ECOS Shale Gas Caucus & e-MATRIX

The ECOS Shale Gas Caucus (SGC)

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

EDF ENVIRONMENTAL DEFENSE FUND®
Finding the ways that work

SWN Southwestern Energy®

Why e-MATRIX?

- Promote information exchange among state environmental regulators, U.S. EPA, and various stakeholders regarding the air impacts of shale gas use.

Why e-MATRIX?

- Meet the needs of ECOS members by providing quality information and forward-thinking solutions they might seek to replicate.

Why e-MATRIX?

- Help inform ECOS members and other interested stakeholders of ongoing (federal and local) regulatory and voluntary efforts on methane and VOC reduction.

The e-MATRIX


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SGC's e-MATRIX
ECOS Methane and Air Toxics Reduction Information Exchange
E-MATRIX, a project of the ECOS Shale Gas Caucus (SGC), provides users easy access to information on state best practices and cost-effective technologies that reduce air emissions at points along oil and gas systems. To view these practices and technologies, simply click on the interactive flow diagrams of the oil and gas industry and select the corresponding technical documents of interest.
Initially sponsored by the Government of Canada and initially developed by Clearstone Engineering Ltd., E-MATRIX also was made possible by the following SGC project partners: U.S. Environmental Protection Agency, U.S. Department of Energy, Environmental Defense Fund, Southwestern Energy, and American Gas Association. In addition, ECOS would like to acknowledge the invaluable assistance of SGC technical advisor Eastern Research Group, Inc. in the development of the database.
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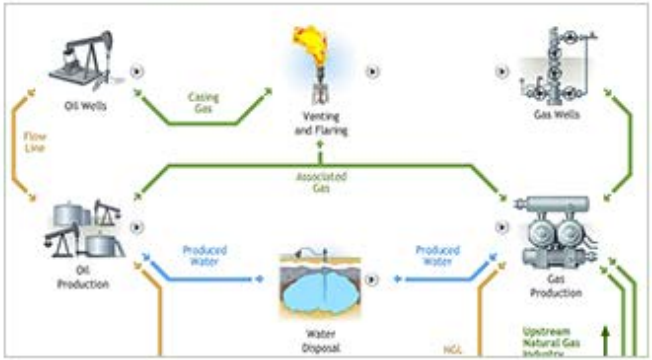
Flow Diagrams



Technical Documents

Mining Bitumen Extraction

The Extraction process equipment (PSV's and flotation vessels) are contained in large buildings for protection from the freezing temperatures. The equipment which is closed can be vented to atmosphere outside of the building to assure industrial hygiene requirements are met. Venting from open equipment can be controlled accordingly with "fume" gathering hoods and air movers. Operation of the froth deaeration vessel with steam injection results in a release of the steam and air mixture to the environment as directed from the outlet of the vessel.

Read More

Industry Description

Excavation Equipment

Mining excavation of the oil sand is done with large shovels, mainly with electric operated cable shovels supported by some diesel powered hydraulic shovels. The cable shovels are larger at 55 m3 capacity and are used where the mine face has large thicknesses either of ore or waste. The hydraulic shovels of some 35 to 40 m3 capacity are used where selective mining is required or the bench heights are not suited to the larger shovels. This combination of equipment allows optimization of the mine operation.

Read More

Air Issues R & D

Gas Production

GAS PRODUCTION AIR ISSUES R&D

OIL & GAS INDUSTRY AIR ISSUES R&D

Glossary

Fuel Combustion

This accounts for the emissions from the consumption of all types of fuel typically encountered at oil and gas facilities (i.e., natural gas, propane and diesel) in both internal (reciprocating engines and gas turbines) and external (heater and boilers) combustion devices. Typically, emissions are estimated based on measured fuel volumes and published combustion emission factors.

< Previous Term Next Term >

Print Options: Print preview

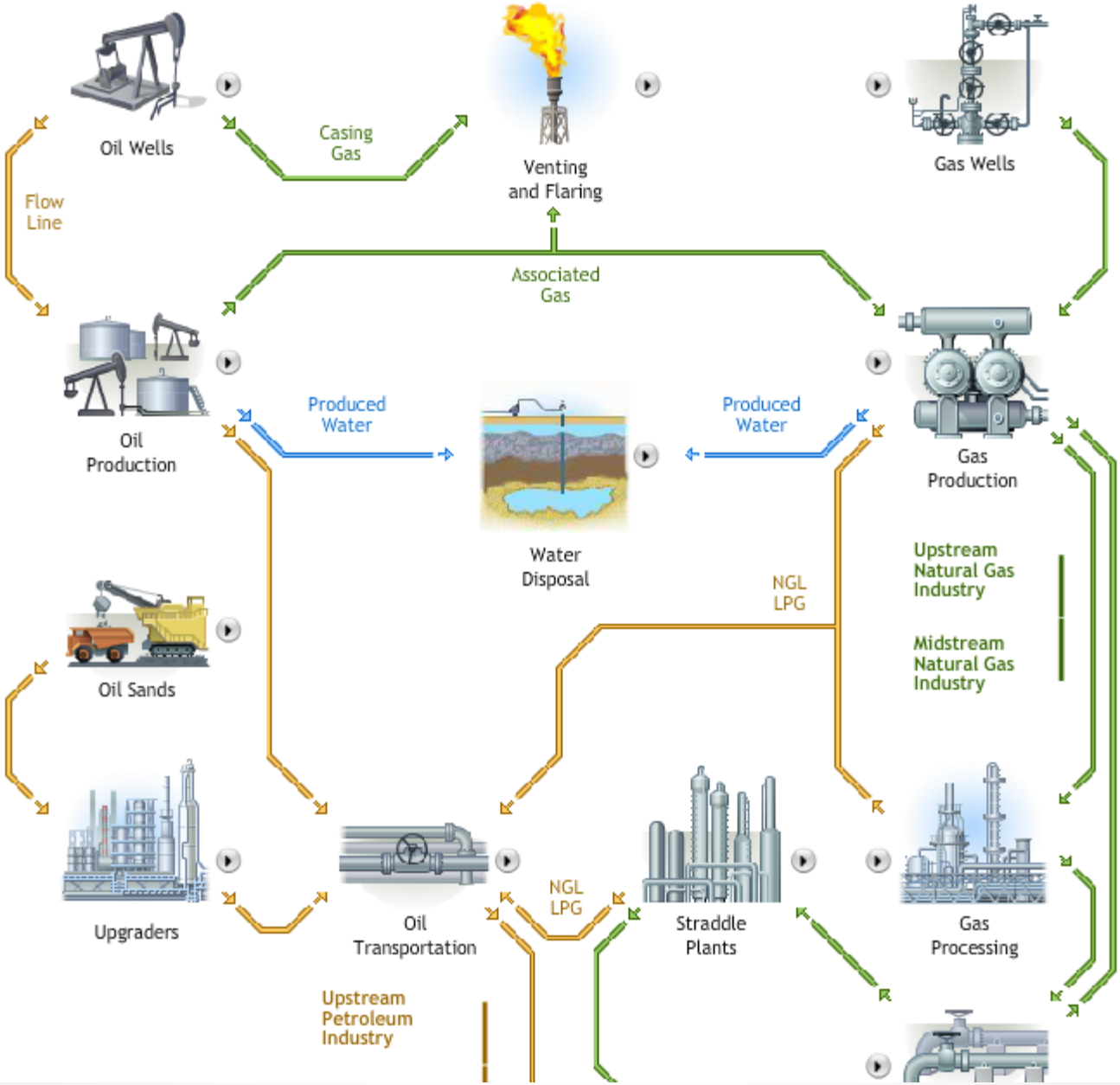
Links

Intergovernmental Panel on Climate Change (IPCC)

The IPCC was established to provide the decision-makers and others interested in climate change with an objective source of information about climate change. The IPCC does not conduct any research nor does it monitor climate related data or parameters. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation.

Visit Web Site

Crude Oil System

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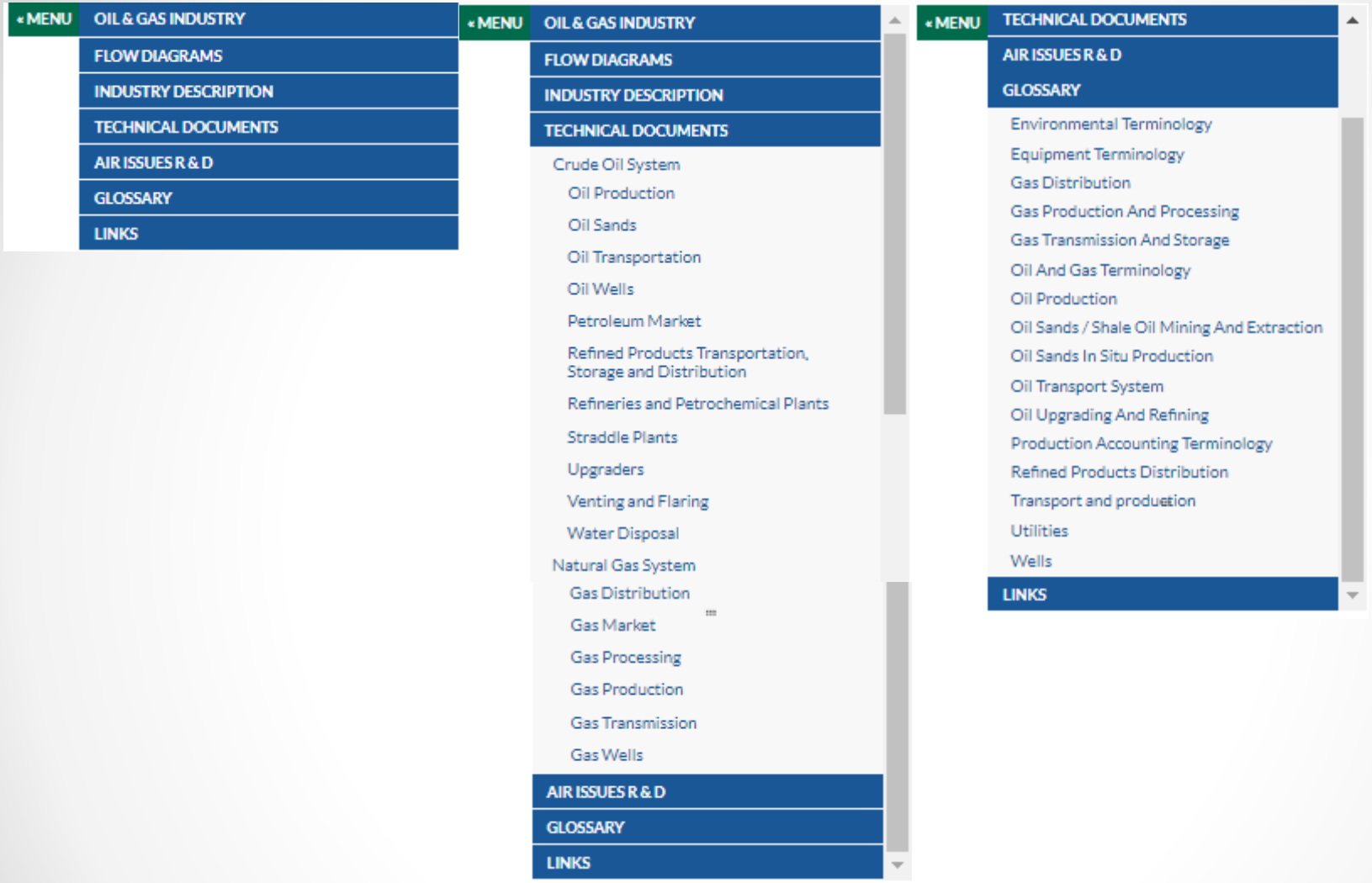
TECHNICAL DOCUMENTS

Well

- Reduced Emission Completions
- Green Flowback Process (PDF,IPS,2005)
- Green Completions Fact Sheet (PDF,EPA,2004)
- Efficient Use of Fuel Gas in Pumpjacks (URL,CETAC WEST,2008)
- Guidance document for oil and gas MSS emissions (PDF,TCEQ,2014)
- Permit Application Analysis AP-16925 (PDF,WDEQ,2014)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US Environmental Protection Agency — Technology Transfer Network

The Technology Transfer Network (TTN) is a collection of technical Web sites containing information about many areas of air pollution science, technology, regulation, measurement, and prevention. In addition, the TTN serves as a public forum for the exchange of technical information and ideas among participants and EPA staff.

Visit Web Site

Natural Gas STAR Program

The Natural Gas STAR Program is a flexible, voluntary partnership between EPA and the oil and natural gas industry. Through the Program, EPA works with companies that produce, process, and transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a potent greenhouse gas.

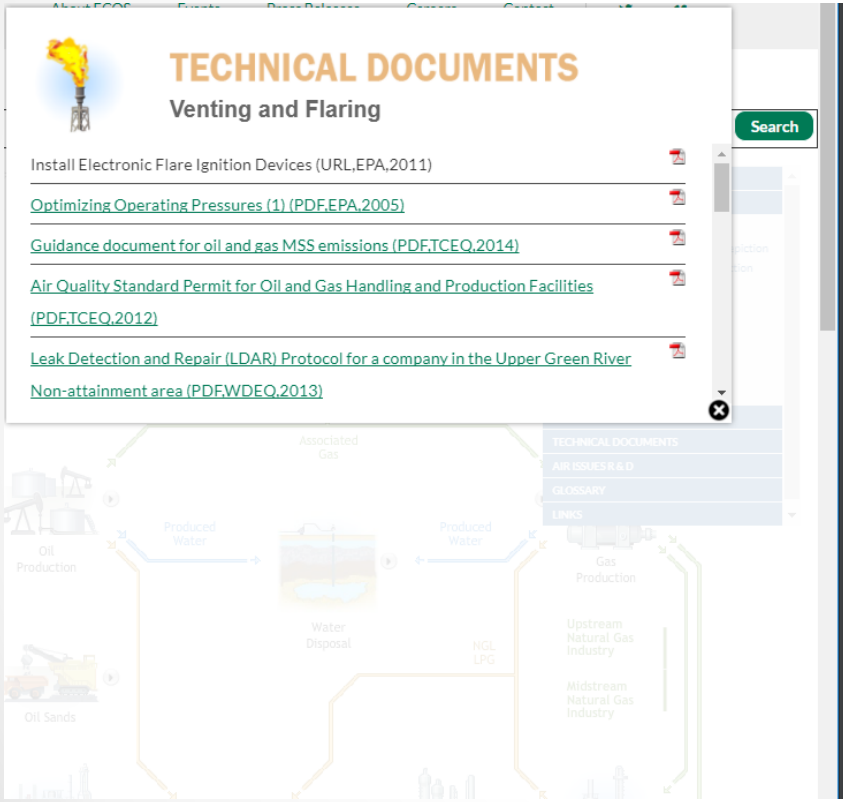
Visit Web Site

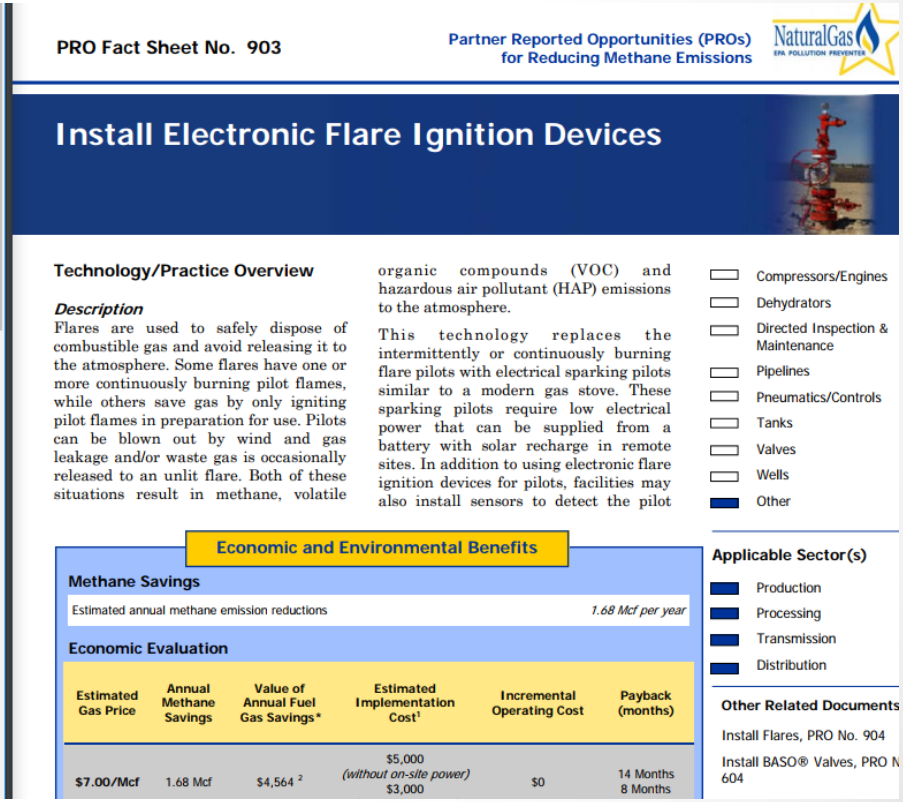
Methane to Markets

The Methane to Markets Partnership is an international initiative that advances cost-effective, near-term methane recovery and use as a clean energy source. The goal of the Partnership is to reduce global methane emissions in order to enhance economic growth, strengthen energy security, improve air quality, improve industrial safety, and reduce emissions of greenhouse gases.

Visit Web Site

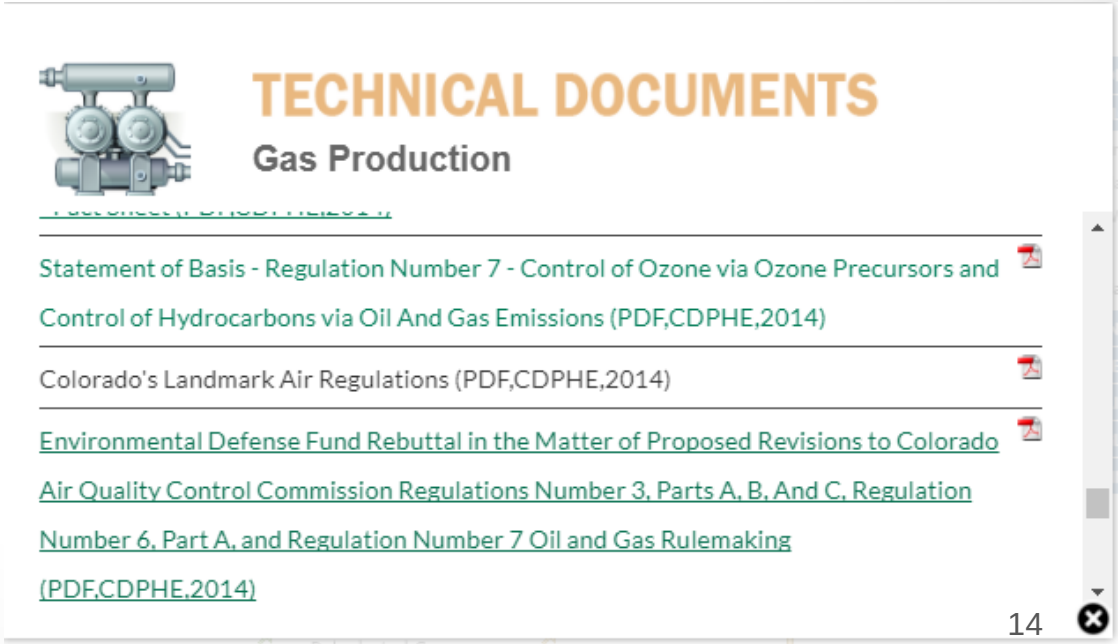
Sharing Best Practices





CO VOC and Methane Reduction

- Colorado pioneered a rule reducing methane and VOCs.
- Reduces emissions by thousands of tons per year.



ND Flaring Reduction Rule

- Goals: Reduce the flared volume of gas, number of wells flaring, and duration of flaring from wells.

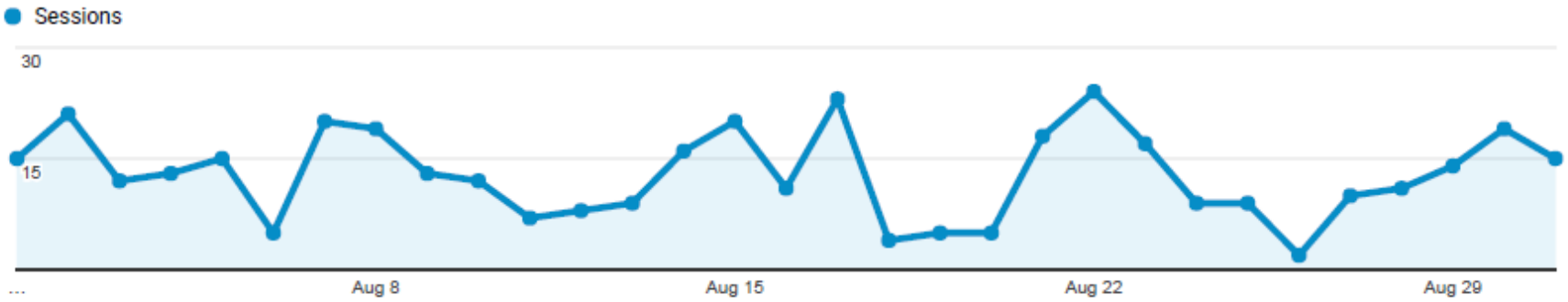
PA Methane Reductions from the Oil and Gas Sector

- New sources subject to regulation
- Existing sources have more stringent requirements

Recent e-MATRIX Work Completed

- Web Analytics
- Icons to depict each stage of the production process
- Continuing to load best practices

Web Analytics: Aug. 2017



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401	359	937

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Ongoing Collaboration with U.S. EPA

- Create ECOS Oil & Gas Methane Workgroup
- Build relationships with key groups including NARUC, FERC, U.S. DOE, U.S. DOT, AGA, & Others
- Identify barriers to methane reduction, seek innovative solutions.

SGC Phase 3 Work with EDF & Southwestern Energy

- Cross-media series of webinars to share best practices
  - Alternative Compliance Pathways
  - Methane Detection and Promoting Interstate Collaboration
  - Produced Water

Contacts

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