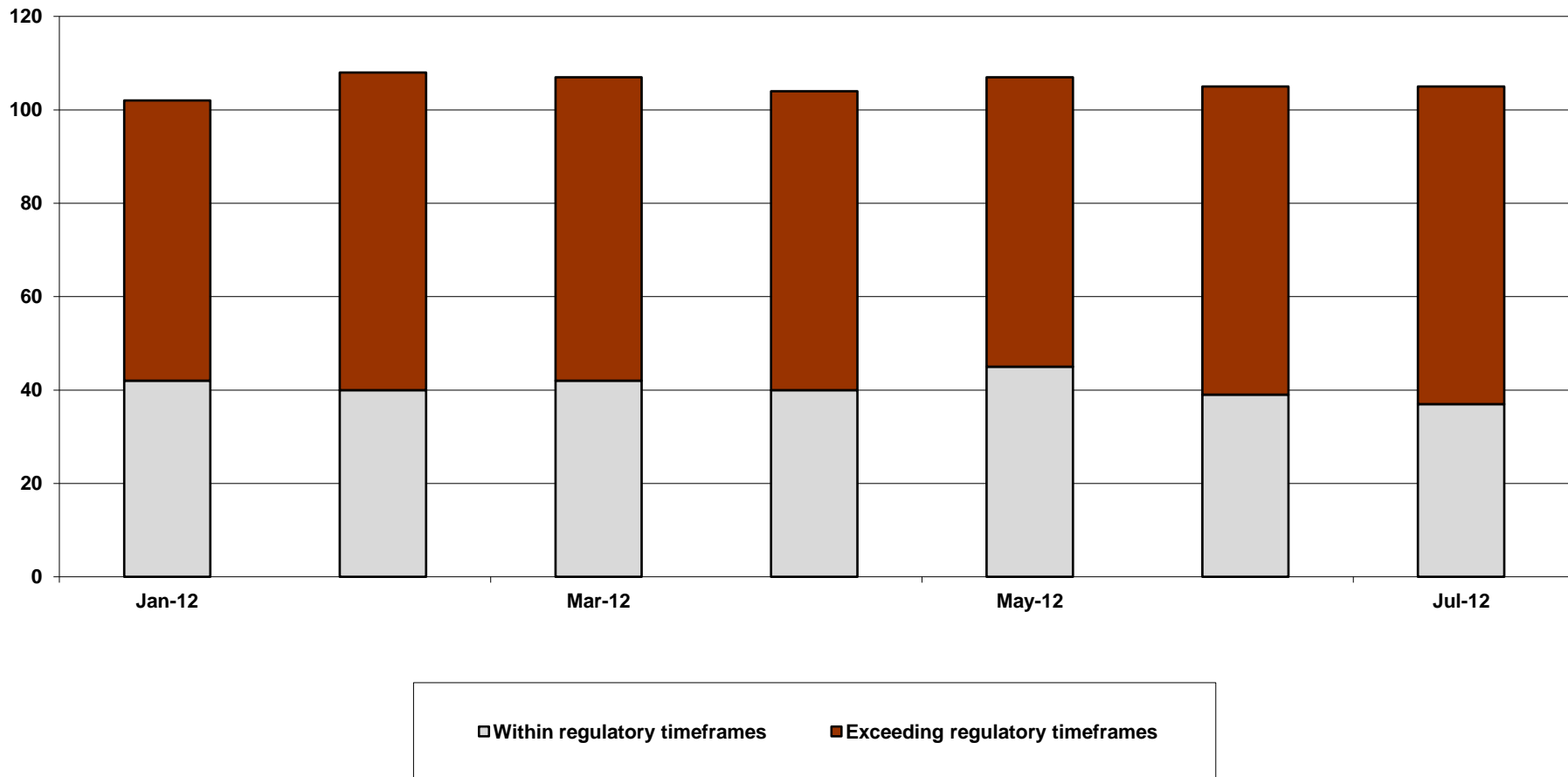
Total KPDES Permits Pending – Coal only

Total KPDES Permits Pending (Coal only)
January 2012 to Present



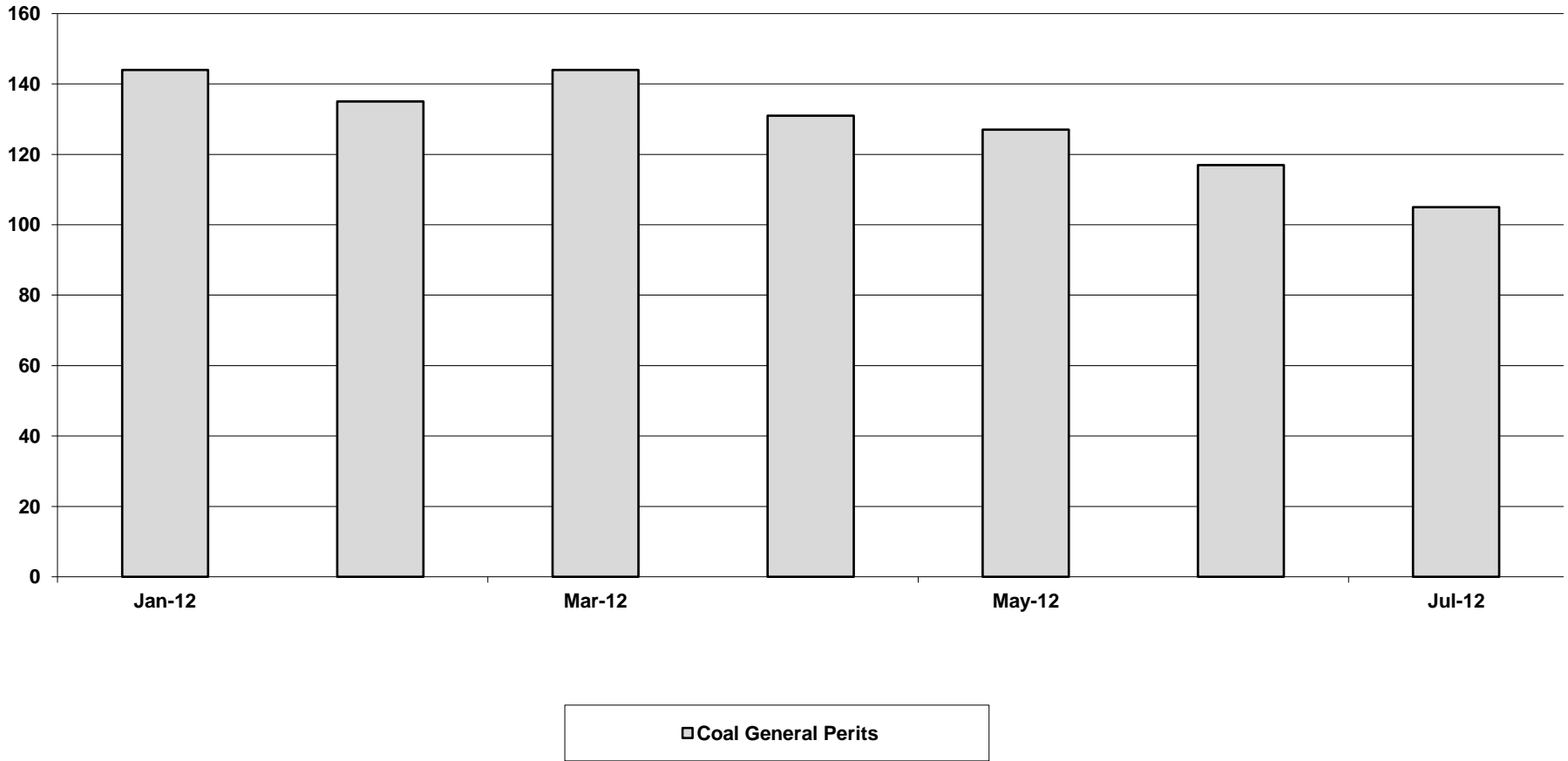
Total KPDES Permits Pending – Coal IP's only

Total KPDES Permits Pending (Coal IP's only)
January 2012 to Present



Total KPDES Permits Pending – Coal GP's only

Total KPDES Permits Pending (Coal GP's only)
January 2012 to Present



Coal Mining Permitting: Priority Focus

- 1) Continue to work with USEPA and affected permit applicants regarding pending coal mining permit applications to:
 - a) Issue GP permit coverage's as appropriate,
 - b) Draft proposed IP's for EPA review, and
 - c) Continue to work toward resolution of EPA's permit objections following June 5 & 7, 2012 EPA public hearings on 36 EPA permit objections.
- 2) Evaluate litigation outcome(s) from D.C. Circuit for potential impact(s) on future permit decisions. Oral arguments were heard on July 13, 2012. Ruling occurred on July 31, 2012. Court vacated the EPA guidance and indicated states have the authority to make Reasonable Potential Analysis (RPA) determinations.
- 3) Work toward reissuance of the Coal General Permit which expires July 31, 2014. This effort could end up yielding one or more Coal Mining General Permits for types and location of coal mining operations which may be based upon revised CWA 402 Individual Permit templates where appropriate.
- 4) Conversion of permit, inspection, enforcement, and Discharge Monitoring Report (DMR) data from PCS, to TEMPO (state database) - ICIS (federal database) interface.

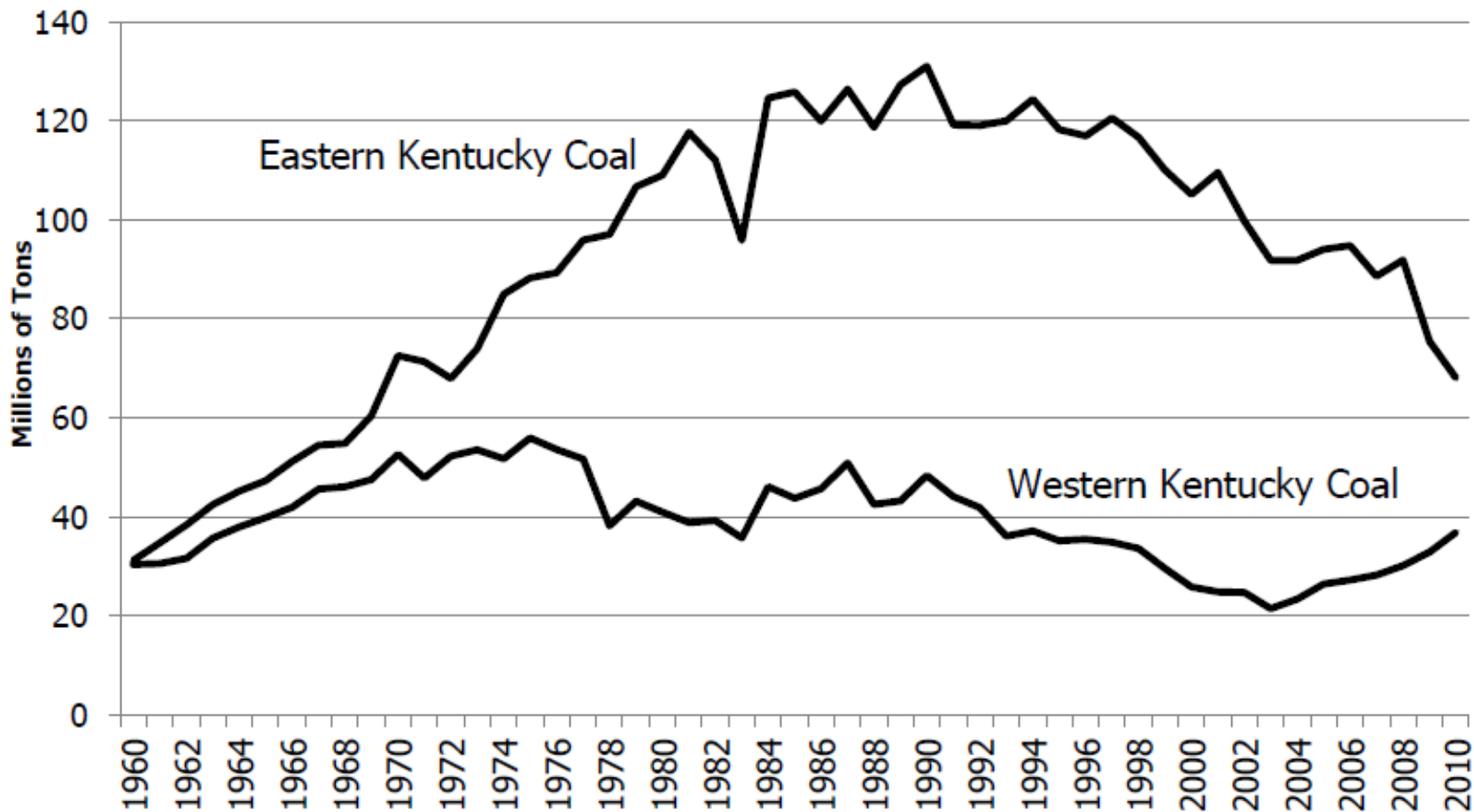


Section 5

**In addition to the
regulatory challenges:
What does the economic
data say?**



Eastern & Western KY Coal Production (1960-2010)

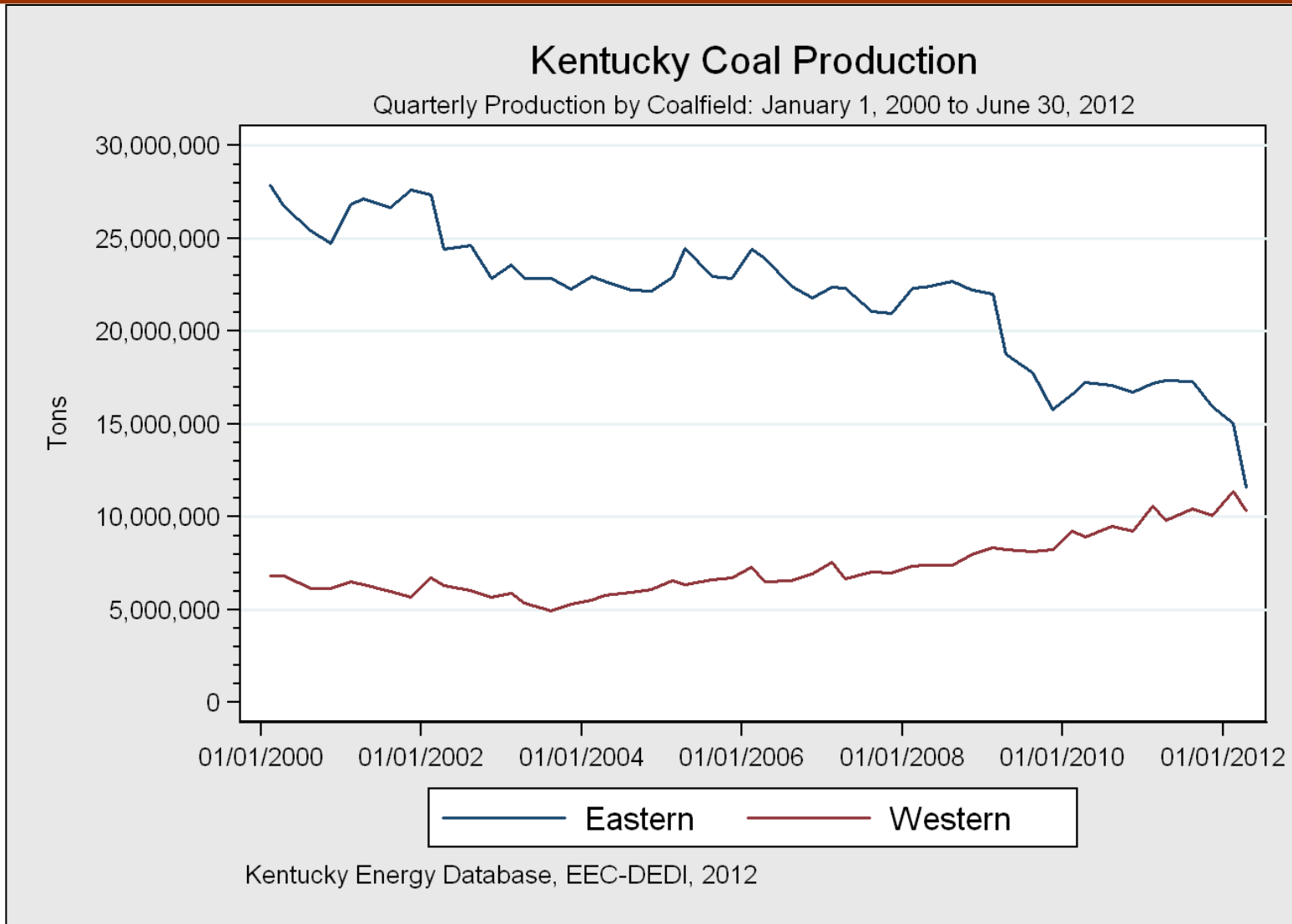


Source: Kentucky Energy Database. Department for Energy Development, Kentucky Energy and Environment Cabinet.

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Eastern & Western KY Coal Production (2000-2012)

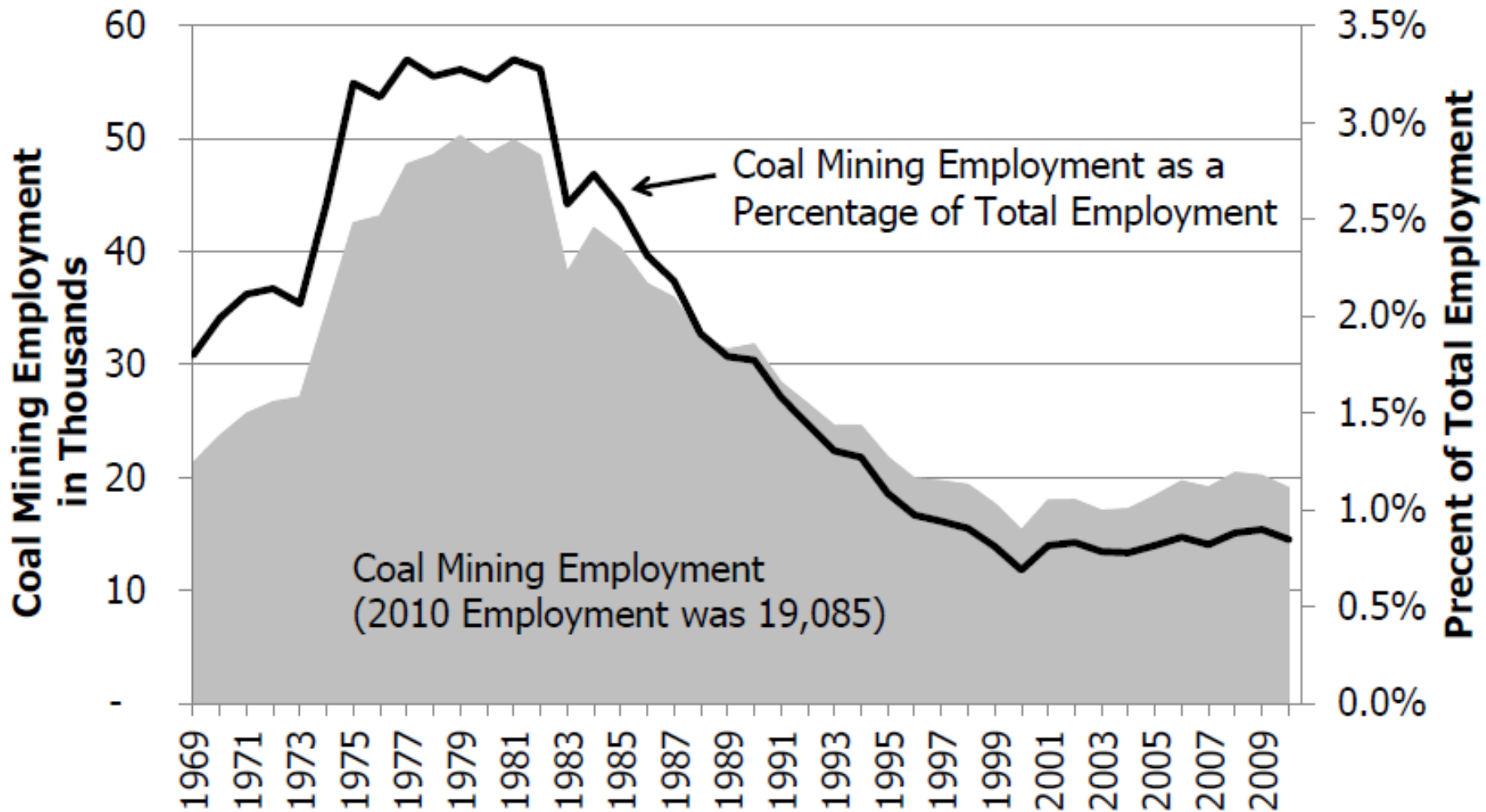


Commodity Price – Central App. Coal (2007-2012)

Thermal Coal CAPP Price
59.65 USD/st
10 Aug '12

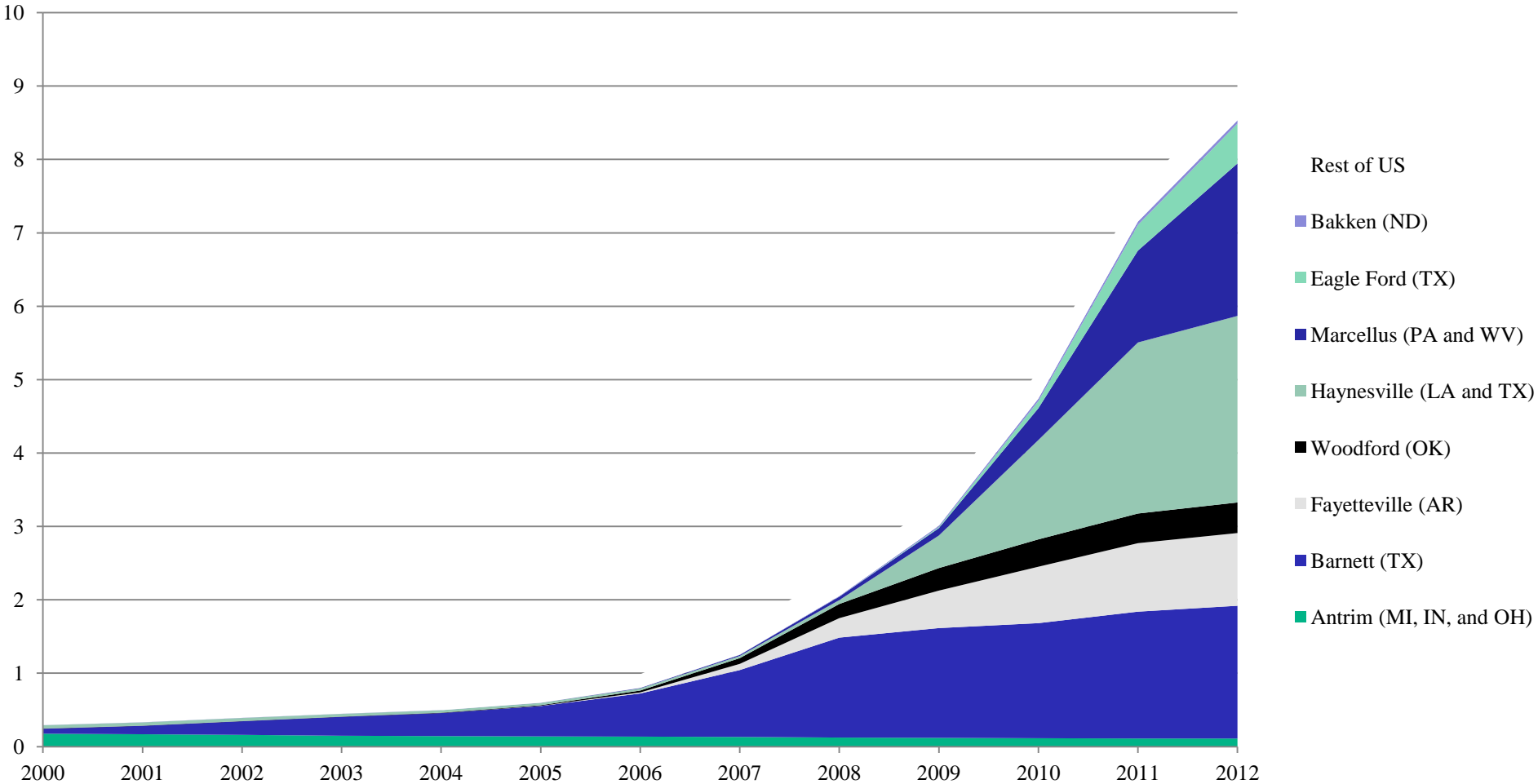


KY Coal Mining Employment (1969-2010)

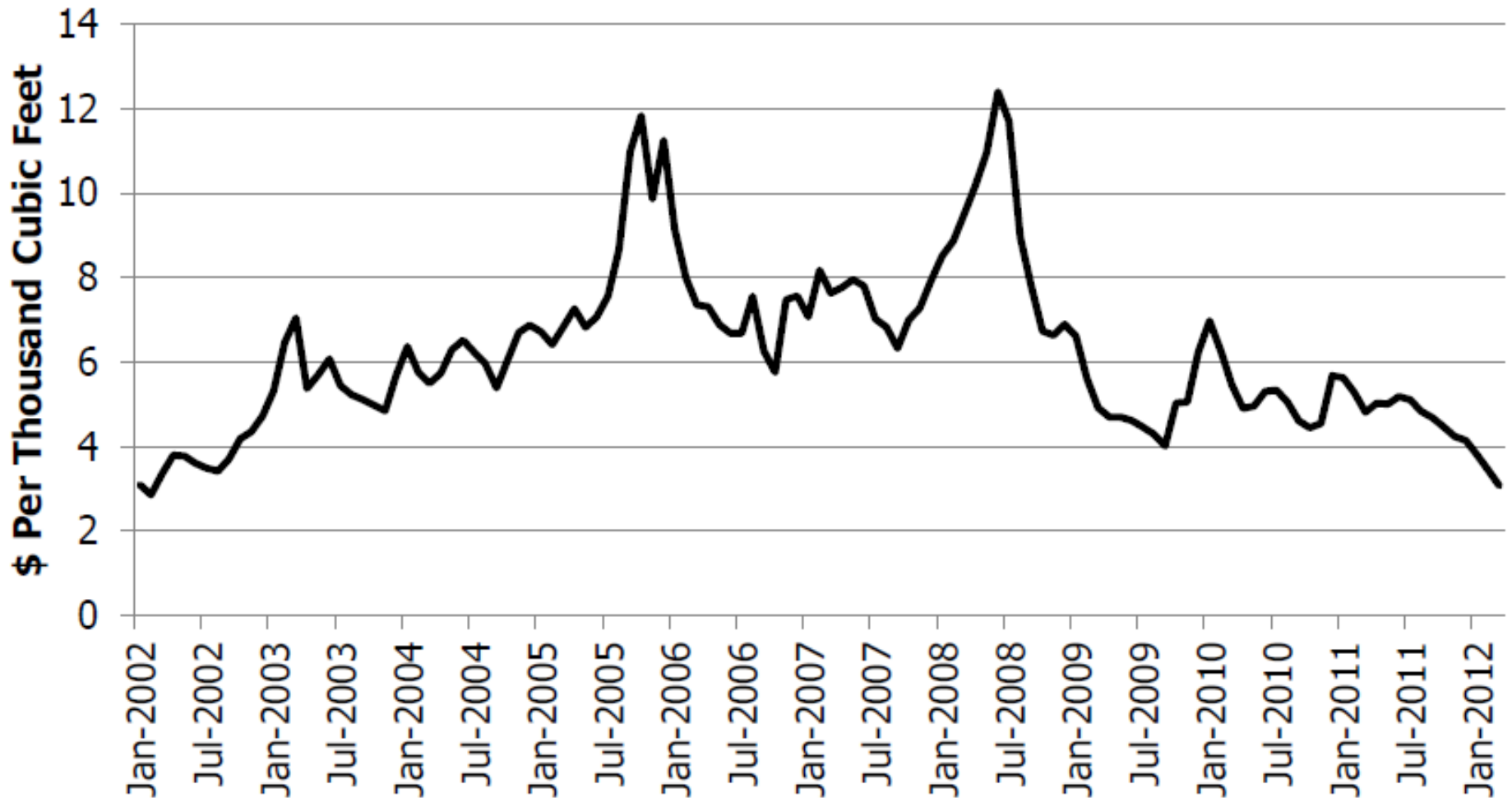


U.S. Shale Gas Production (2000-2012)

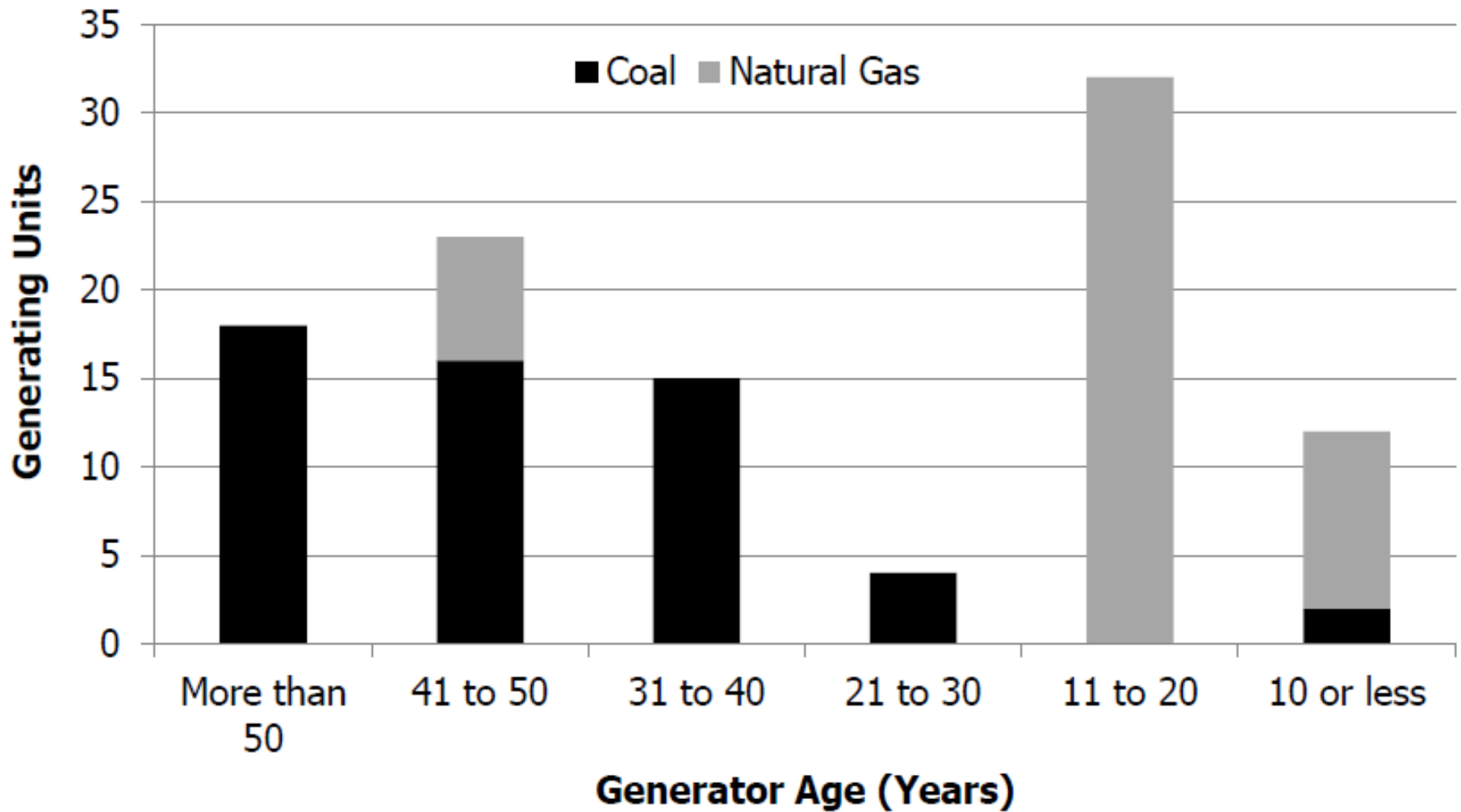
Dry shale gas production (Trillion cubic feet (Tcf))



Price of Delivered Natural Gas (2002-2012)



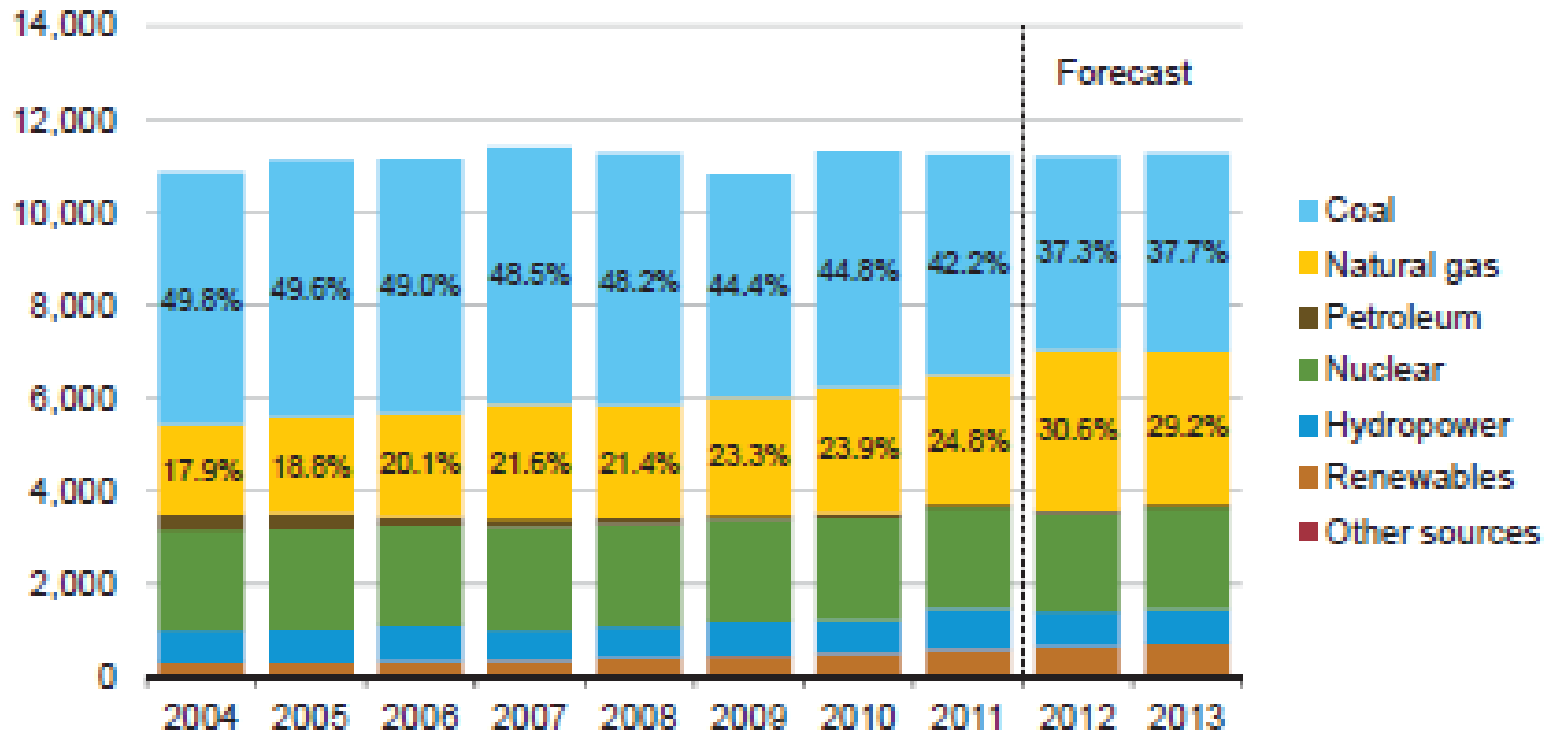
Age of KY Electricity Generating Units



U.S Electricity Generation

U.S. Electricity Generation by Fuel, All Sectors

thousand megawatthours per day



Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, August 2012



Summary – A new normal? A new opportunity? Or both?

- Increased complexity in obtaining permits to operate due to EPA oversight and 3rd party litigation. ? --- Evaluate alternative and improved mining methods.
- Enhanced oversight for compliance with permit requirements and 3rd party litigation. --- Improve compliance and attention to details.
- Some state regulatory challenges exist, but major federal (EPA, ...) regulatory issues combined with natural gas supply and prices are driving long-term decisions about U.S. electricity generation, affecting coal production, employment, and price. --- Strengthen existing and find new market opportunities (international, etc.).
- Natural gas has and is increasing its market share of electricity generation. --- Coal will continue to be a major part of the nation's energy strategy and must adapt to new challenges.



Questions?

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