IOGCC-ECOS Collaboration Opportunities

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October 1, 2018

IOGCC Fall Conference

What is ECOS?

ECOS is the national nonprofit, nonpartisan association of state and territorial environmental agency leaders.

ECOS strives to improve the capability of state environmental agencies and their leaders to protect and improve human health and the environment.

ECOS is where states gather.

Advocate statesôrole in environmental management

Exchange ideas among states

Cooperate with and coordinate between states

Communicate with Congress, federal agencies, and the public

ECOS Affiliates

ERIS
ENVIRONMENTAL RESEARCH INSTITUTE OF THE STATES

E-ENTERPRISE for the environment

Environmental Information exchange Network

INTERSTATE TECHNOLOGY REGULATORY COUNCIL ITRC

Interstate Technology and Regulatory Council

State-led coalition working to advance innovative environmental technologies and approaches

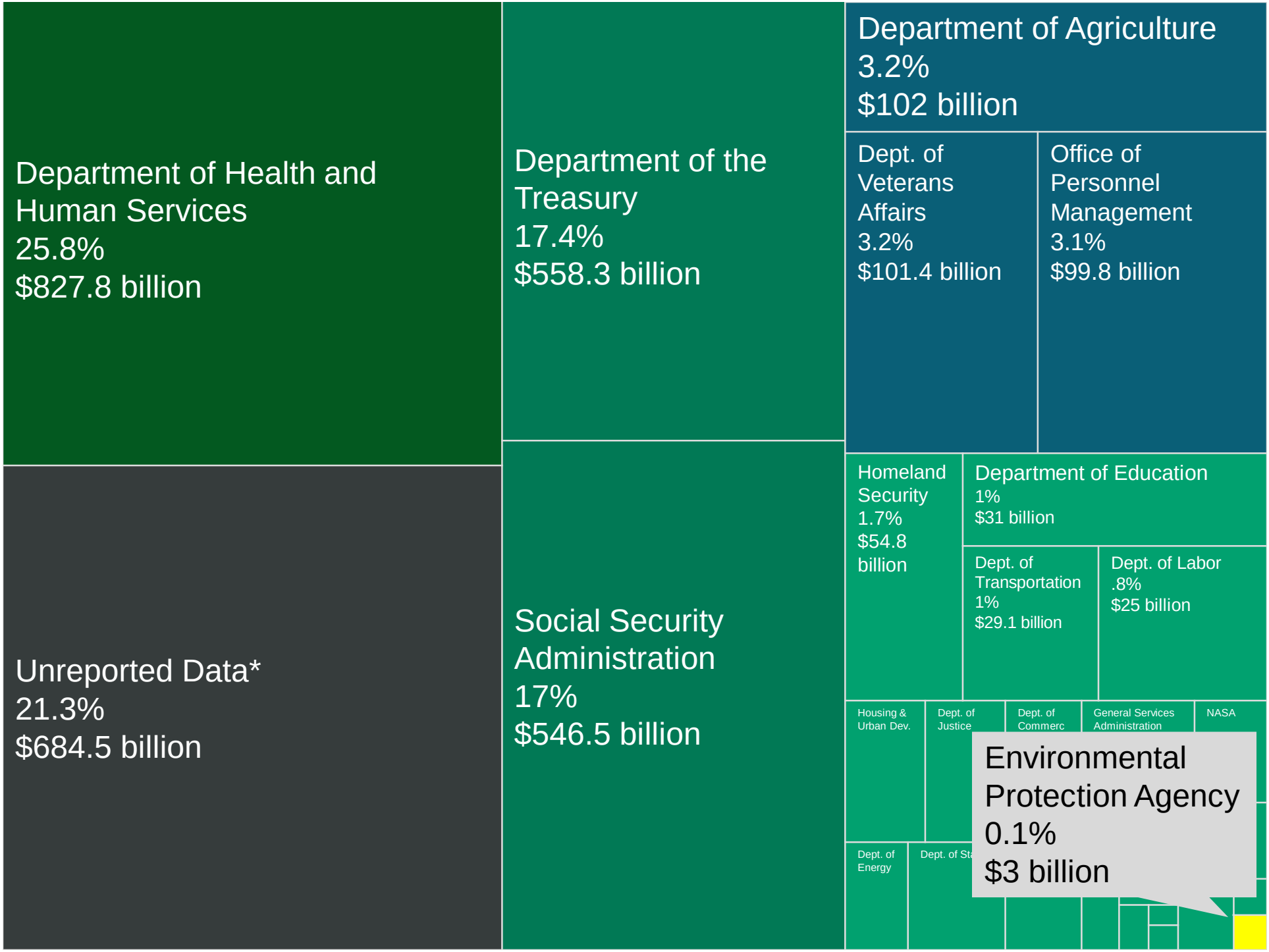
- Technical guidance and training on environmental issues
- Translating good science into better decision-making

E-Enterprise for the Environment

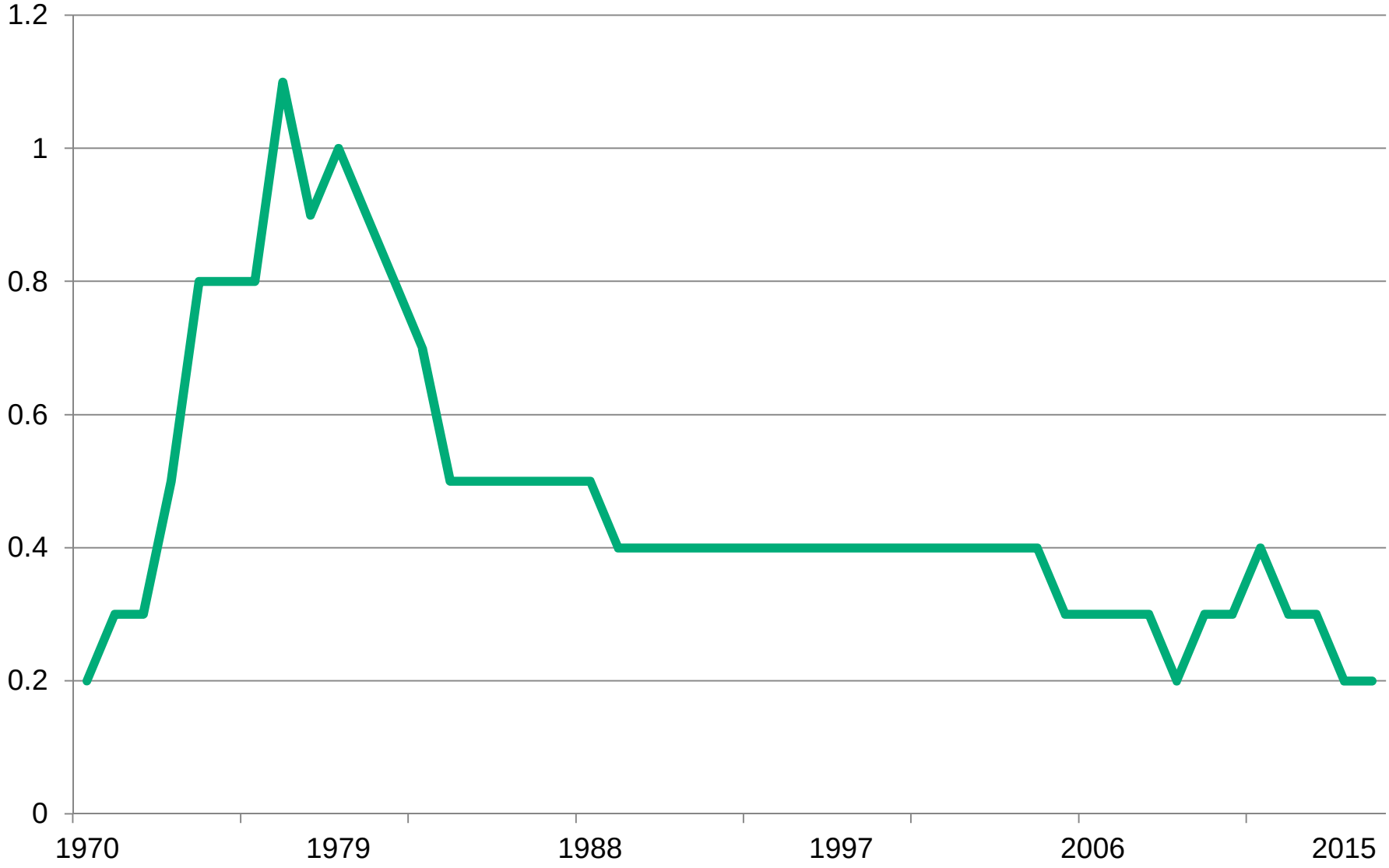
EPA, state, and tribal shared governance initiatives aimed at delivering improved results with lower costs

Projects include:

- Advanced Monitoring
- Combined Air Emissions Reporting
- E-Manifest for Hazardous Waste
- E-Enterprise Inventory

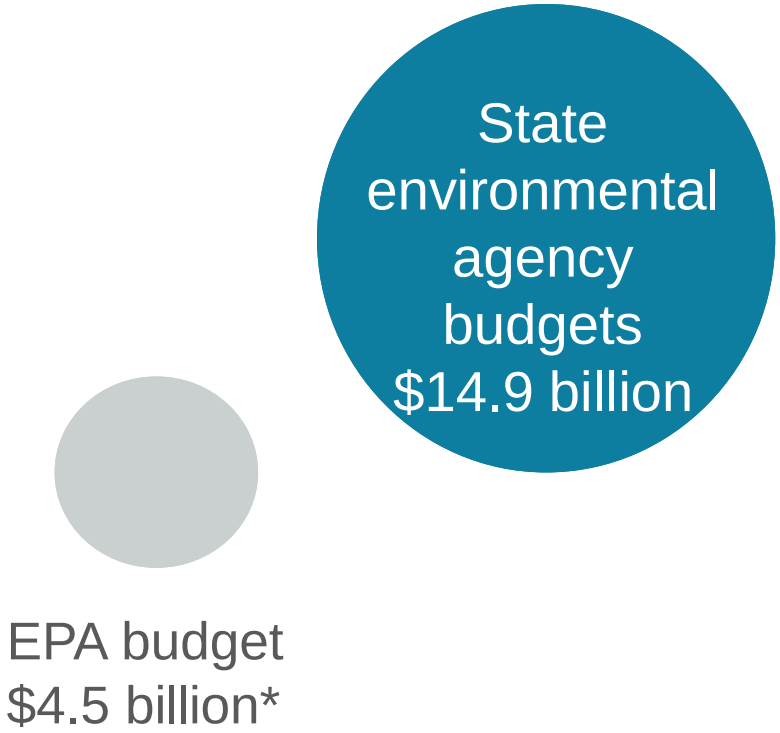

Department of Health and Human Services
25.8%
$827.8 billion
Department of the Treasury
17.4%
$558.3 billion
Department of Agriculture
3.2%
$102 billion
Dept. of Veterans Affairs
3.2%
$101.4 billion
Office of Personnel Management
3.1%
$99.8 billion
Unreported Data*
21.3%
$684.5 billion
Social Security Administration
17%
$546.5 billion
Homeland Security
1.7%
$54.8 billion
Department of Education
1%
$31 billion
Dept. of Transportation
1%
$29.1 billion
Dept. of Labor
.8%
$25 billion
Housing & Urban Dev.
Dept. of Justice
Dept. of Commerc
General Services Administration
NASA
Dept. of Energy
Environmental Protection Agency
0.1%
$3 billion

EPA budget, as a percentage of total government spending



Source: Need source from Owen

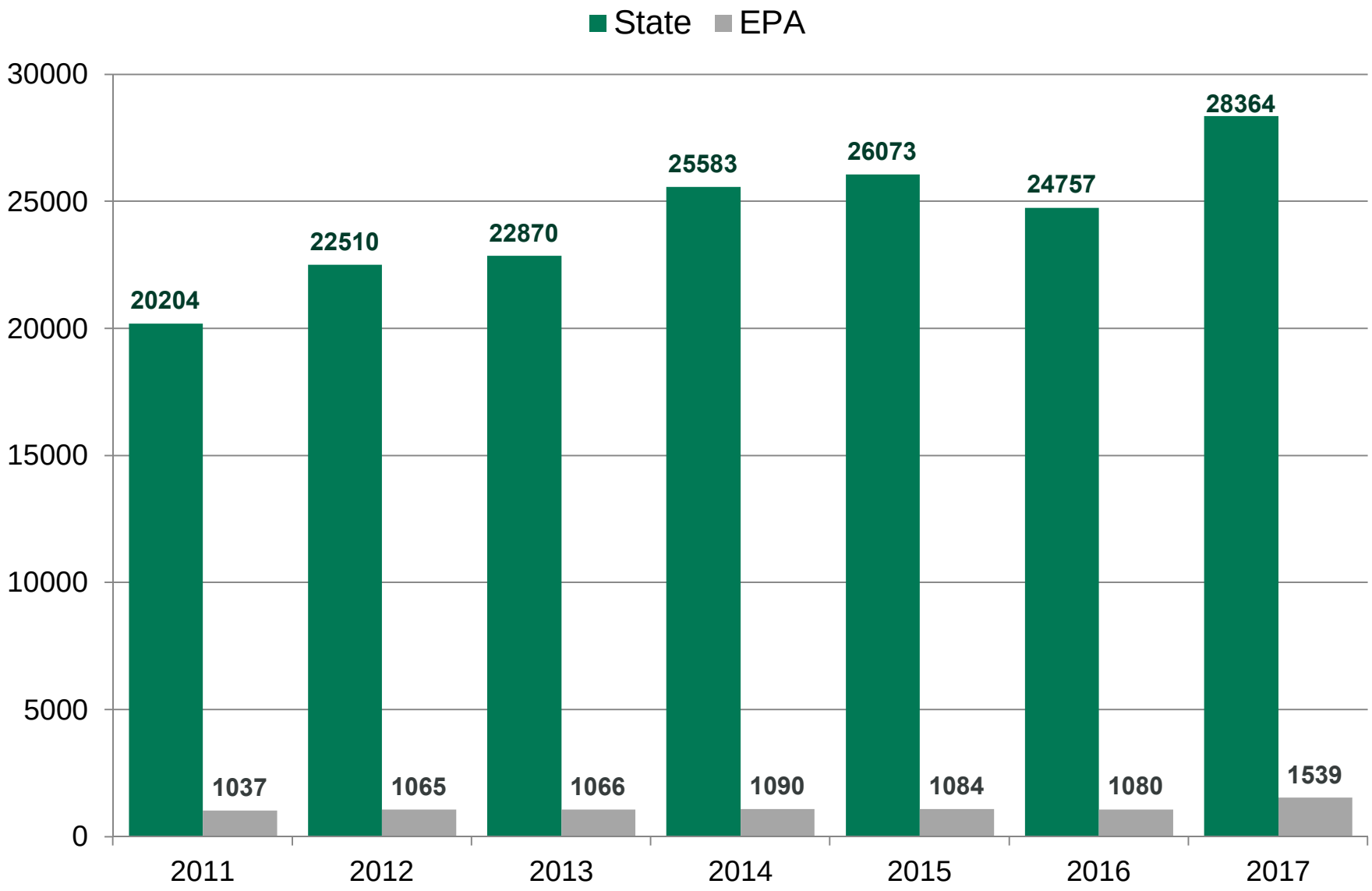
EPA vs. state environmental agency spending



* Excluding state and tribal assistance grants

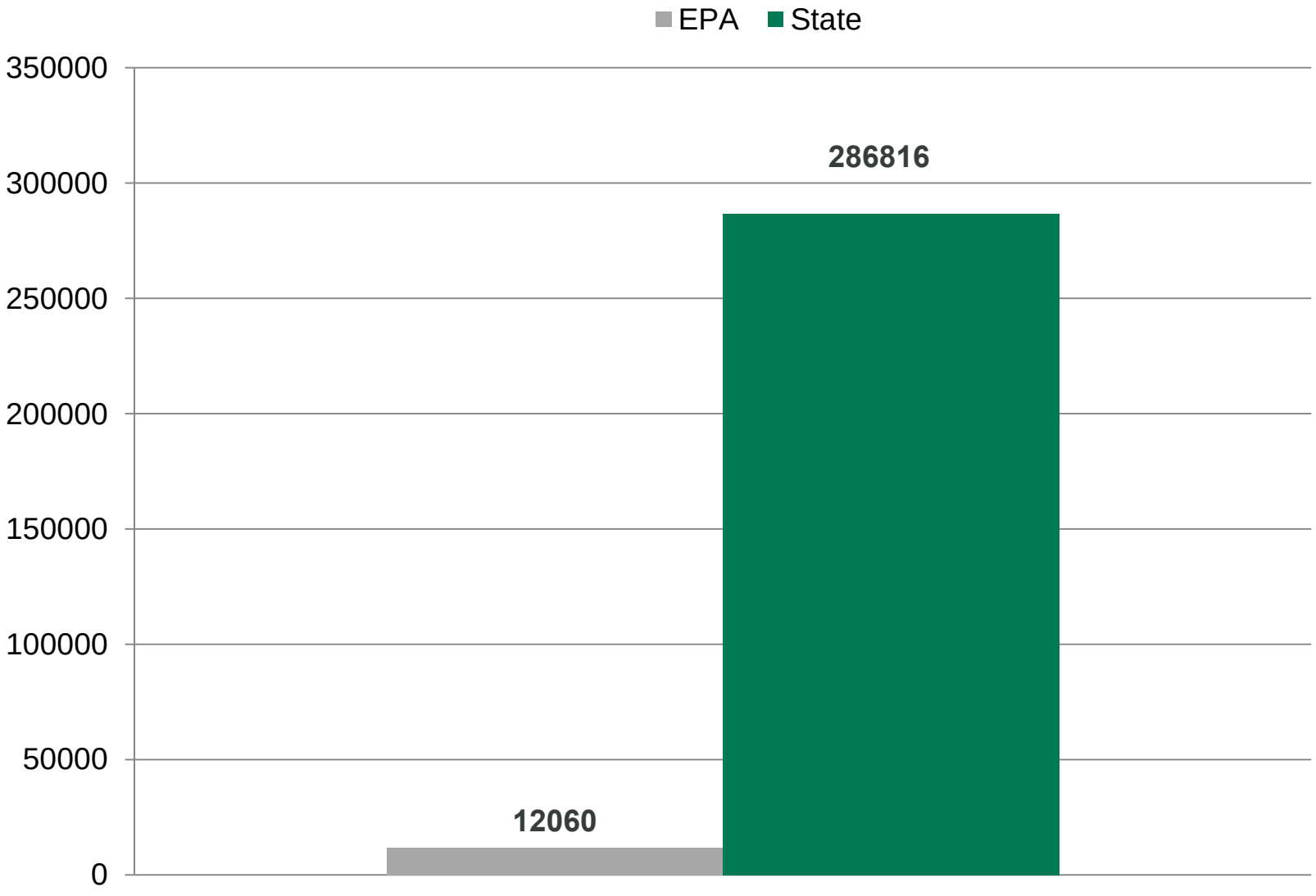
Sources: 2017 ECOS Green Report: Status of State Environmental Agency Budgets 2013- 2015
EPA FY 2015 Enacted Budget, Justification of Appropriation Estimates for the Committee on Appropriations

NPDES facilities inspected by EPA or state agency



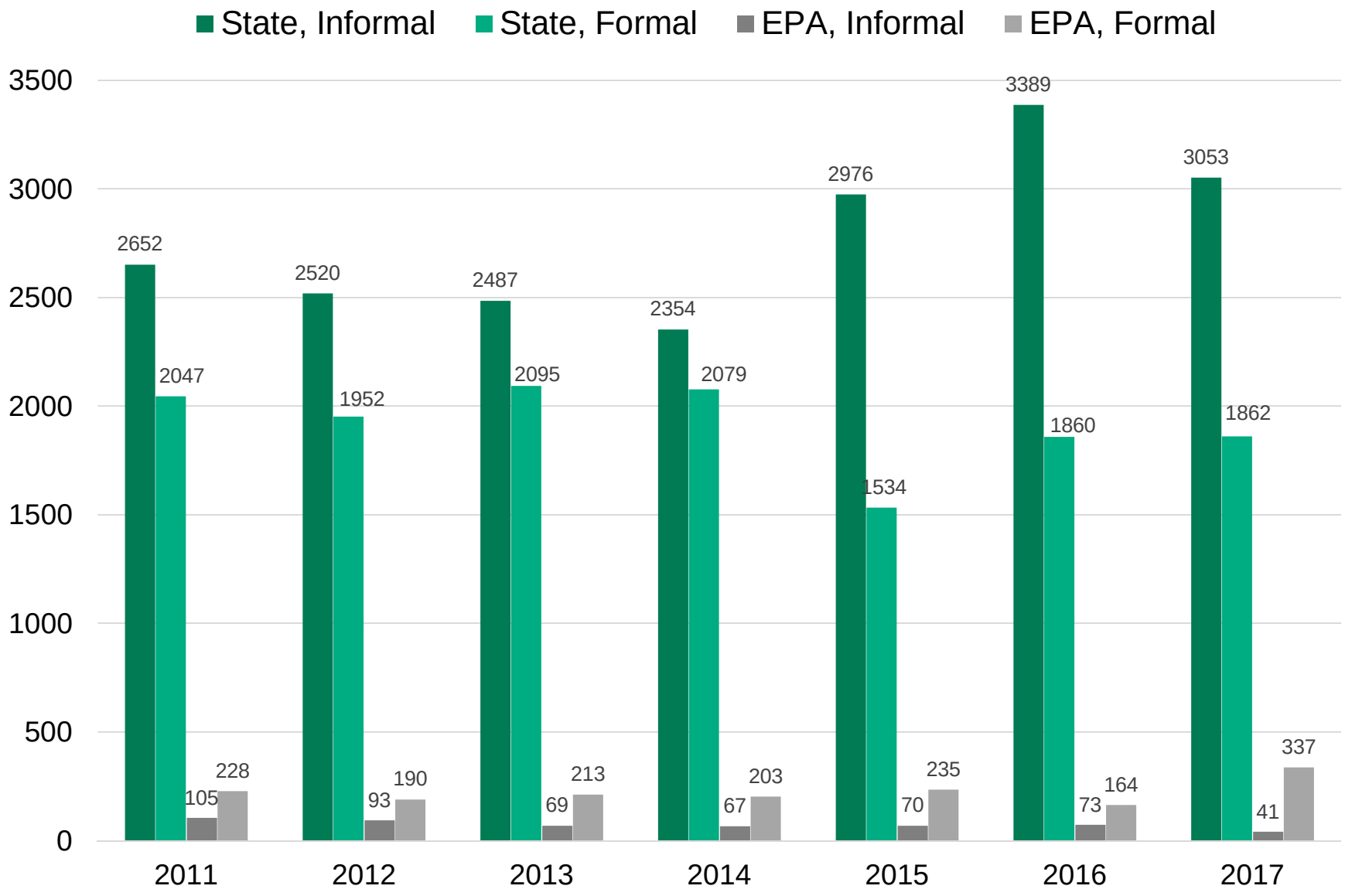
Source: U.S. EPA's Enforcement and Compliance History Online (ECHO) State Water Dashboard

NPDES facilities by permit-issuing agency

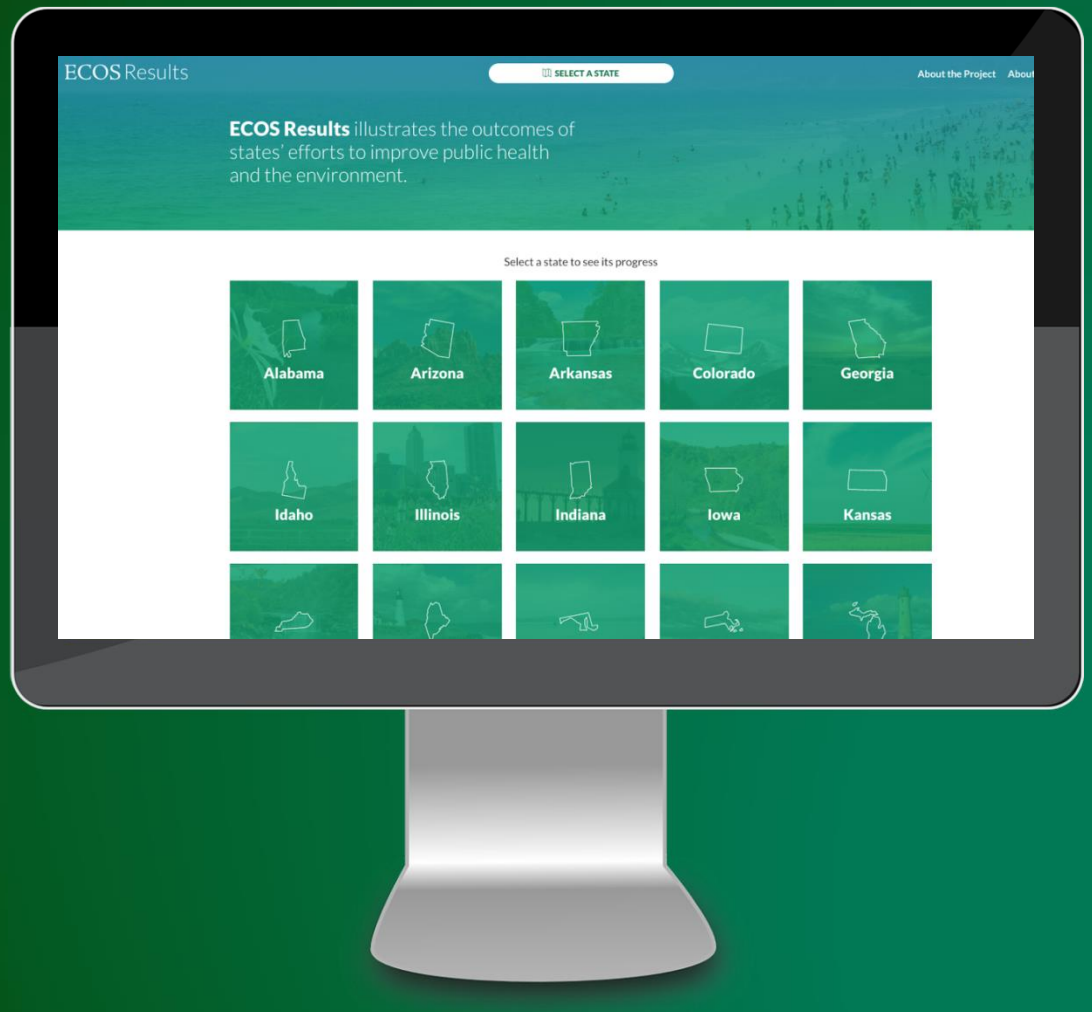


Source: U.S. EPA's Enforcement and Compliance History Online (ECHO) State Water Dashboard

Clean air enforcement actions by states and EPA



Source: U.S. EPA's Enforcement and Compliance History Online (ECHO) State Air Dashboard

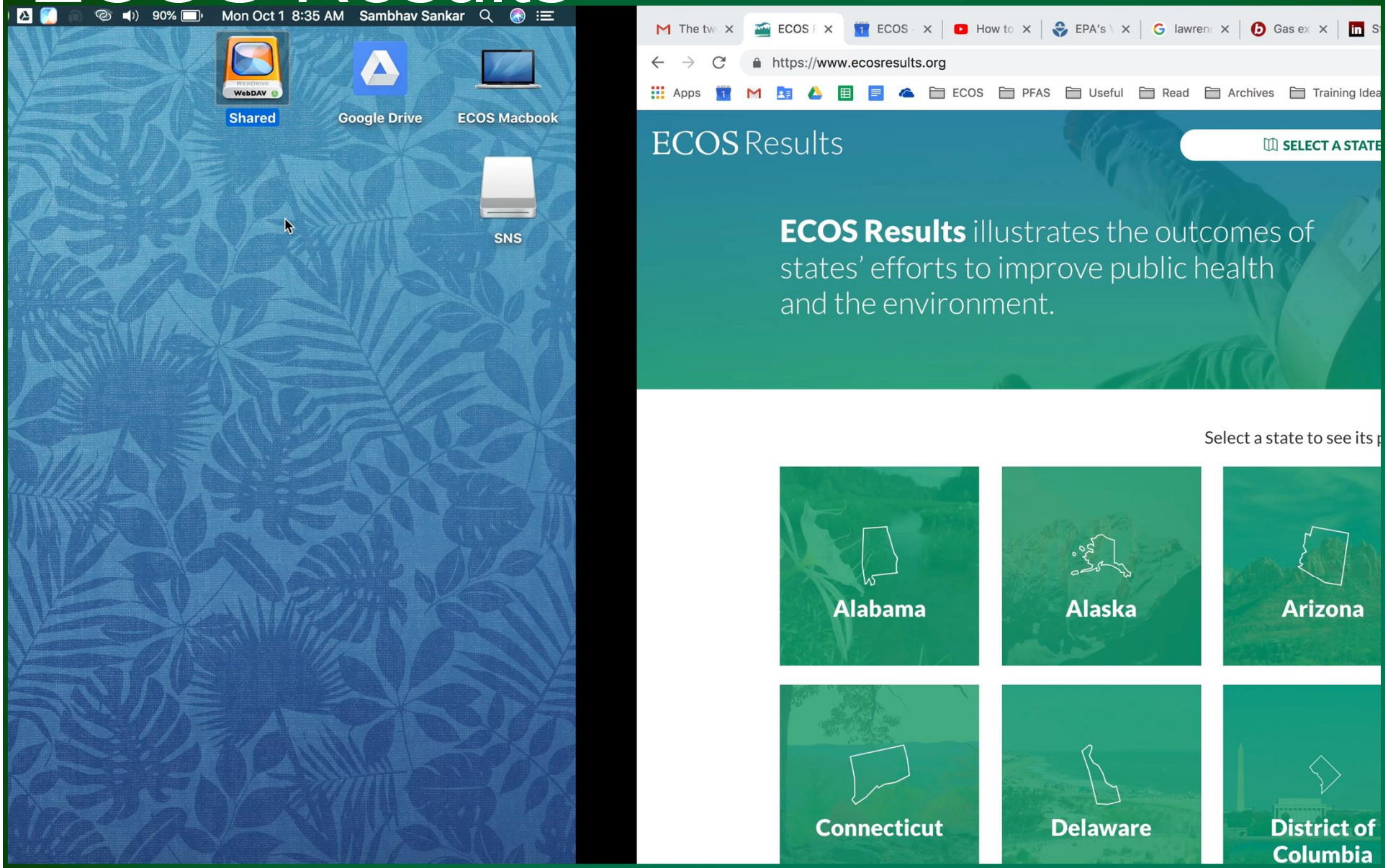


ECOS Results

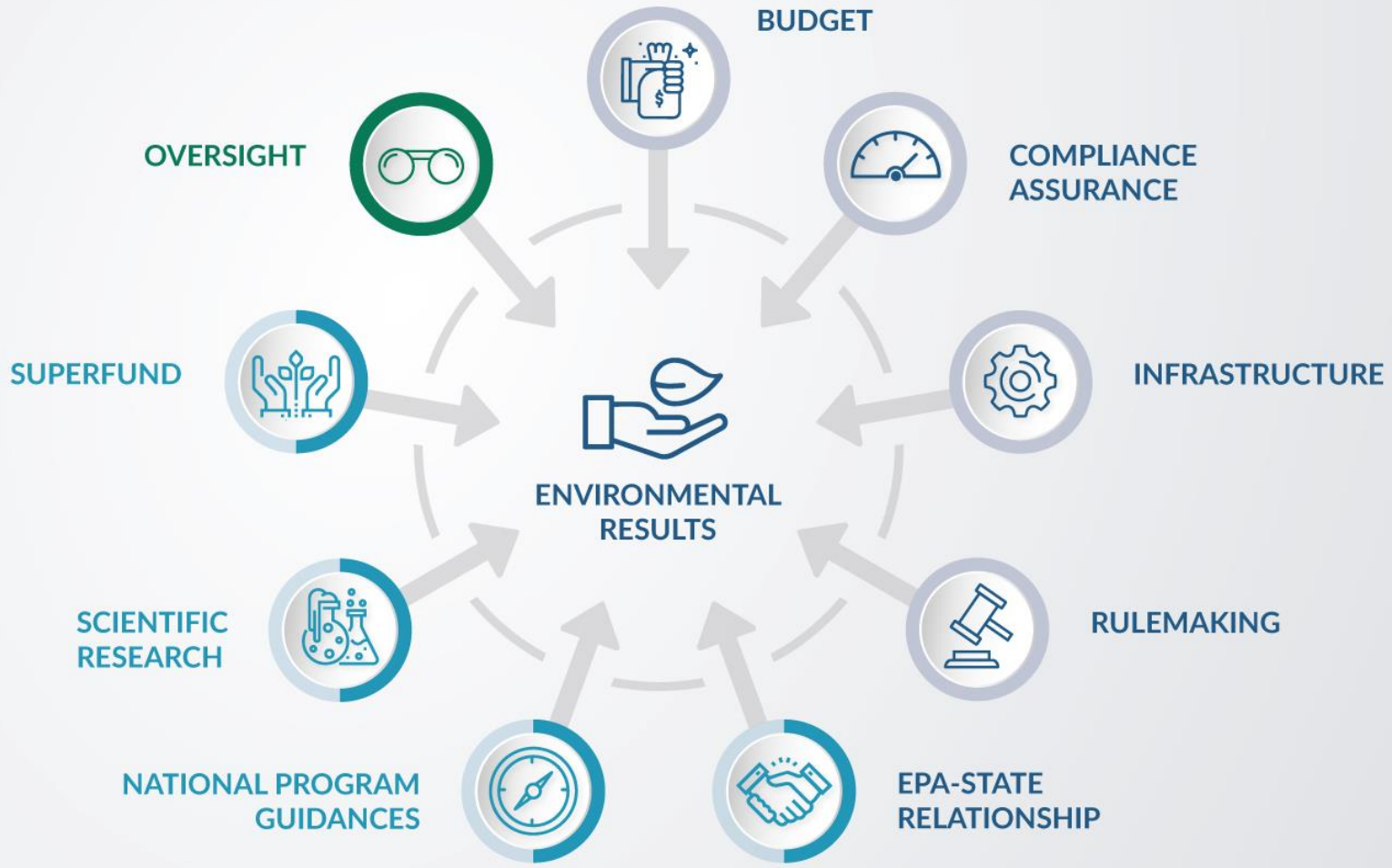
An interactive web tool designed to communicate to the public and other audiences state stories of public health and environmental progress

Flexible, tells a cohesive story, provides pathways to learn more.

ECOS Results



COOPERATIVE FEDERALISM 2.0



- Work To Be Done
- Partially Completed
- Completed

For more information, view the ECOS Fall Meeting App.

ECOS

Cooperative Federalism And Permitting Oversight

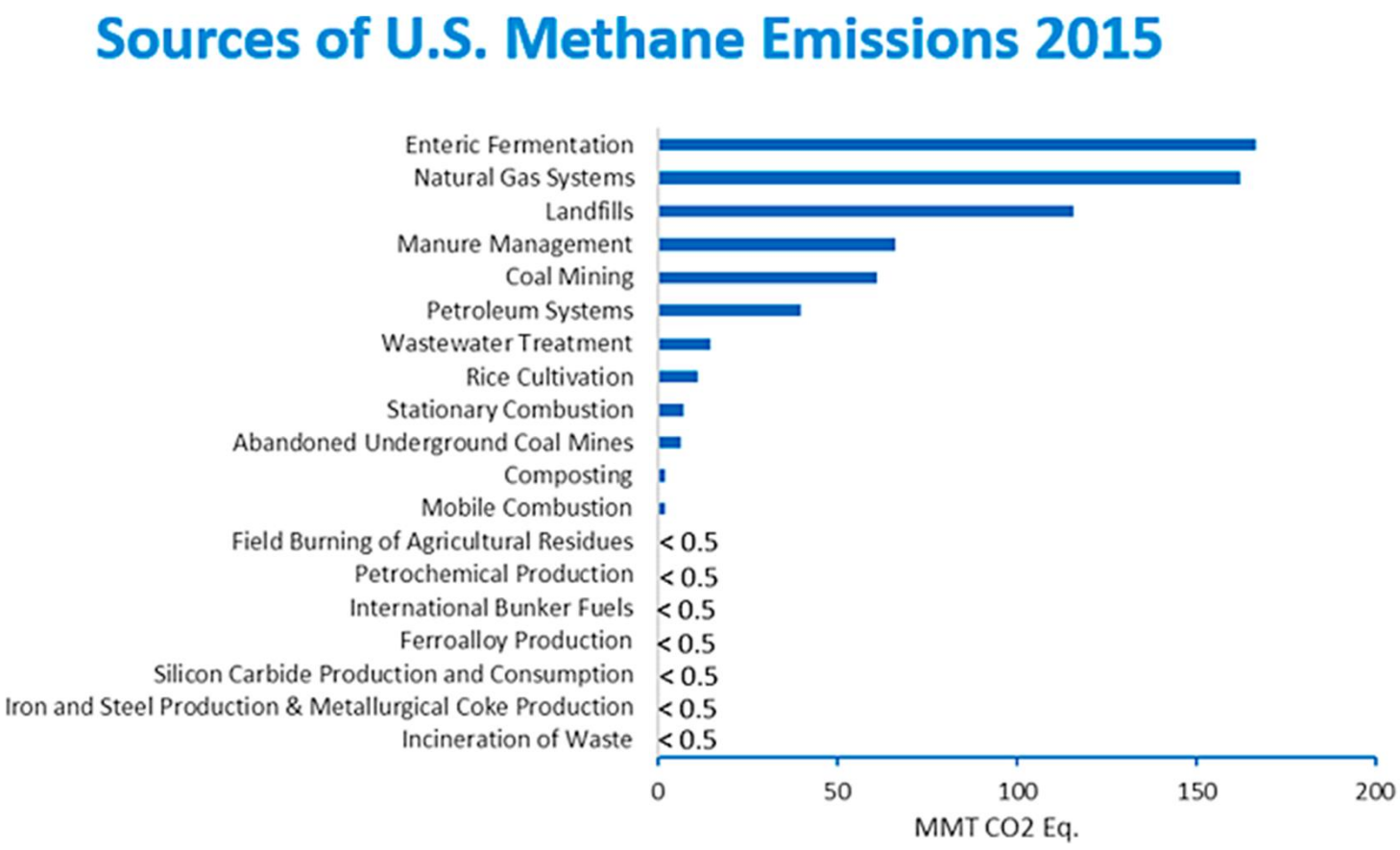
EPA and ECOS are discussing ways to streamline permitting oversight.

- Clear Escalation Policies
- Establish Standards of Review
- Emphasize programmatic review

The ECOS Shale Gas Caucus (SGC)

- Launched in 2014
- Co-chaired by Martha Rudolph of CO, David Glatt of ND
- 23 State Members
- Current partners:
  - U.S. EPA (methane projects)
  - Environmental Defense Fund & Southwestern Energy (cross-media webinar series)

Methane Sources



Lost Value

Lost Value	Low Range *(Low Price, Low Volume)*	High Range *(High Price, High Volume)*
Severance Tax	$3.7 million	$5.8 million
Ad Valorem	$3.4 million	$6.5 million
State Royalties	$664,000	$1.6 million
Federal Royalties (state share)	$1.1 million	$2.2 million
Total Lost Tax & Royalties	$8.8 million	$16.1 million

ECOS Shale Gas Caucus (SGC) Projects

- Air-related projects including ECOS Methane and Air Toxics Reduction Information Exchange (E-MATRIX)
- Cross-Media Webinar Series

ECOS Methane and Air Toxics Reduction Information Exchange (E-MATRIX)

- Promote information exchange between states, EPA, and various stakeholders
- Enable replication of programs
- Inform interested parties of ongoing regulatory and voluntary efforts

E-MATRIX Sampling of State Advances on Methane and Air Toxics

Colorado

Å First state to regulate methane emissions

Å Initially adopted EPAâs regulations

Å Since 2014, CO has made strides and become the first state to codify a process for using new technologies.

North Dakota

Å Flaring Reduction Rule

Å Goal: 91% gas capture by 2020

Pennsylvania

Å Updates to general permits for O&G

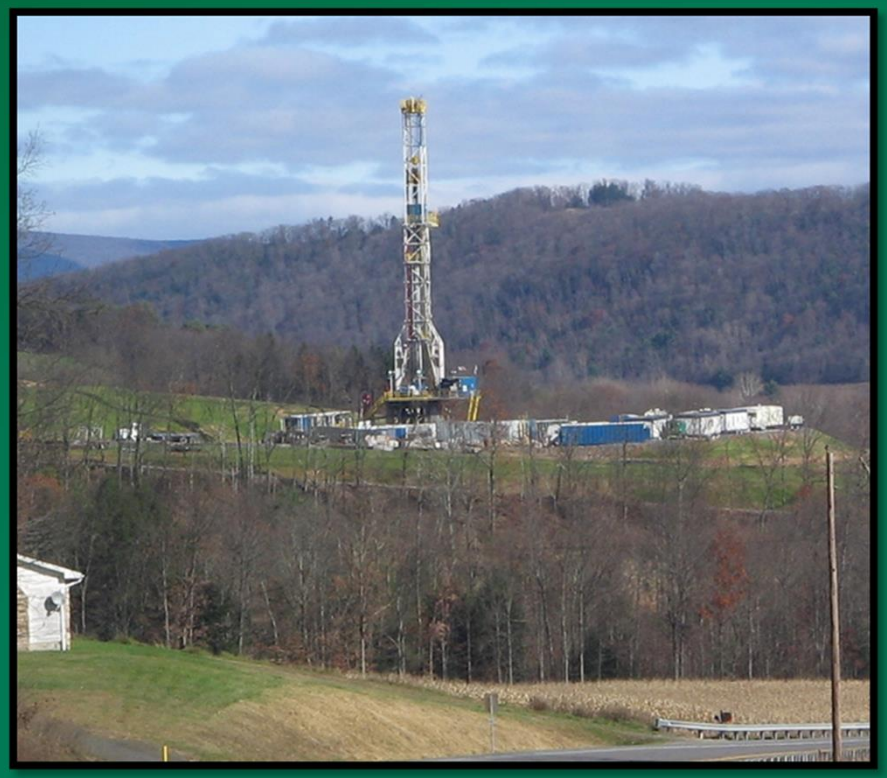
Cross-Media Webinar Series

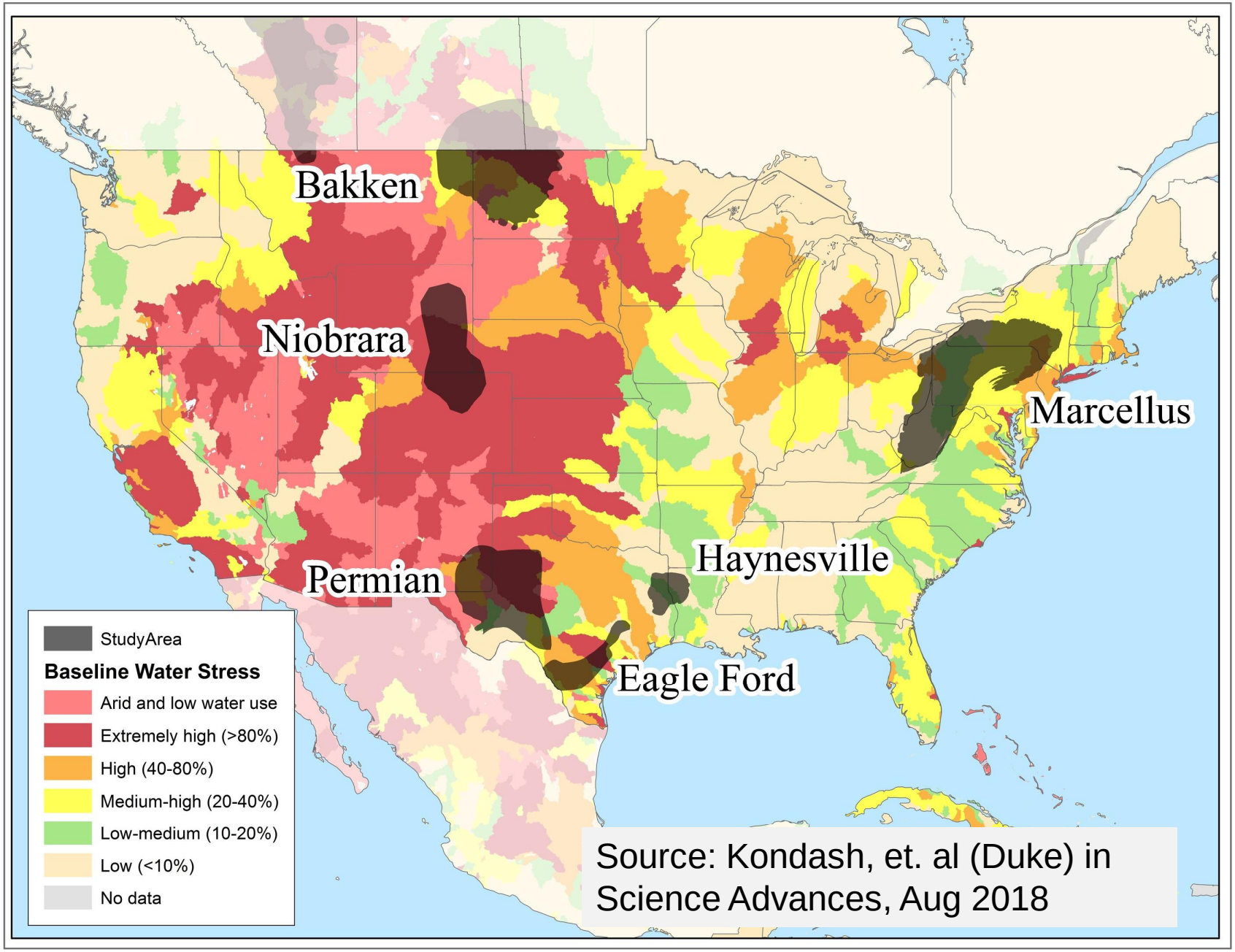
- Phase 3 of our monthly webinar series with our partners the Environmental Defense Fund, EDF+Business, and Southwestern Energy.

- This years topics have been:
  - produced water
  - methane reduction
  - alternative compliance pathways.

U.S. EPA Oil & Natural Gas Roundtable

- February 2018
- Cosponsored by ECOS and the IOGCC
- Attendees discussed:
  - Improving relationships
  - Identifying and sharing solutions
  - Boosting compliance
  - Produced Water
  - Partnerships





Source: Kondash, et. al (Duke) in Science Advances, Aug 2018

Water Use is Increasing

ñFrom 2011 to 2016, the water use per well increased up to 770%, while flowback and produced water volumes generated within the first year of production increased up to 1440%.ò

ñThe steady increase of the water footprint of hydraulic fracturing with time implies that future unconventional oil and gas operations will require larger volumes of water for hydraulic fracturing, which will result in larger produced oil and gas wastewater volumes.ò

(Kondash, et. al *Science Advances,* Aug 15, 2018)

Produced Water Toxicity and Reuse

Colorado

- Working with EPA to determine the chemical composition of produced water

North Dakota

- Establishing new guidelines for produced water use

Oklahoma

- Identifying policy gaps to fill before allowing produced water reuse

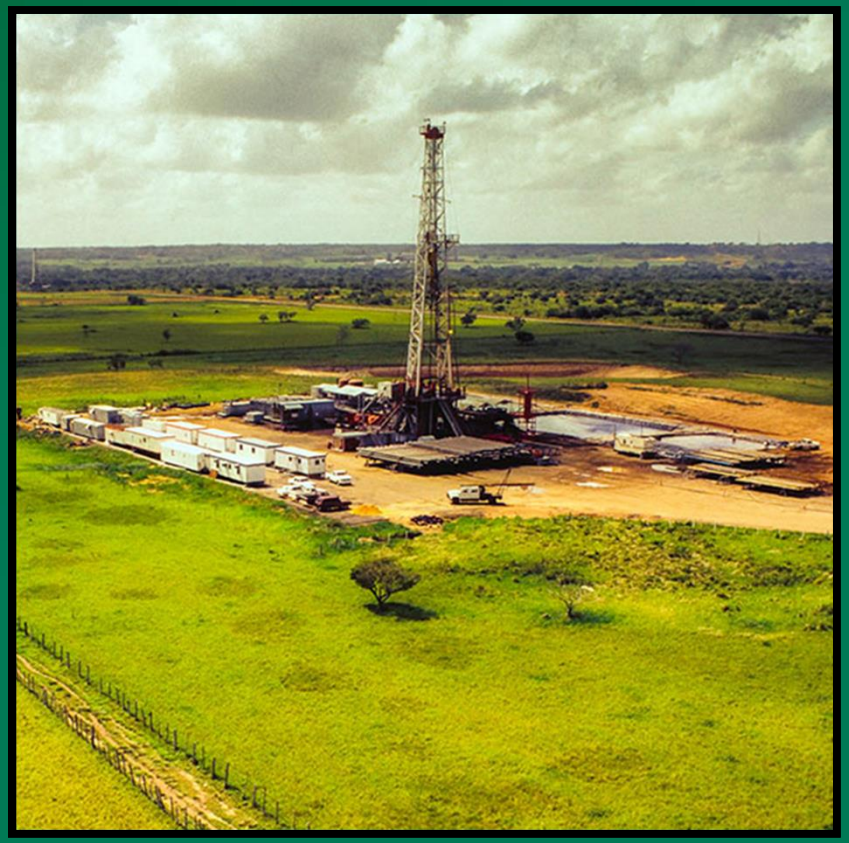
New Mexico

- MOU with EPA to explore current regulatory framework and identify opportunities for treated produced water beneficial use.

Alternative Compliance Pathways for Air Technologies

ECOS & EDF+ Business Advisory Group

Å developing a white paper on alternative compliance pathways for new methane technologies



SGC-EPA O&G Methane Activities

Oil and Gas Methane Activities

Å Work with ITRC as well as build relationships with entities such as NARUC, FERC, DOE, DOT, AGA, and others.

Å Address topics such as:

- Å Barriers to methane reduction
- Å Streamline approvals of new oil and gas emissions control technologies for use in complying with state and federal rules.
- Å Advanced Monitoring Technology

Interstate Regulatory Technology Council (ITRC)

ECOS affiliate working to achieve healthy and sustainable air, water, land, and ecology through the adoption of innovative solutions.

Å Team: Evaluation of Innovative Methane Detection Technologies

Å Best practices report "Evaluation of Innovative Methane Detection Technologiesòreleased September 28, 2018.

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ECOS

Thank you!

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