

People First, Safety Always

Are You Ready  
for Clean Air

**KINDER****MORGAN**

# Are You Ready for Clean Air?

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- Some think of this.



# Are You Ready for Clean Air?

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I think of this



# Are You Ready for Clean Air?

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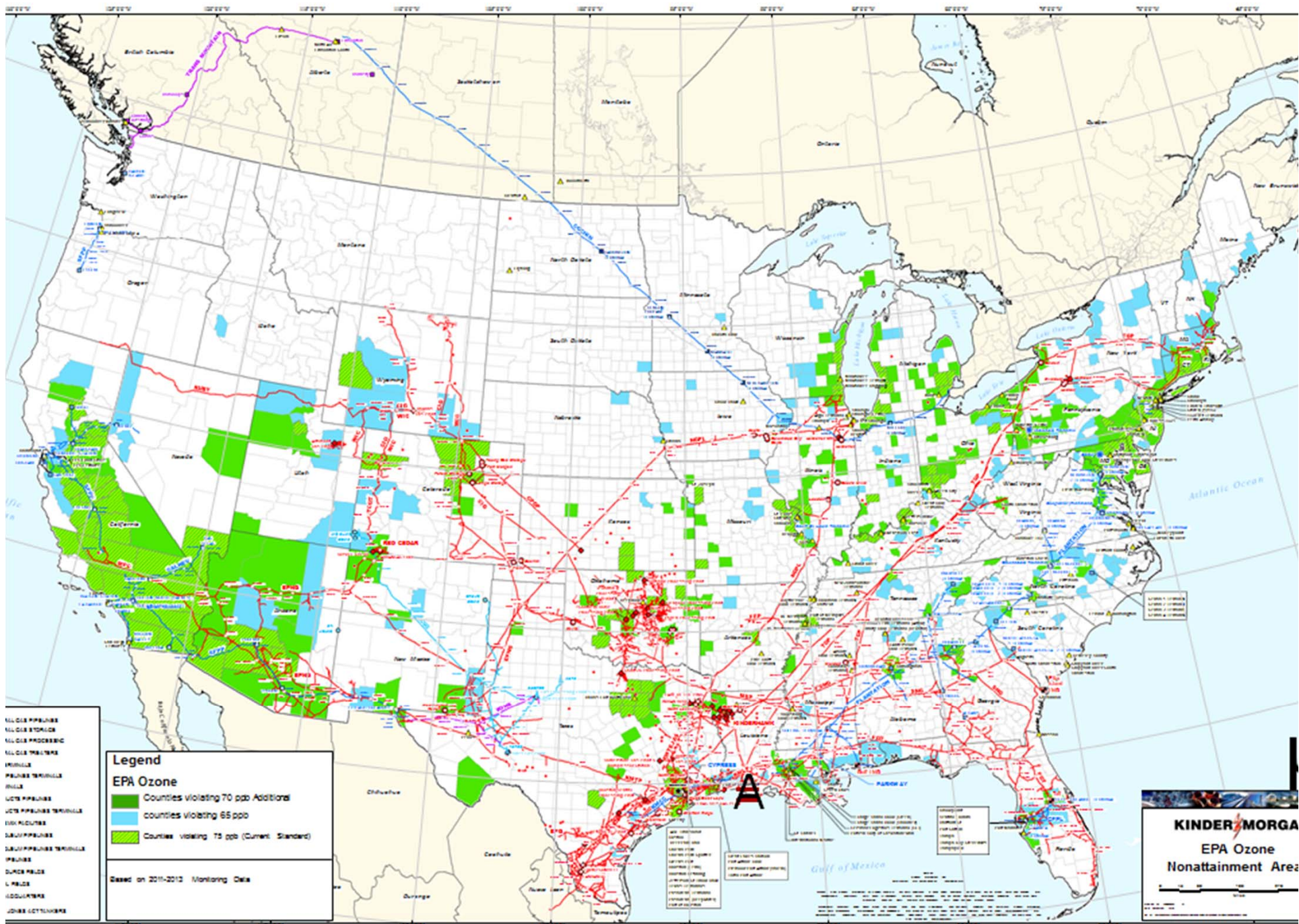
We should be thinking of this!



# Why \$\$s

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- Lower Ozone NAAQS – 70 ppb
- NSPS 0000a
  - New and Modified Sources
    - We hope!
- Methane Challenge



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EPA Ozone  
 Nonattainment Areas  
 Legend  
 Counties violating 70 ppb Additional  
 Counties violating 65 ppb  
 Counties violating 75 ppb (Current Standard)

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# Lower Ozone NAAQS – 70 ppb

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- KM's Estimated Impact Assessment - \$425 million capex
- INGAA Estimated Impact Assessment - \$2+ billion capex
  - Retrofitted engines and turbines
  - Replacement of older HP w/ no viable retrofit options
  - Increased Capex for new construction impacts to offset emissions

# Lower Ozone NAAQS – 70 ppb

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- Timing
  - Legal challenges??
  - EPA Non-attainment designations by Fall 2017
  - State Implementation Plans (SIP) no later than Fall 2020
  - Expect related emission reductions beginning in 2019-2020, depending on outcome of legal challenges



# NSPS 0000a

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- KM's Estimated Impact Assessment – Marginal increased cost
  - Most requirements are part of existing design standards
- Ultimate impact will depend on definition of modification and reconstruction
- Increased O&M costs
  - Leak Detection And Repair (LDAR) requirement
  - Rod Packing replacement every 26,000 hours

# Methane Challenge

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- Best Management Practices (BMPs) Option
  - Application across system; one-size fits all will waste resources and not achieve optimum reductions
- ONE Future Option
  - Apply BMPs where most appropriate to achieve optimum reductions; Directed Inspection & Maintenance (DI&M) and Blowdowns

# T&S Mitigation Options

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- State Implementation Plan Process
  - Focus on best reduction opportunities based on size and utilization
- Allow DI&M instead of LDAR
- Maintain OOOOA applicability to only New, Modified and Reconstructed sources
- Maximize ONE Future to mitigate 111d covering existing sources

Questions?