

KY Energy and Environment Cabinet R. Bruce Scott, P.E. – Deputy Secretary

Presentation to the Kentucky Professional Engineers in Mining Seminar (PEM)

August 26, 2016



To Protect and Enhance Kentucky's Environment



Selected current Initiatives inside EEC

- Evaluating Cabinet **organizational** needs/changes
- Implementing 9% general fund **budget reduction** (\$6.34M) for Fiscal Years 2017 and 2018
- Gov. Bevin's "**Red Tape Reduction Initiative**"
 - EEC is strategically evaluating and reviewing the approximately 850 regulations under the Cabinet's jurisdiction (~19% of the total number of Executive Branch regulations)
- Identifying potential legislative needs/proposals for **2017 legislative session**
- Oil & Gas **TENORM** workgroup
- **Drinking Water** workgroup to protect against **lead** contamination
- Responding to new and proposed **federal regulatory actions**



Air Quality Issues

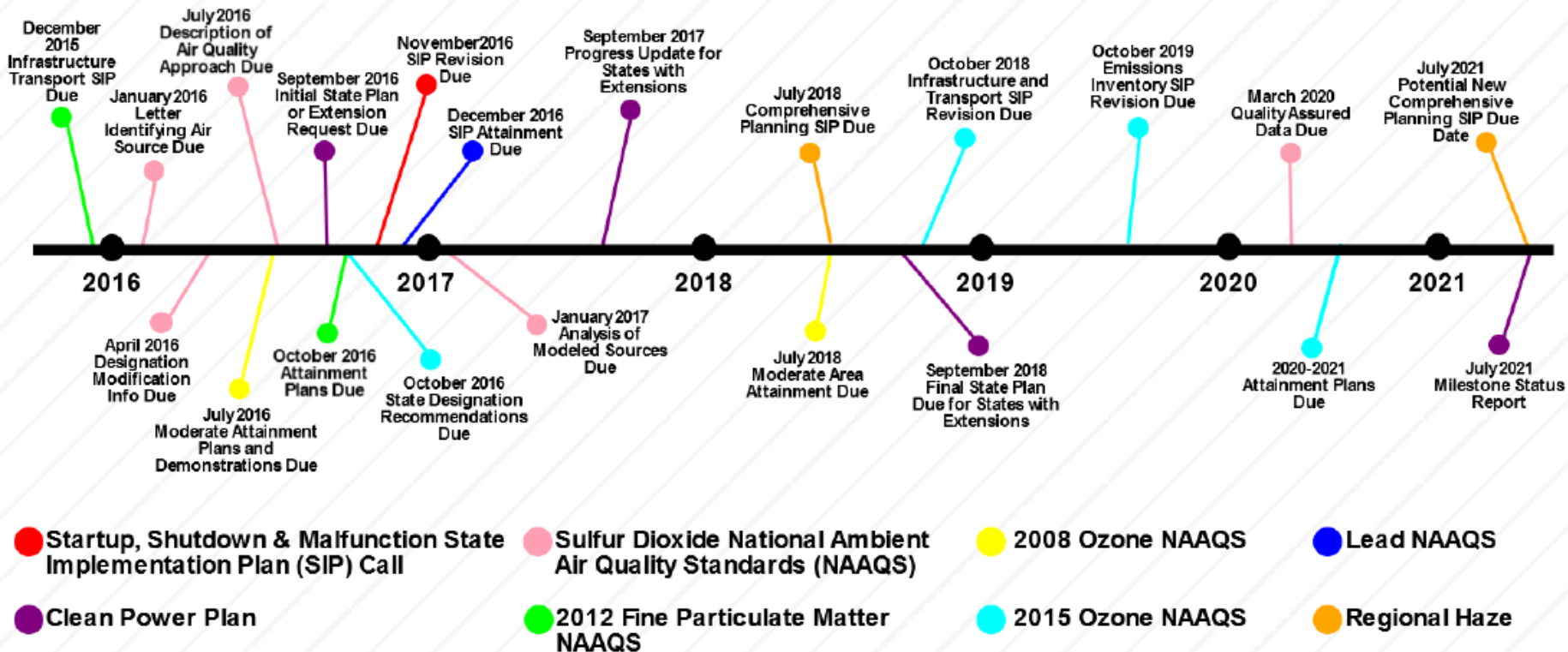


Clean Air Act

- **CAA 111(d) – Clean Power Plan (CPP) requirements for GHGs**
 - Feb. 9, 2016, US Supreme Court ordered a stay, KY is on hold with work until the D.C Circuit makes a final ruling, to be heard by full court on September 27, 2016, Late 2016/early 2017 for decision.
- **Startup, Shutdown, Malfunctions (SSM)**
 - 39 states affected on how to deal with excess emissions during SSM events, final SIP due Nov. 22, 2016
- **Ozone – 2015 standard of 70 ppb**
 - In compliance with ozone standard except for one monitor in N.KY and monitors in Louisville (June 2016)
- **SO2 and MATS**
 - EPA issued “finding of failure” to submit SIP on Feb. 23, 2016, even though KY is in compliance with the SO2 standard and submitted timely clean data and redesignation requests
 - All affected EGU’s are moving toward MATS compliance



CAA – State SIP Requirements Timeline



The Association of Air Pollution Control Agencies (AAPCA) is a national, consensus-driven non-profit organization focused on assisting state and local air quality agencies and personnel with implementation and technical issues associated with the federal Clean Air Act. You can find more information about AAPCA at: <http://www.cleanairact.org>



Kentucky air complying with NAAQS

Air Quality Score Card

Kentucky Metropolitan Statistical Areas

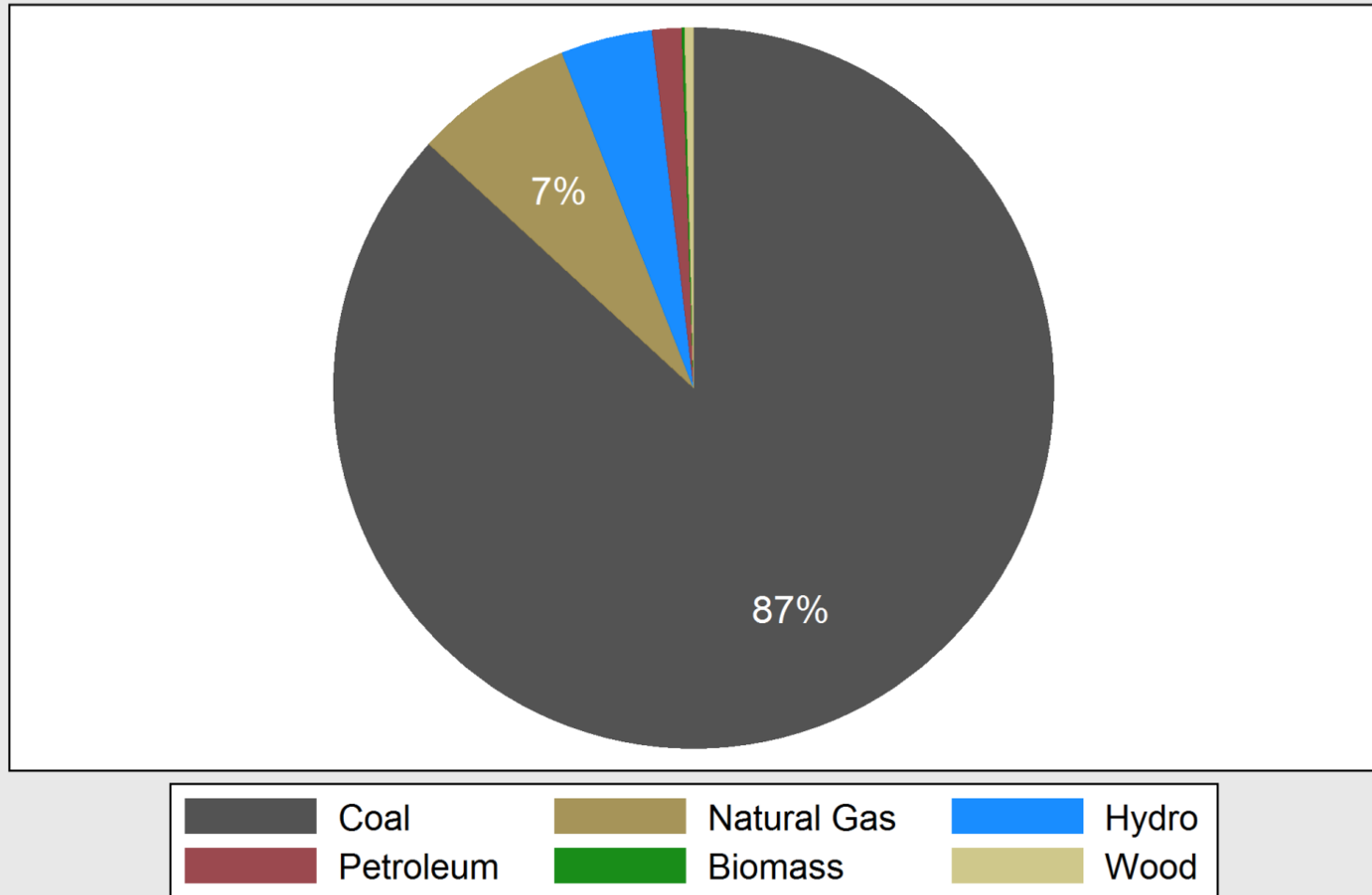
	Ozone	Fine Particles	Nitrogen Dioxide	Sulfur Dioxide
Bowling Green, KY	✓	✓	✓	✓
Cincinnati-Middletown, OH-KY-IN	✓ *	✓	✓	✓ *
Clarksville, TN-KY	✓	✓	✓	✓
Elizabethtown, KY	✓	✓	✓	✓
Evansville, IN-KY	✓	✓	✓	✓
Huntington-Ashland, WV-KY-OH	✓	✓	✓	✓
Lexington-Fayette, KY	✓	✓	✓	✓
Louisville-Jefferson	✓	✓	✓	✗
Owensboro, KY	✓	✓	✓	✓

*Area designated nonattainment; most recent data show area is meeting standards.



2015 KY Electricity Generation

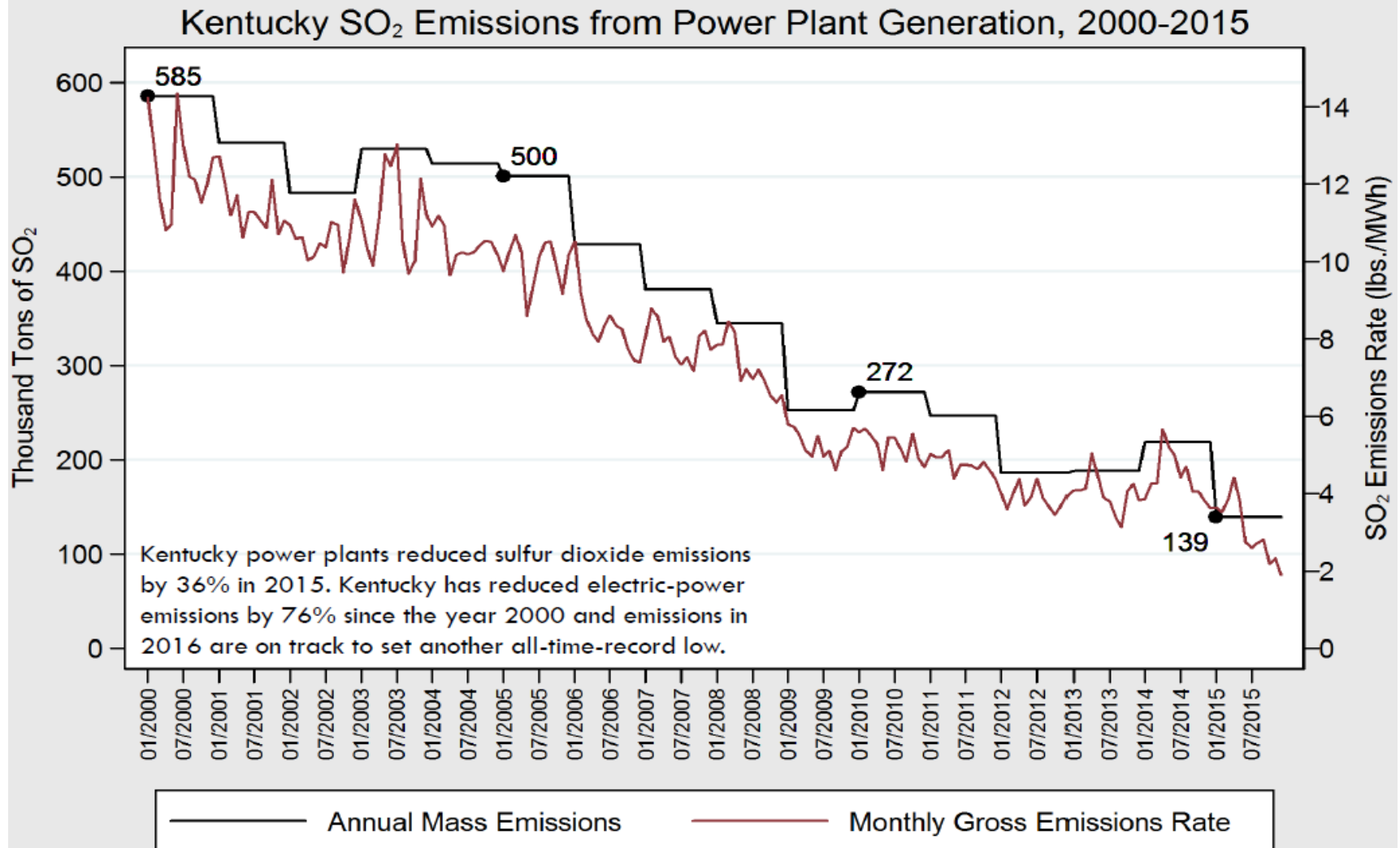
Kentucky Electricity Generation by Fuel, 2015



Kentucky Energy Database, EEC-DEDI, 2016



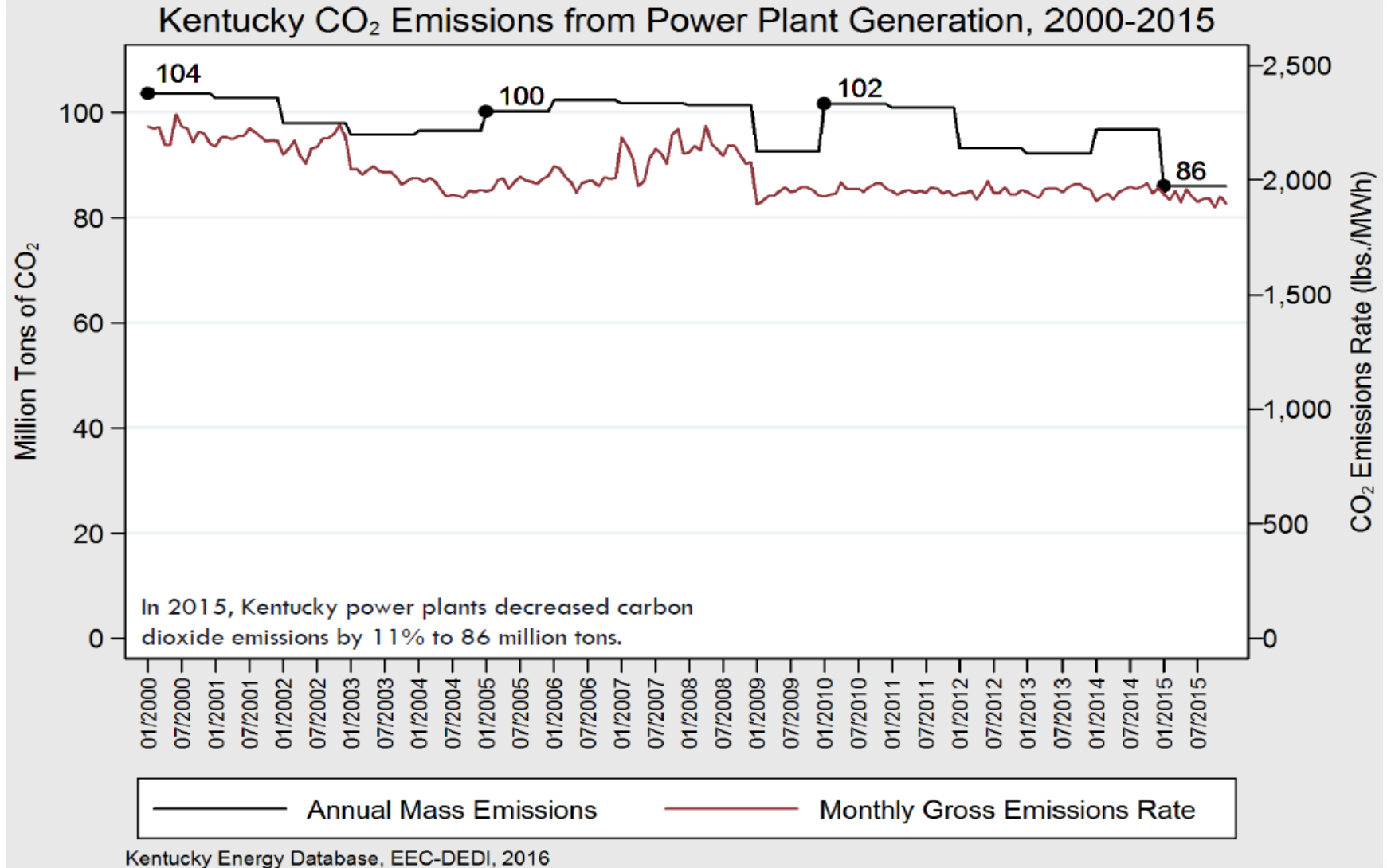
KY SO₂ Emissions from EGU's 2000-2015



Kentucky Energy Database, EEC-DEDI, 2016

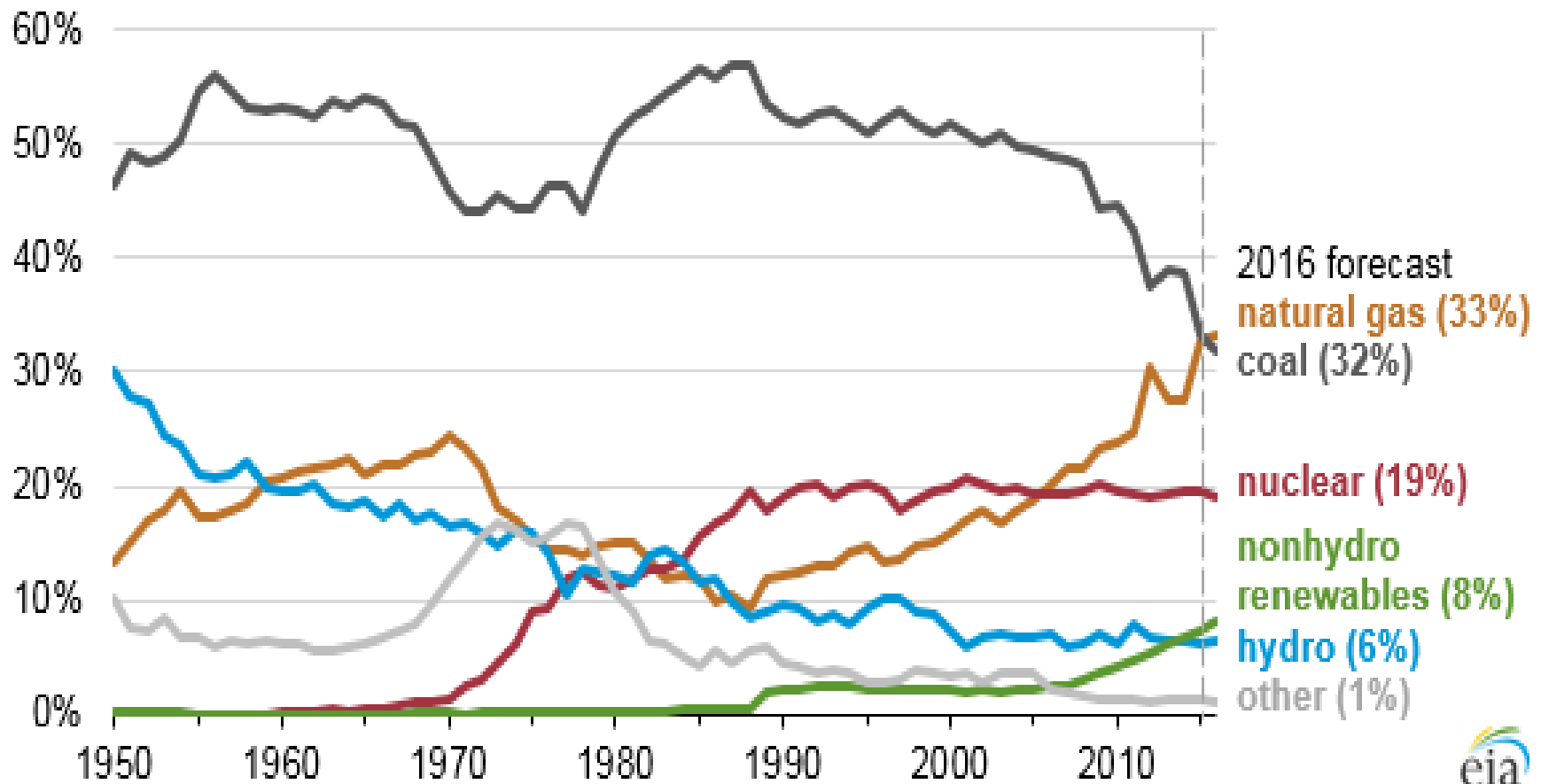


KY CO2 Emissions from EGU's 2000-2015



U.S. Electricity - Natural Gas in 2016

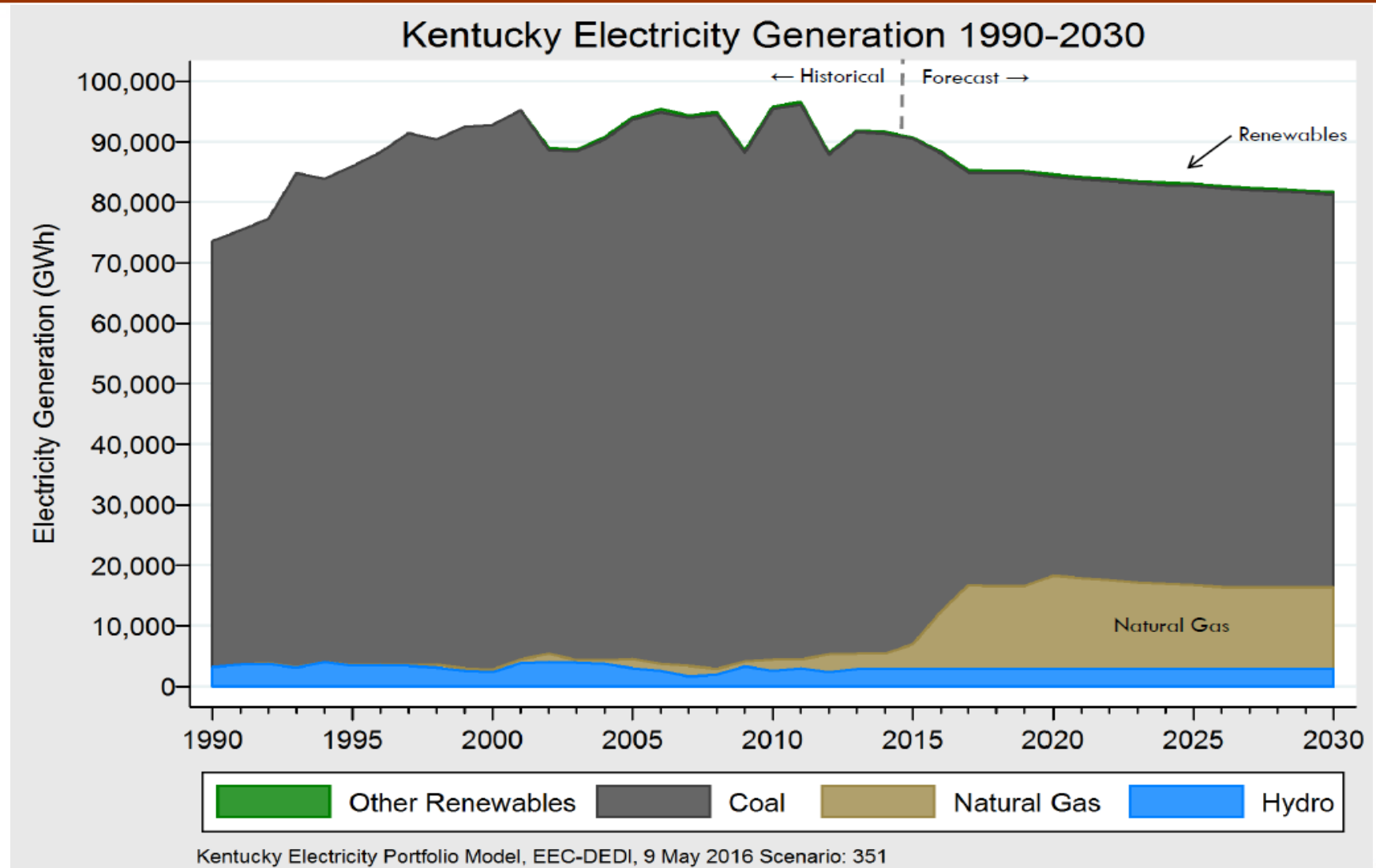
Annual share of total U.S. electricity generation by source (1950-2016)
percent of total



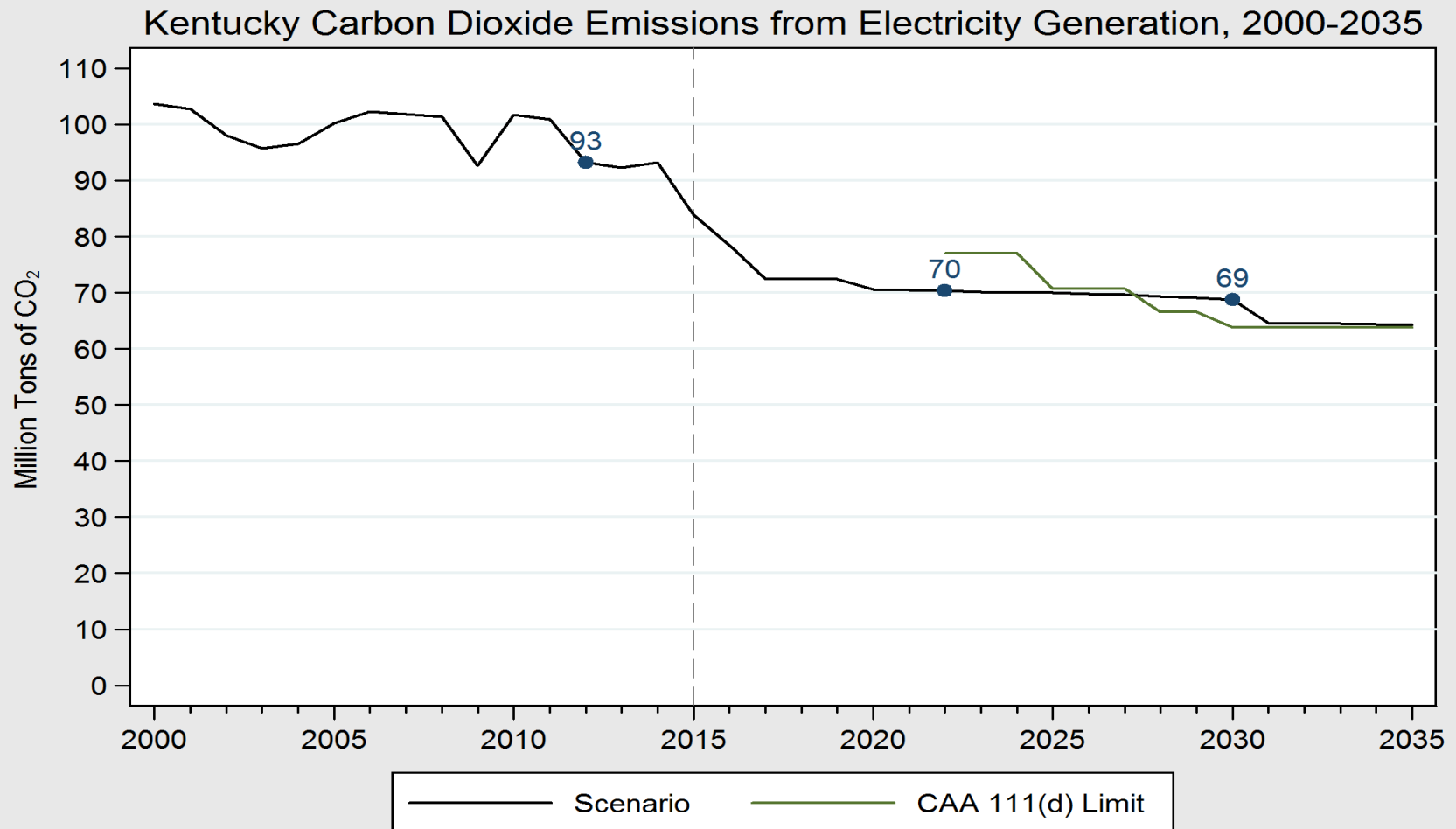
eia



KY Electricity Generation 1990-2030



Projected KY CO2 Emissions by 2030



Kentucky Electricity Portfolio Model, EEC-DEDI, 21 Mar 2016 Scenario: 351



Waste Management Issues



DWM Regulatory Initiatives

- **Coal Combustion Residuals (CCR):**
 - On December 19, 2014, the EPA Administrator signed the final CCR rule. The rule establishes nationally applicable Subtitle D minimum criteria for the safe disposal of CCR in landfills and surface impoundments.
 - **KY is working to incorporate rules in new Special Waste regulations to be proposed in 2016, finalized in 2017.**
- **Hazardous Waste:**
 - Kentucky is updating all of its Hazardous Waste regulations to conform with the federal regulations to **streamline to one set of requirements**, including adoption of more flexible requirements.
 - Goal is to have proposed regulations finalized in CY2017.



TENORM

- EEC initiated diverse workgroup on **March 11, 2016** to further address **Oil & Gas** issues in KY:
 - Special emphasis on addressing the management of **TENORM** (Technologically Enhanced Naturally Occurring Radioactive Material) generated both in and outside of KY.
 - Group will prepare **report to Legislature** no later than **Dec. 1, 2016**



Water Quality Issues



Clean Water Act

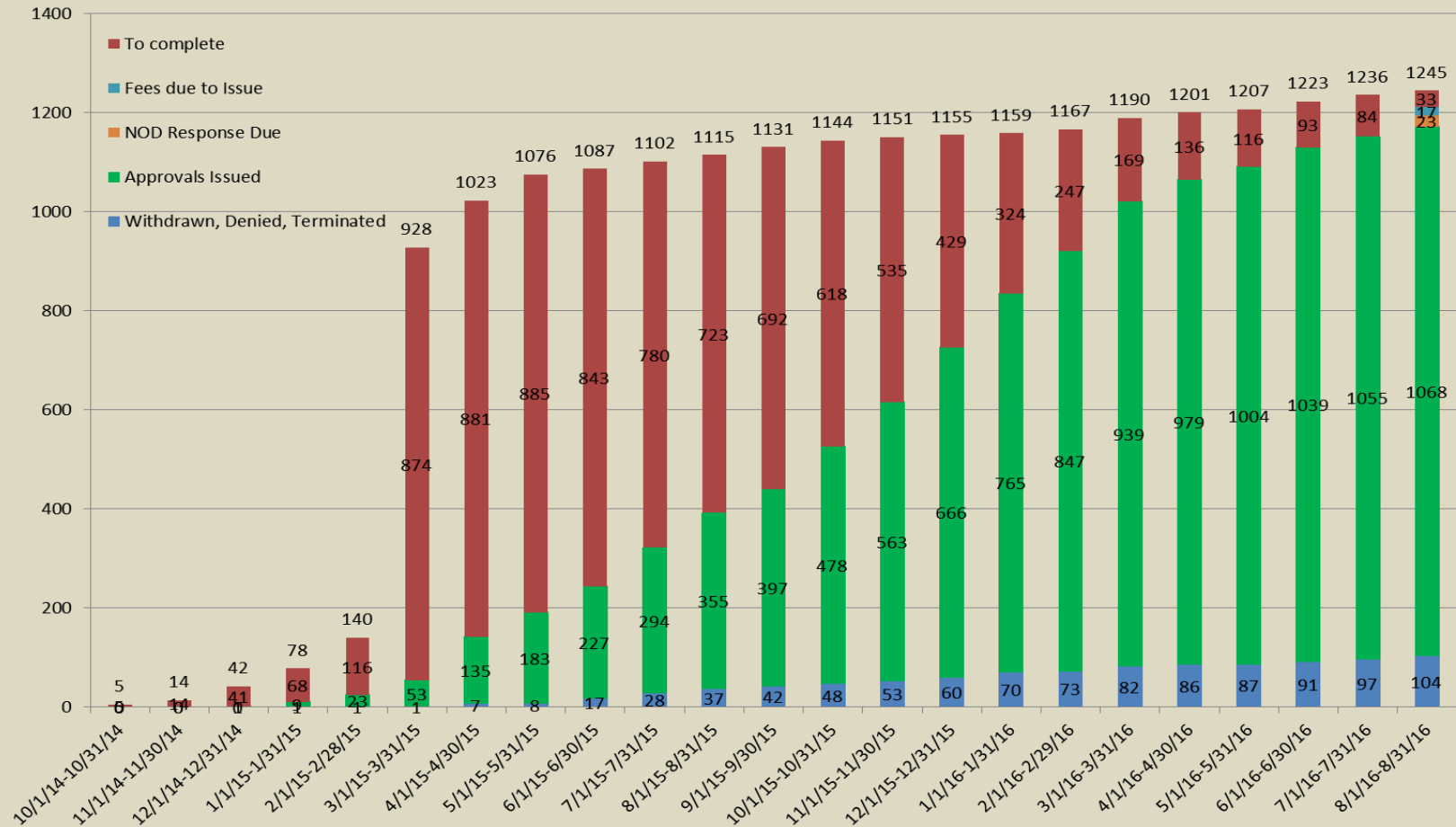
- **Waters of the U.S.** proposed EPA regulation is currently **stayed**. U.S. Sixth Circuit briefs are due **Feb. 17, 2017**.
- KY sent final KY **water quality regulations** to EPA on **May 5, 2016** for review and approval (includes the KY specific selenium criteria). **Waiting for final EPA determination**. Next triennial review in 2018.
- EPA **proposed NPDES regulations May 18, 2016** – Comments were submitted July 18, 2016. KY is hopeful that the proposal by EPA to object to expired permits will not proceed.
- KY received letter on **March 30, 2016** from **EPA resolving a 2010 NPDES Withdrawal Petition**, including how to deal with AML & Bond Forfeiture NPDES permitting issues
- KY received letter on **June 23, 2016** from **EPA resolving 42 USEPA permit objections** that had been pending since 2010-2012



KY NPDES General Permit Reviews

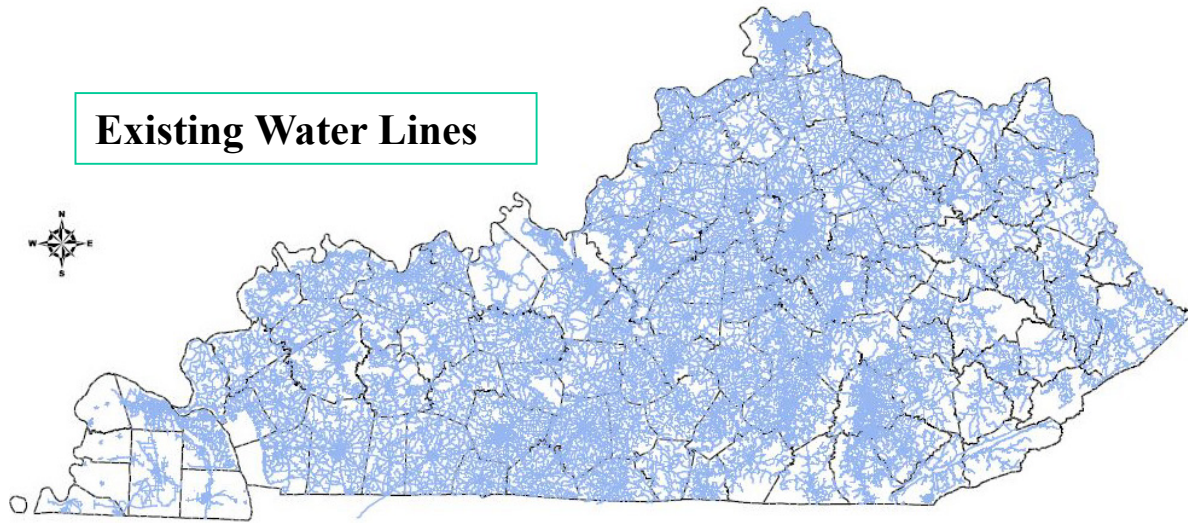
DIVISION OF WATER COAL GENERAL PERMIT eNOI REVIEW STATUS AS OF 8/24/2016

KY Department for Environmental Protection

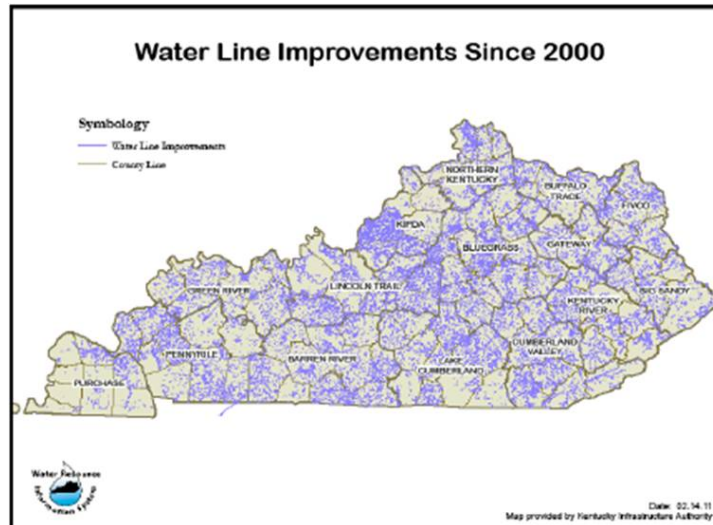


95% of Kentucky's citizens have access to safe and reliable Public Water Supply Systems

Existing Water Lines



Water Line Improvements Since 2000

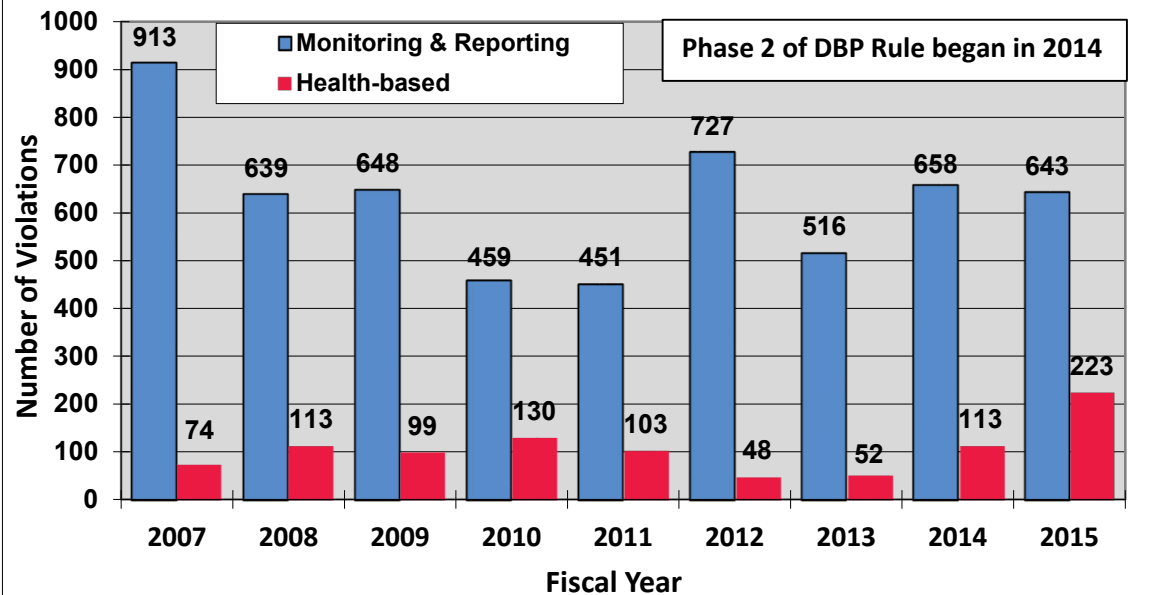


State	Total # PWS	% population served
Kentucky	409	95
Tennessee	910	90
West Virginia	1027	84.8
Missouri	2752	88.6
Virginia	2755	83
Indiana	4157	83
Ohio	4821	93.6
Illinois	5720	98
Alabama	606	92.5
Tennessee	910	90
Mississippi	1254	90
South Carolina	1435	82
Georgia	2484	87
Florida	5470	
North Carolina	6004	79.4



Public Water Systems Perform Better

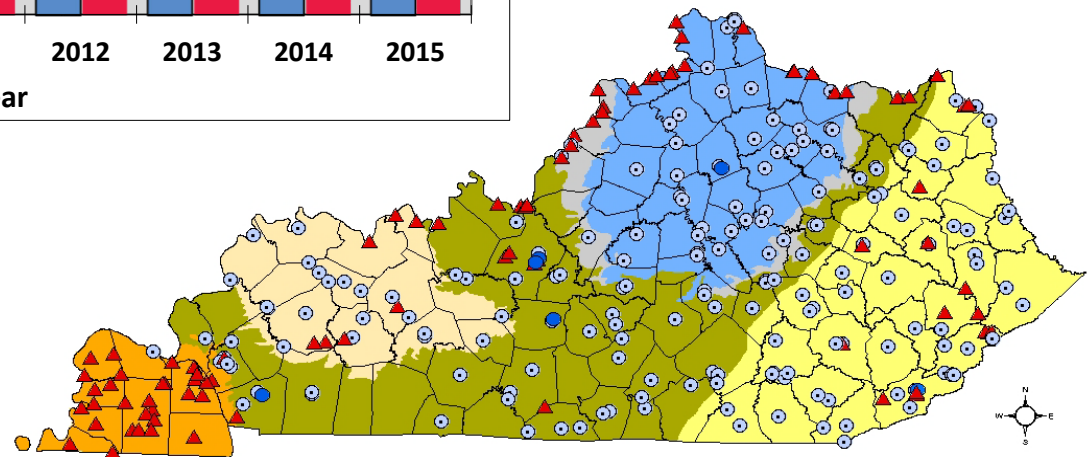
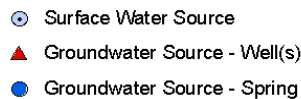
Public Water System Violations: 2007-2015



Physiographic Regions (PDRs)



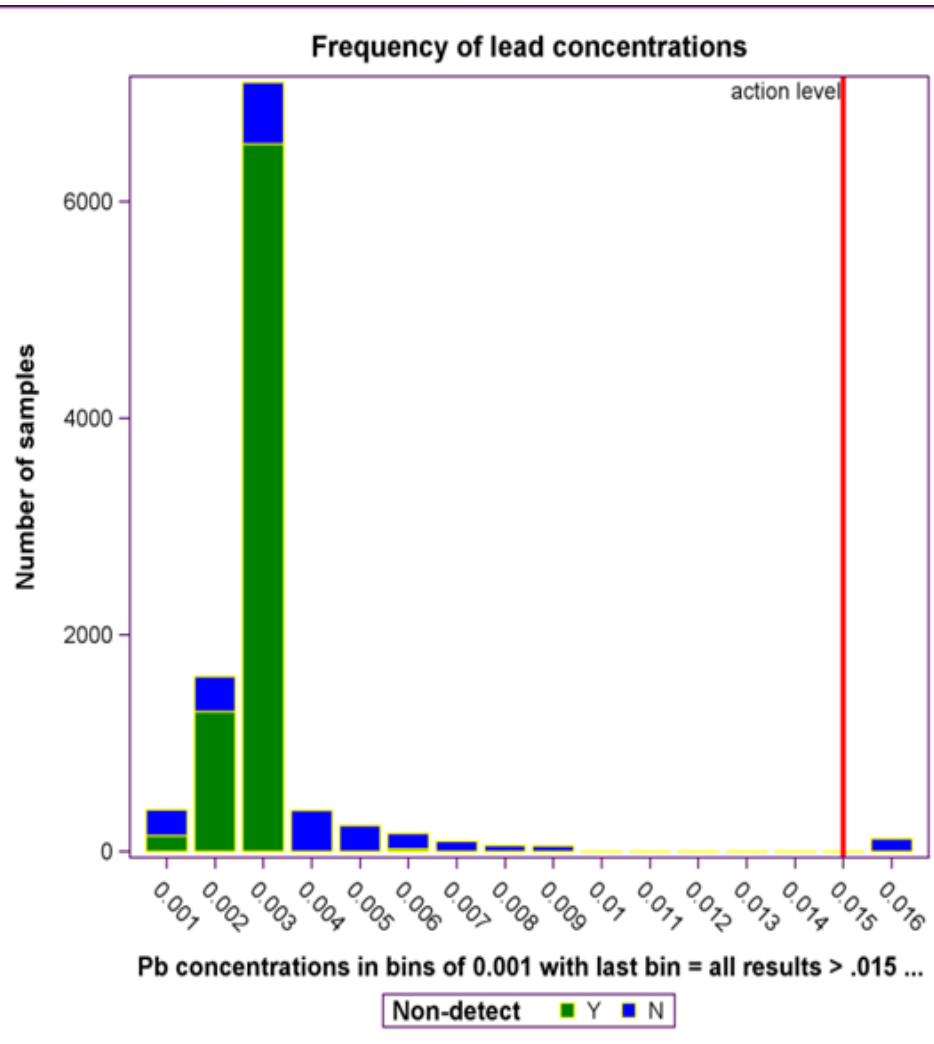
Public Water Suppliers



0 50 100 200 Miles



Drinking Water – keeping the Lead out



- 409 Public Water Supply Systems in Kentucky
- Over last four years:
 - >77% of samples less than detection, ~ 94% less than 5 ppb of Lead
 - <1% of samples greater than 15 ppb action level
 - 3 systems had corrective action, back in compliance
 - March 14, 2016, established proactive workgroup to further strengthen program



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