

Senate Committee On Environment and Natural Resources

NW Natural Supply Chain Methane

Reducing Emissions

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Our Guiding Values

- There is a climate imperative
- We must innovate and evolve together
- In a way that leaves no one behind

Triple Bottom-line Objectives



EQUITY

Provide warmth affordably to the people that depend on us



ENVIRONMENT

Drive down emissions with efficiency, renewables, new technology



ECONOMY

Use our tightest, modern system to support economic vitality and health

How do we use our system to
achieve our climate goals?



Our Plan



OUR PRODUCT

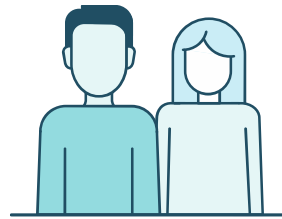
REDUCE

carbon
intensity

Renewable
natural gas

Upstream methane
reduction

Power-to-gas



OUR CUSTOMERS

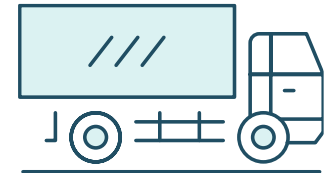
REDUCE

and offset
consumption

Energy efficiency

Smart Energy

New technology



TRANSPORTATION

REPLACE

more carbon
intensive fuels

Displace diesel
in fleets

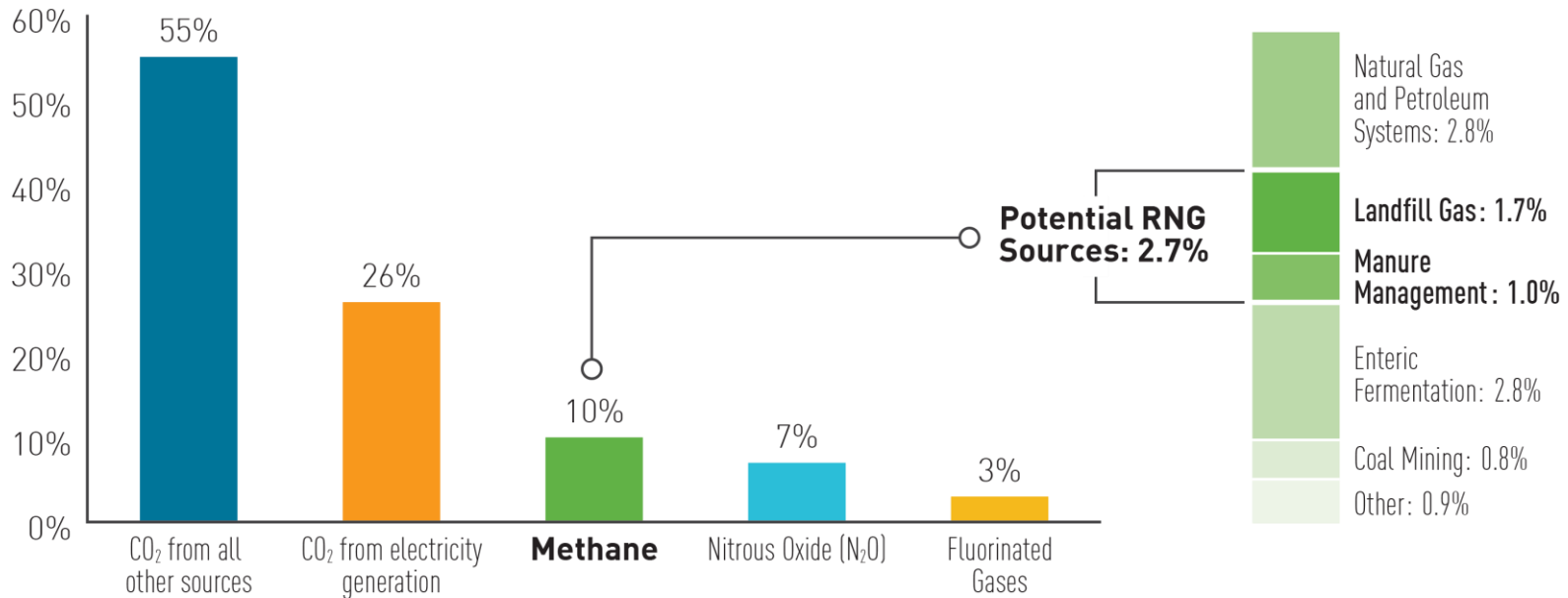
CNG/RNG

Hydrogen

Methane Sources

- Methane, CH₄ is created by the decomposition of organic material.
- Primary constituent of natural gas

U.S. GREENHOUSE GASES BY SOURCE AND SECTOR



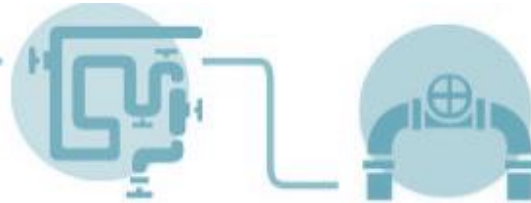
U.S. 2018 GHG (CO₂e) Emissions by Type from Anthropogenic Sources

Methane Emissions Matter

Production & Processing



Transmission & Storage



Distribution



U.S. natural gas full value chain emissions: 1.3% (USEPA)
Reducing Emissions has economy wide benefits

NW Natural leads in the utility sector

- We have one of the newest, tightest systems in the country and we push for improvements
 - One of the first utilities to remove bare steel and cast iron pipe from our system

Industry pursuing innovations at an accelerated rate

- New technologies are reducing emissions in every part of the natural gas value chain
 - Tankless liquids unloading, visual imaging cameras, sensors dispatched onsite and in drones

Regional regulatory approaches result in substantially lower emissions

- Colorado and Canada are two of the most stringently regulated production areas in the world
 - As a result, our customers have access to some of the lowest carbon intensity supply

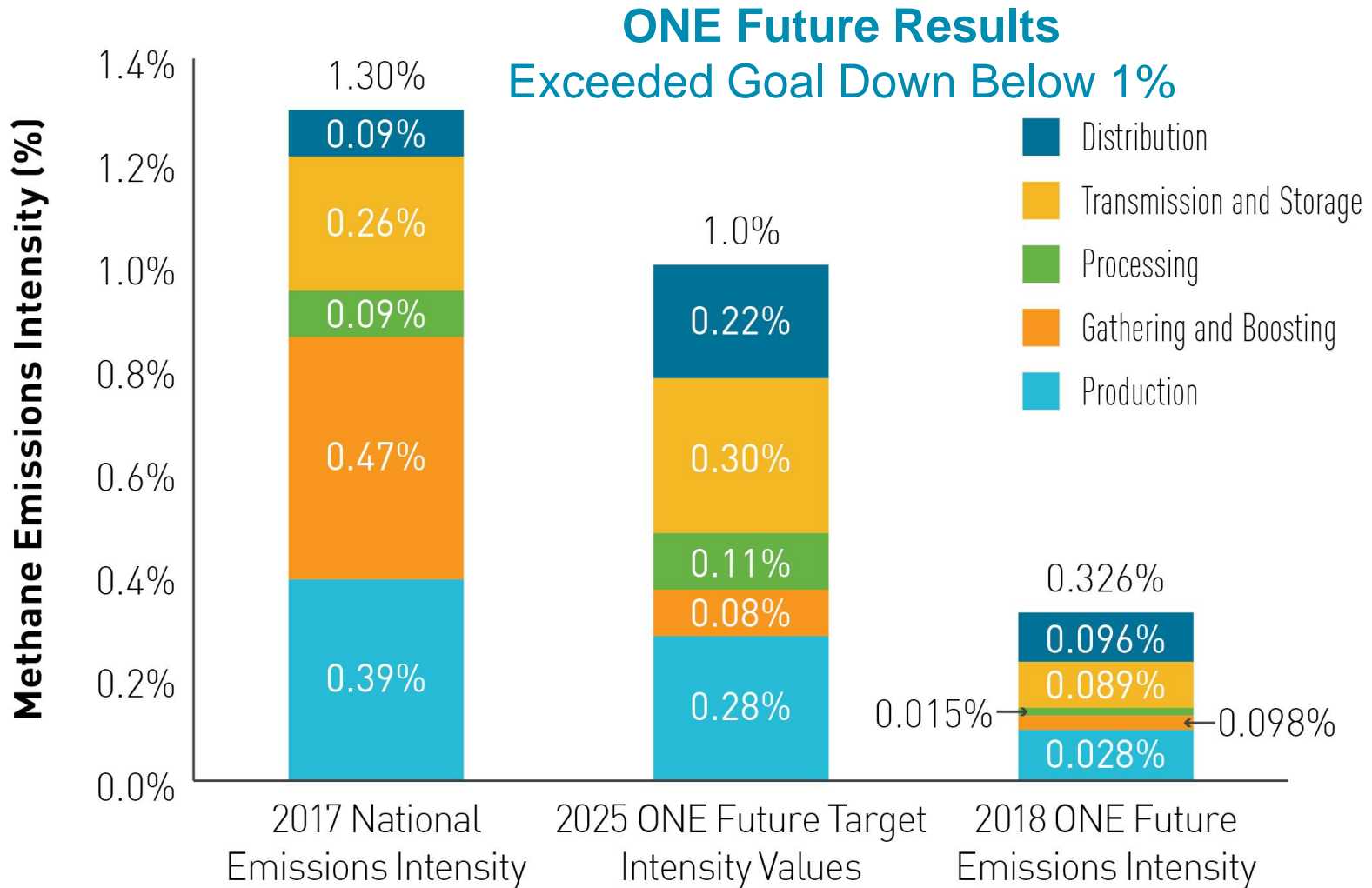
Operating a Modern System

- Among nation's first utilities to fully update system with modern, corrosion-resistant piping
- Continuous improvement commitment
 - Founding Member, US EPA Methane Challenge Program
 - Integrating technology solutions
- Participant, Environmental Defense fund National Study
 - EDF and Washington State found gas utility emissions had decreased significantly over past 20 yrs.



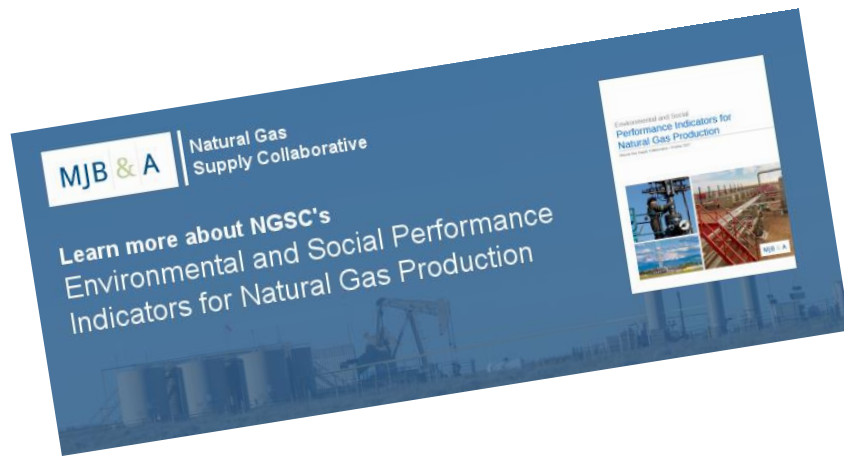
Coordinated Action: ONE Future

NWN an Active Member



Coordinated Action: NGSC

Natural Gas Supply Collaborative



- North American natural gas purchasers collectively advocating for increased transparency and adoption of best practices in natural gas production

- Leveraging collective purchasing power to drive toward more disclosure and accelerated innovation, monitoring and reporting

Collective Action & Progress

- Innovation & smart regulation are driving down losses associated with production
- More than 75% of large producers actively disclose methane emission rate publicly
- Active research defining scope and improvement areas
- Leak sensing and response practices and tech seeing exponential improvement.



THE
ENVIRONMENTAL
PARTNERSHIP
An Initiative of the U.S. Natural Gas and Oil Industry



Thank you.

 NW Natural

LESS WE CAN™