

# THE MOUNTAIN VALLEY PIPELINE: GREENHOUSE GAS EMISSIONS BRIEFING

## FACTS AT A GLANCE

<b>Total Annual GHG Emissions:</b>	<b>89,526,651 metric tons</b>
<b>Emissions Equivalent:</b>	<b>26 coal plants or 19 million passenger vehicles</b>
<b>Project Name:</b>	Mountain Valley Pipeline
<b>Ownership:</b>	Mountain Valley Pipeline, LLC: Joint Venture Partners are: EQT (45%); NextEra (31%) Con Edison (12.5); WGL (7%); Vega (3%) and RGC (1%)
<b>Operator:</b>	EQT Midstream Partners
<b>Pipeline Length:</b>	301 miles
<b>Pipeline Diameter:</b>	42 inch
<b>Pipeline Capacity:</b>	2 billion cubic feet per day (cf/d)
<b>Project Cost:</b>	\$3.5 Billion
<b>States Affected:</b>	West Virginia and Virginia
<b>Gas Source:</b>	West Virginia, Marcellus Formation, Appalachian Basin.
<b>Pipeline Route:</b>	North western West Virginia to south central Virginia.
<b>Destination Markets:</b>	Connects to the Transco Pipeline, delivering gas from New Jersey to Texas
<b>Permit and Project Schedule (Est.):</b>	Final EIS (March 2017), FERC Permit (June 2017), Construction (July 2017-Dec 2018)

## MOUNTAIN VALLEY PIPELINE OVERVIEW

The Mountain Valley Pipeline is a proposed 42-inch interstate natural gas pipeline that would run 301 miles from north western West Virginia to south central Virginia. The route of the pipeline crosses the Allegheny Highlands straddling the border between West Virginia and Virginia, threatening pristine forests, headwaters, and steep fragile terrain, as well as many farms, communities and other properties all along its path. The project is facing significant opposition from landowners and citizens

along its path.<sup>1</sup> The project backers are a consortium of natural gas companies led by EQT, which will be the operator. EQT is one of the country's top gas producers, producing around 2.5 Bcf/d primarily in the Marcellus Formation in West Virginia and Pennsylvania.

The pipeline is intended to feed into the existing Transco Pipeline (owned by Williams) that runs roughly northeast to southwest through Virginia. That pipeline

is slated to be expanded and made bidirectional so that gas can be delivered along its route from New Jersey to Texas.<sup>2</sup>

Federal permits could be issued by the middle of 2017 and EQT says it could be in service by late 2018.

Above: Construction of Columbia's Line MB Extension in Maryland.  
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<sup>1</sup> See Protect Our Water Heritage Rights (POWHR) for more on the fight against the Mountain Valley Pipeline. <https://powhr.org>  
<sup>2</sup> Williams plans to make the Transco Pipeline bidirectional and connect it to Marcellus gas sources in north east Pennsylvania. This project is called the Atlantic Sunrise project. If this goes through, the Transco line will deliver gas along its route in the following states: New Jersey, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, and Texas. The Sabal Trail Pipeline, which is currently under construction amidst opposition in Florida, will be supplied with Appalachian Basin gas via the Transco Pipeline. See <http://atlanticsunriseexpansion.com/> and <http://www.1line.williams.com/xhtml/MapPortal.jsf?parmMapID=1&parmZoneID=0> and <http://www.sabaltrailtransmission.com/>



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Climate science clearly indicates that we need to reduce consumption of all fossil fuels and make a just transition to a clean energy economy.<sup>3</sup> Building major gas pipelines today will undermine action to protect our climate because pipelines increase access to gas that we cannot afford to burn. Increasing gas supply and use exacerbates climate change.

- ▶ Producing electricity from gas is currently dirtier than coal-fired power because methane leakage along the gas supply chain more than doubles the life cycle emissions of gas compared to just counting emissions from gas combustion.
- ▶ Current methane leakage reduction goals are not enough to make up for the projected increase in gas use.
- ▶ To achieve climate goals, we need a total transition away from fossil fuels by mid-century.
- ▶ Each new pipeline from the Appalachian Basin will trigger new gas production.
- ▶ Each new pipeline will trigger additional demand for gas fired power that could be met with clean energy sources and demand management.

For fully referenced details of the above points see the [Gas Pipeline Climate Methodology](#).<sup>4</sup>

For these reasons, the Mountain Valley pipeline will contribute significant amounts of greenhouse gases (GHGs) that lead to climate change.



<sup>3</sup> Oil Change International, 'The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production'. September 2016. [http://www.priceofoil.org/content/uploads/2016/09/OCI\\_the\\_skys\\_limit\\_2016\\_FINAL\\_2.pdf](http://www.priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf)

<sup>4</sup> Oil Change International, "Gas Pipeline Climate Methodology: Calculating Greenhouse Gas Emissions for Natural Gas Infrastructure." February 2017. Available at: <http://www.priceofoil.org/2017/02/08/gas-pipeline-climate-methodology>

# MOUNTAIN VALLEY PIPELINE ANNUAL EMISSIONS TOTAL 90 MILLION METRIC TONNES

We estimate the full life cycle greenhouse gas emissions of the Mountain Valley Pipeline using Oil Change International's [Gas Pipeline Climate Methodology](#) (see Footnote 4).

The annual GHG emissions caused by the Mountain Valley Pipeline would be almost 90 million metric tons. This is equivalent to the emissions from 26 average U.S. coal plants or over 19 million passenger vehicles.<sup>5</sup>

Additional emissions are caused by changes in vegetation cover in the pipeline corridor. Vegetation clearance is dominated by the clearing of 4,856 acres of upland forest resulting in loss of carbon stock.<sup>8</sup>

## REDUCED METHANE LEAKAGE LOWERS EMISSIONS - BUT ONLY BY A MAXIMUM 23 PERCENT

In May 2016, the U.S. Environmental Protection Agency announced standards

being assessed for further action. This rule alone will not achieve the stated Obama administration goal to reduce methane emissions from the oil and gas sector by 45 percent from 2012 levels by 2025.<sup>10</sup> While the Trump administration may seek to gut the methane goals, it remains important to understand what impact these reductions would have should they be implemented.

Assuming a 45 percent reduction does occur across the gas supply chain, we find that the total annual emissions could be cut by a maximum of 19.6 MMT to a total of 70 MMT. This is a reduction of 23 percent of the total emissions without methane leakage reductions. The remaining emissions are equivalent to 20 average U.S. coal plants or 15 million average passenger vehicles.<sup>11</sup>

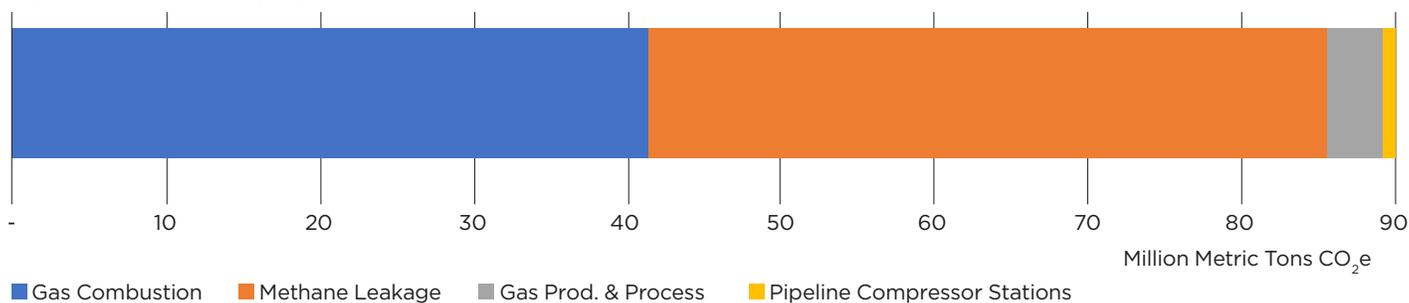
The annual emissions come from four sources<sup>6</sup>:

- Emissions from the combustion of the gas the pipeline would carry = 41.4 MMT CO<sub>2</sub>
- Emissions from methane leaked across the gas supply chain = 43.7 MMT CO<sub>2</sub>e
- Emissions from pipeline compression = 0.8 MMT CO<sub>2</sub>e
- Emissions from gas extraction and processing = 3.7 MMT CO<sub>2</sub>

This estimate does not include construction emissions, which according to FERC, would amount to 967,684 short tons over 4 years of preparation and construction.<sup>7</sup>

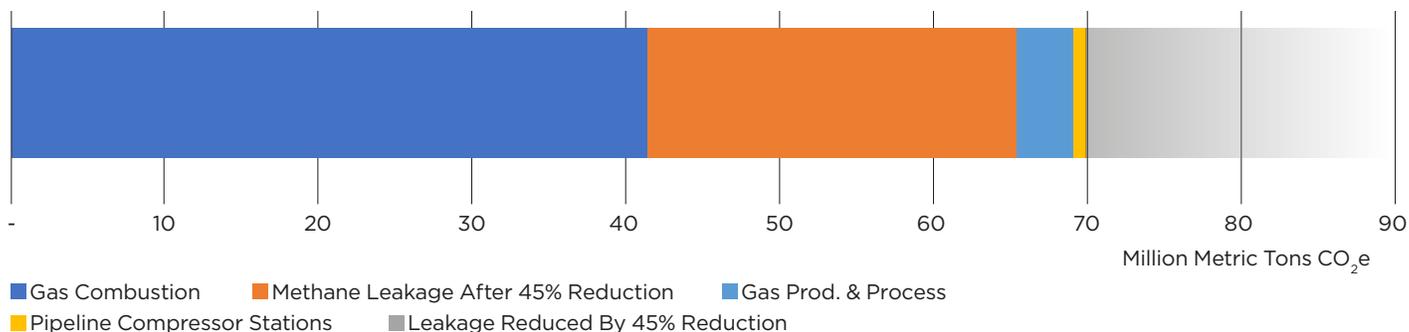
for reducing methane leakage from the oil and gas sector.<sup>9</sup> The standards affect new, modified and reconstructed production wells, while existing wells are

Figure 1. Mountain Valley Pipeline Annual GHG Emissions



Source: Oil Change International using IPCC, PSE, FERC and Santoro et al. See [Gas Pipeline Climate Methodology](#) (see Footnote 4).

Figure 2. Mountain Valley Pipeline Annual GHG Emissions with Methane Reduction Goal



Source: Oil Change International using IPCC, PSE, FERC and Santoro et al. See [Gas Pipeline Climate Methodology](#) (see Footnote 4).

5 U.S. Environmental Protection Agency, 'Greenhouse Gas Equivalencies Calculator' <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>  
 6 MMT = Million Metric Tons. Figures are rounded.  
 7 See FERC DEIS at 4-404 - 4-407. Figure is 877,868 in metric tons. We have included construction emissions from the Equitrans expansion project (16,509 short tons) in construction emissions as these are directly linked to the Mountain Valley Pipeline. However, we do not include emissions from the gas Equitrans would deliver in the annual emissions estimate as this is the same gas transported by Mountain Valley.  
 8 Federal Energy Regulatory Commission. 'Mountain Valley Project and Equitrans Expansion Project Draft Environmental Impact Statement. September 2016.' FERC/DEIS-D0272. At ES-6. <https://www.ferc.gov/industries/gas/enviro/eis/2016/09-16-16-eis/DEIS.pdf>  
 9 U.S. Environmental Protection Agency, 'EPA Releases First-Ever Standards to Cut Methane Emissions from the Oil and Gas Sector' May 12, 2016. <https://www.epa.gov/newsreleases/epa-releases-first-ever-standards-cut-methane-emissions-oil-and-gas-sector>  
 10 The White House, 'Fact Sheet: Administration Takes Steps Forward on Climate Action Plan by Announcing Actions to Cut Methane Emissions' January 14, 2015. <https://www.whitehouse.gov/the-press-office/2015/01/14/fact-sheet-administration-takes-steps-forward-climate-action-plan-anno-1>  
 11 U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

# FERC CLIMATE ANALYSIS INADEQUATE

The Federal Energy Regulatory Commission (FERC) is the primary federal agency that assesses the need for and impacts of interstate gas pipelines, and it issues permits for construction and operation.<sup>12</sup>

FERC's assessment of greenhouse gases (GHGs) emitted by the Mountain Valley pipeline in the project's Draft Environmental Impact Statement (DEIS) was woefully inadequate.<sup>13</sup> It clearly indicated that the commission is either completely ignorant of climate impact assessment methodology and practices, or it is entirely intransigent toward the issue.

The U.S. Environmental Protection Agency

(EPA) pointed out multiple inadequacies and inconsistencies in FERC's analysis of climate impacts in comments filed in late December 2016.<sup>14</sup> Among other things, the EPA stated that FERC inaccurately claimed that there is no standard methodology for assessing climate impacts and presented an annual GHG emissions figure (40 million short tons) for carbon monoxide (CO) rather than carbon dioxide (CO<sub>2</sub>). Carbon Monoxide is not a GHG. The emissions calculation cited an EPA online tool for its source but EPA pointed out that this tool is for contextualizing GHG emissions rather than calculating them. It is abundantly clear that the FERC officers conducting the analysis are either not equipped to conduct

a climate analysis or are purposefully avoiding doing it adequately in order to downplay the very real impact of this project on our climate.

The EPA also pointed out that the federal government issued updated guidelines in August 2016 for federal agencies assessing the impacts of GHGs, but FERC appears to have ignored them.<sup>15</sup>

In general, FERC does not acknowledge that the pipeline induces gas production and consumption, leading to an environmental impact statement that fails to assess the impact of the project on climate change.

## CONCLUSIONS AND RECOMMENDATIONS

This briefing provides a calculation and discussion of the greenhouse gas emissions and climate impact of the proposed Mountain Valley Pipeline. This assessment utilizes Oil Change International's [Gas Pipeline Climate Methodology](#) (see Footnote 4), which also expands on why calculating the full lifecycle emissions of gas pipeline projects is crucial for assessing the true impacts of such projects.

This information is a vital counterweight against the barrage of misinformation coming from industry and many parts of the government that claim that the expansion of natural gas production and use helps to address climate change. This so-called bridge to clean energy argument has been entirely debunked.<sup>16</sup> If gas ever did form a bridge to a clean energy transition, it is clear today that we have already crossed it and it is time to move on.

We recommend the following actions for citizens fighting the Mountain Valley Pipeline.

- 1. **File written comments with FERC stating the annual emissions for the pipeline and urging the agency to reject the project's permit on climate grounds.**<sup>17</sup>
- 2. **Share this information with your community so that citizens are informed about the climate impact of this and other gas pipelines.**
- 3. **Contact your State and Federal representatives and urge them to request that FERC reject the permit.**
- 4. **Contact the Virginia Department of Environmental Quality or the West Virginia Department of Environmental Protection and urge them to reject state level permits for the project.**
- 5. **Sign the Pledge of Resistance to Mountain Valley Pipeline.**<sup>18</sup>
- 6. **Join the call to [#keepitintheground](#) and reject all new fossil fuel infrastructure.**<sup>19</sup>
- 7. **Contact the [Regional Bold Alliance Pipeline Fighter](#) for more information on fighting the Mountain Valley Pipeline.**<sup>20</sup>
- 8. **Join local, regional and national groups in calling for the rejection of this and other natural gas projects.**

### Other Key Organizations Fighting Mountain Valley Pipeline

[Protect Our Heritage Water and Rights](#)  
[Ohio Valley Environmental Coalition](#)  
[Appalachian Voices](#)  
[Chesapeake Climate Action Network](#)  
[Virginia Sierra Club](#)  
[Southern Environmental Law Center](#)  
[Appalachian Mountain Advocates](#)

For questions on gas pipeline GHGs, contact  
Lorne Stockman: [lorne@priceofoil.org](mailto:lorne@priceofoil.org)



**Oil Change International** is a research, communications and advocacy organization focused on exposing the true costs of fossil fuels and facilitating the coming transition towards clean energy.  
Website: [www.priceofoil.org](http://www.priceofoil.org) Contact: [info@priceofoil.org](mailto:info@priceofoil.org)



**The Bold Alliance** is a network of small but mighty groups protecting land and water.  
Website: [www.boldalliance.org](http://www.boldalliance.org) Contact: [info@boldalliance.org](mailto:info@boldalliance.org)

<sup>12</sup> Federal Energy Regulatory Commission. 'Natural Gas.' FERC Website. See <https://www.ferc.gov/industries/gas.asp>

<sup>13</sup> Federal Energy Regulatory Commission. 'Mountain Valley Project and Equitrans Expansion Project Draft Environmental Impact Statement. September 2016.' FERC/DEIS-D0272. At 4-513 to 4-516. <https://www.ferc.gov/industries/gas/enviro/eis/2016/09-16-16-eis/DEIS.pdf>

<sup>14</sup> Letter from U.S. Environmental Protection Agency Region III to Federal Energy Regulatory Commission, December 20, 2016. [http://priceofoil.org/content/uploads/2017/02/MVP\\_DEIS\\_EPA\\_Cmnt\\_12-20-16.pdf](http://priceofoil.org/content/uploads/2017/02/MVP_DEIS_EPA_Cmnt_12-20-16.pdf)

<sup>15</sup> Executive Office of The President Council On Environmental Quality. 'Memorandum for Heads Of Federal Departments And Agencies. Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews'. August 01, 2016. [https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa\\_final\\_ghg\\_guidance.pdf](https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf)

<sup>16</sup> Joe Romm, 'By The Time Natural Gas Has A Net Climate Benefit You'll Likely Be Dead And The Climate Ruined'. February 19, 2014. <https://thinkprogress.org/by-the-time-natural-gas-has-a-net-climate-benefit-youll-likely-be-dead-and-the-climate-ruined-22fd00f89e73#.r0Ylj5oyg>

<sup>17</sup> Use the following Docket Number when contacting FERC regarding the Mountain Valley Pipeline: CP16-10-00

<sup>18</sup> <https://www.nonewpipelines.org/#sign-the-pledge>

<sup>19</sup> [www.keepitintheground.org/appalachian-gas](http://www.keepitintheground.org/appalachian-gas)

<sup>20</sup> Carolyn Reilly, [carolyn@boldalliance.org](mailto:carolyn@boldalliance.org) - 540-488-4358