ENVIRONMENTAL IMPACTS OF OIL AND GAS PRODUCTION

- Energy is needed by our economy, but oil and gas production present many environmental and technical challenges
- Water consumption for secondary recovery/hydraulic fracturing
- Leaky well bores and spills (groundwater contamination)
- Air pollution
- Climate change
- Seismicity
- Produced water management

http://www.nofrackingway.us/2014/06/05/canadians-scientists-discover-that-old-gas-wells-leak-a-lot-forfrackingever/
RESURGENCE IN OIL & GAS PRODUCTION

Number of Seismic Events greater than 2.0
(data from Oklahoma Geological Survey)

- The recent increase in oil and gas production in Oklahoma has coincided with an uptick in seismic activity
CLASS II INJECTION WELLS/SEISMICITY?

How the Disposal of Salty Wastewater from Oil Extraction Can Trigger Earthquakes

SUMMARY

- Oil and gas production is critical to Oklahoma and the global economy
- Produced water is generated with oil and gas
- Managing produced water is not a new issue, but it is growing with other water challenges and the Oklahoma oil and gas resurgence
- Recycling produced water provides a way to reduce the impacts of oil and gas production
- Social, legal, and technical expertise is needed to solve emerging problems in produced water management
- Multidisciplinary research teams are needed to overcome challenges associated with reuse