

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of

MOUNTAIN VALLEY PIPELINE, LLC
EQUITRANS, LP

Docket Nos. CP16-10-000
CP16-13-000

MOTION TO INTERVENE AND PROTEST OF
APPALACHIAN MOUNTAIN ADVOCATES, APPALACHIAN VOICES,
CHESAPEAKE CLIMATE ACTION NETWORK, FRIENDS OF THE LOWER
GREENBRIER RIVER, GREENBRIER RIVER WATERSHED ASSOCIATION,
HEADWATERS DEFENSE, PRESERVE BENT MOUNTAIN, PRESERVE GILES
COUNTY VIRGINIA, PRESERVE GREENBRIER COUNTY, PRESERVE MONROE,
PRESERVE MONTGOMERY COUNTY VIRGINIA, PROTECT OUR WATER,
HERITAGE, RIGHTS, SAVE MONROE, THE SIERRA CLUB, THE SIERRA CLUB
(VIRGINIA CHAPTER), SUMMERS COUNTY RESIDENTS AGAINST THE
PIPELINE, WEST VIRGINIA HIGHLANDS CONSERVANCY, AND WEST
VIRGINIA RIVERS COALITION

I. MOTION TO INTERVENE

Pursuant to 18 C.F.R. §§ 157.10, 385.211, and 385.214, the following parties move to intervene and protest in the above-captioned proceedings and request an evidentiary hearing on the applications of Mountain Valley Pipeline, LLC (“Mountain Valley”) and Equitrans, LP:

Appalachian Mountain Advocates is a non-profit law and policy center focused on protection of the environment and human communities in the Appalachian region, with offices in Virginia and West Virginia. Appalachian Mountain Advocates works to promote sensible energy policies that protect the environmental and economic well-being of the citizens of the region in the short and long term. Appalachian Mountain Advocates opposes any energy development that unreasonably impacts the region’s communities,

landscapes, and water resources and contributes to long-term reliance on climate-altering fossil fuels.

Appalachian Voices is an award-winning, nonprofit organization working in partnership with local people and communities to defend the natural heritage and economic future of the Appalachian region. Our primary focus is to strengthen the citizens movement across Virginia, West Virginia, North Carolina, Tennessee and Kentucky to shift the region away from harmful, polluting energy practices — like mountaintop removal coal mining and natural gas fracking — to cleaner, more just and sustainable energy sources.

Appalachian Voices has offices in Charlottesville and Norton, Va., Knoxville, Tenn., and Asheville and Chapel Hill, N.C. and employs 24 passionate, professional individuals including environmental policy experts, community organizers and water quality specialists. Appalachian Voices has almost 1,000 dues-paying members, plus another 25,000 supporters throughout the country who take action to help us achieve our goals. The Mountain Valley Pipeline would pose unacceptable environmental damage and health risks to our members and supporters along the 300-mile proposed route through West Virginia and Virginia and would compound the harmful impacts that people in the Appalachian region living near natural gas fracking sites already experience. Further, public and private investment in this project would lock the country into decades more of dependence on fossil fuels, diverting those investments away from cleaner, more sustainable energy options for the region including efficiency and wind and solar generation.

The Chesapeake Climate Action Network (“CCAN”) is the first grassroots, nonprofit organization dedicated exclusively to fighting climate change and all of the harms fossil-fuel infrastructure causes in Maryland, Virginia, and Washington, D.C. and to securing policies that will put us on a path to climate stability. CCAN has offices in Takoma Park, Md., Richmond, Va., and Norfolk, Va. One of the primary tools CCAN uses to fight climate change and move toward a clean-energy future is building, educating, and mobilizing a powerful grassroots movement to push for a societal switch away from dirty fossil-fuel energy and toward clean energy. In support of its mission, CCAN opposes projects that could contribute to climate change, harm the public, and degrade the Chesapeake Bay.

CCAN has over 90,000 supporters in Maryland, Virginia, and Washington, D.C. who have signed up to receive updates from CCAN, donated to CCAN, signed an online petition, or attended a CCAN-sponsored event. Of our supporters, more than 20,000 live in Virginia. CCAN supporters live, exercise, work, raise children, garden, fish, boat, and recreate on a regular basis on or near the route of the MVP. CCAN seeks to intervene in this proceeding because the MVP will exacerbate climate change in a region that is particularly susceptible to the impacts, will lock the region in to future reliance on fossil fuels while taking resources away from renewable energy and energy efficiency, and will cause additional environmental and economic harm to our supporters.

Friends of the Lower Greenbrier River (FOLGR) is a community watershed group organized to protect and enjoy the Greenbrier River. The lower Greenbrier River watershed is located in southeast West Virginia, covering the town of Caldwell to the mouth at Hinton where it flows into the New River. The mission of Friends of the Lower

Greenbrier River is to strengthen appreciation of the Greenbrier River as essential to the quality of life for all who live, work and visit in the Greenbrier Valley. We will be a voice for community awareness and active environmental stewardship and will work to restore, preserve, protect and promote the health, the natural beauty and the economic, historic, and cultural significance of the Greenbrier River watershed. FOLGR's members would be directly and adversely impacted by the construction and operation of the Mountain Valley Pipeline.

The Greenbrier River Watershed Association (GRWA) is citizen group working together to protect the unique resources of the Greenbrier River. The Greenbrier River should be saved as a legacy. It is an essential part of our lives that enriches us and inspires us. The river watershed is a unique ecosystem with rich varieties of aquatic, riparian, and upland wildlife, tributaries, farmland, forest, people, and communities. Our purpose is to promote the maintenance, preservation, protection, and restoration of the ecological integrity of the Greenbrier River and its watershed.

GRWA has over 200 dues-paying members and send updates to over 800 people who signed up to receive mailings about the organization's activities. Those members would be directly impacted by the MVP, which proposes to cross the the Greenbrier River and many of its tributaries.

Headwaters Defense is a grassroots environmental justice organization dedicated to protecting our precious communities in Central Appalachia from the toxic exposure caused by extractive industry. As the oil and gas industry expands in production and infrastructure for shale gas reserves, communities in Central Appalachia have become the dumping grounds for highly concentrated and toxic shalefield waste. We are fighting to

reclaim our right to local self-determination because we know that this toxic exposure is permitted by state and federal regulators. We are committed to supporting the people who bear the brunt of community-wide health problems from exposure to a contaminated living and working environment. We believe that reclamation of basic human rights is integral for a brighter future in Central Appalachia and the United States of America.

Headwaters Defense seeks to empower Central Appalachian communities in efforts to reclaim basic human rights through solution-based community self-determination. We work to protect all lands from headwaters to tailwaters because we all live downstream. The Mountain Valley pipeline would lead to increased shalefield oil and gas production and the need to dispose of wastewater which has already measureably impacted the human health and property of residents in Fayette County and this region overall.

Preserve Bent Mountain is an unincorporated association formed in 1994, today including over 200 Mountain residents and as many supporters locally and beyond, whose goals are to preserve and enhance Poor and Bent Mountains and the surrounding community, by protecting our natural resources including air, water, soils, geology, forests and unique & federally protected ecosystems; farmland, businesses and residences; the continuity of our rural culture, heritage, traditions, and recreation; the health and safety of our inhabitants, and the natural and economic capacity of our residents to remain self-sustaining.

The proposed MVP would require the explosion of surface bedrock on the backbone of 3,928-foot Poor Mountain, one of the steepest slopes in Virginia; it will irreparably destroy wetlands including vast upland marshes, ephemeral springs and

streams which source Mill, Laurel and Tier III Bottom Creek, which feeds the Roanoke and New Rivers below. Mountain residents rely solely on spring and well water. MVP proposes to exit the Mountain at the Blue Ridge Parkway's Adney Gap, a major tourist entrance to the community. The proposed route would impact "center line," proximate and peripheral landowners by way of eminent domain and the threat of leaks and explosions. Current and future uses, tax base, property values, insurability and salability of individual, farm and other business properties would all suffer significant and long-lasting economic harm.

Preserve Giles County Virginia (PGC) is a citizens' group organized to oppose interstate gas pipelines and the hydraulic fracturing they sustain, and to preserve its natural heritage and the way of life it provides. PGC exists to empower the citizens of Giles County, consistent with the principles of environmental democracy. PGC pursues these goals by utilizing non-violent direct action, working with elected officials, and in coalition with other communities and environmental defense organizations. PGC has over 235 volunteer members who commit their time and efforts to conduct research, analyze data, write letters, attend community meetings and provide information to landowners, governmental officials and the general public on the hazards of natural gas pipeline construction and maintenance.

Preserve Giles County has conducted environmental and cultural surveys of over 150 properties affected by the Mountain Valley Pipeline, LLC. It analyzed the collected data and submitted summaries to the FERC. PGC has sponsored and hosted community forums for statewide and county elections in order to inform and mobilize county residents to act in their best interests. PGC works closely with the Giles County Board of

Supervisors, the Greater Newport Historical Society, its similar Preserve county groups in direct actions such as Hands Across the Land, the Blue Tree Project, rallies and workshops. Preserve Giles County spreads its message through Facebook, a web page, and fundraising sites.

Preserve Greenbrier County is an informal association having about 15 members. It is dedicated to preserving the environment and rural/agricultural way of life in Greenbrier County, WV. The property, recreation, and environmental interests of Preserve Greenbrier County's members would be harmed by the Mountain Valley Pipeline.

Preserve Monroe is a coalition of landowners, residents, businesses and organizations in Monroe County, WV. We conduct research and extensive educational outreach, hold public meetings and send newsletters to our mailing list of over 600 concerned citizens and we encourage citizens to participate in the responsible stewardship of our resources to ensure the healthy and prosperous future of our county and our families. We oppose MVP and natural gas transmission pipelines which directly pose very real threats to water, health, ways of life, property values and landowner rights and which promote shale gas development.

Preserve Montgomery County Virginia (PMCVA) emerged in 2015 as a grassroots, citizens organization originally created to stop the construction of the Mountain Valley Pipeline. Its mission is to halt the proliferation of large diameter, high pressure gas transmission pipelines transmitting fracked natural gas and to promote the protection of cultural, environmental, and agricultural economic resources in Montgomery County, VA, and surrounding areas. PMCVA educates and mobilizes

citizens of Montgomery County to fulfill this mission. It seeks to stop the negative impact of fracked gas production and transmission by large diameter pipelines on the environment, on the lives of citizens from air and water pollution and through the abuse of eminent domain by energy companies seeking profit at the expense of ordinary citizens. We seek to promote development of renewable energy in place of fossil fuel and to dispel the widely promoted misconception of “natural” gas as “clean energy.”

PMCVA has over 400 local members. We also have over 400 followers on our social media from all over the nation. PMCVA’s members would be negatively impacted by the Mountain Valley Pipeline or other pipelines similar to it through the abuse of eminent domain and loss of usable property through easement restrictions. This is in addition to the loss of cultural and historical assets and cultural attachment to land, timber harvesting, and highly scenic views that attract Eco tourists and other visitors. Furthermore, the pristine ecology of this area will suffer from the industrialization of the region through the large compressor stations and other surface structures that are known to contaminate water and air and pose a major human health threat. The constant noise and light pollution they create will fragment the forest land, reduce the viability of wildlife such as bear, deer, otter, beaver, American eagles, red hawks, falcons, and endangered aquatic and land species, and drive down property values. The large construction easements of 125 feet or more and the permanent easements of 50 feet or more will fragment forest and wilderness ecology and create a potential health hazard through the use of herbicides.

Protect Our Water, Heritage, Rights (POWHR) is an interstate coalition working together to protect the water, local ecology, heritage, land rights, and human rights of

individuals, communities, and regions from harms caused by the expansion of fossil fuel infrastructure. Groups from 13 counties, with over 5,000 supporters throughout Virginia and West Virginia passionately coordinate community outreach and education and provide support to the citizenry and governments of counties impacted by the proposed Mountain Valley Pipeline, with its attendant negative effects; and the rampant fossil fuel development which its construction and operation will promote.

The groups that comprise POWHR work closely together to conduct and sponsor professional, coordinated research throughout the Appalachian region. This work is undertaken in response to widespread community opposition to the development of fossil fuel infrastructure in the Appalachian Basin and beyond. POWHR groups represent citizens who wholly endorse a regional PEIS and who seek to preserve the extraordinary biodiversity, historical landmarks, cultural attachments, pristine waters, geologic integrity, property rights and the optimal wellness and prosperity of all living beings throughout the region.

Save Monroe, Inc. is a citizens' group concerned with the preservation and protection of landowners' rights, environmental safety, cultural values and public health and safety. Save Monroe works to help protect our environment and culture in Monroe County, WV from the threat of the Mountain Valley Pipeline (MVP). Save Monroe's members would be directly and adversely impacted by the construction and operation of the MVP.

The Sierra Club is a national nonprofit organization with 64 chapters and over 650,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and

resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Its environmental campaigns range from protecting millions of acres of wilderness to helping pass the Clean Air Act, Clean Water Act, and Endangered Species Act. More recently, Sierra Club made history by leading the charge to move away from fossil fuels that cause climate disruption and toward a clean energy economy.

The Virginia Chapter of the Sierra Club is 15,000 members strong. It has offices in Northern Virginia, Richmond, Norfolk, and Charlottesville, VA. The energy choices we make today will impact Virginians for generations to come. Sierra Club firmly believes that Virginians want and deserve clean air to breathe, safe water to drink and good local jobs. But our utilities and many of our leaders are relying on dirty fuels that put our health at risk, destroy our land and contribute to climate disruption. Building clean, renewable energy like wind and solar power, and conserving energy through efficiency programs, will jump start new industries, create jobs and help keep our families safe from harmful pollution.

The Sierra Club seeks to intervene in this proceeding because the Mountain Valley Pipeline severely impacts our water resources and headwaters in the mountains of Virginia and West Virginia, fragments our national forests, threatens endangered species, disrupts cultural attachments and communities adjacent to the corridor, impacts our historic resources, violates property rights, inflicts economic damage on communities and continues to block the development of renewable energy sources. Further, the cumulative impacts of the MVP combined with the impacts from the Atlantic Coast Pipeline, the WB Express and the proposed Atlantic Connector in Virginia and West Virginia are unknown

and require further analysis of cumulative impacts as part of a regional or Programmatic Environmental Impact Statement.

Summers County Residents Against the Pipeline (SCRAP) is a group of citizens—property and small business owners, farmers, teachers, professionals in public service and private practice—who share concerns about the potentially negative environmental and economic impacts of the proposed Mountain Valley Pipeline on Summers County, West Virginia. We have over sixty supporters subscribed to our email distribution list. The MVP is now proposing an “open trench” crossing of the Greenbrier River at Pence Springs. (The Greenbrier is the primary tributary of the New River at Hinton.) Both the Greenbrier River and groundwater supplies along the entire MVP route are jeopardized by this project. These water sources are necessary to sustain the larger community, its lives and businesses. Summers County is a heavily forested county. The stunning beauty of these hardwood forests and the confluence of three spectacular rivers draw visitors, those seeking summer homes, and people wanting to make a permanent home in Summers County. The MVP is proposing to cut a 125’ swath through Summers County on steep slopes and through stream valleys, thereby creating man-made corridors prone to mudslides and ground water contamination. The MVP project ensures the expansion of edge habitat that further opens the county to the threat of potentially devastating forests fires in an area ringed by human habitation. The project threatens a promising future for the county of enhanced tourism—growing out of a commitment to the preservation of waterway and forest resources—and thereby undermines efforts to create a local economy capable of sustaining small businesses whose success will depend on the county’s natural resources.

West Virginia Highlands Conservancy, Inc. is a nonprofit organization incorporated in West Virginia in 1967 to promote, encourage, and work for the conservation and appreciation of the natural resources of West Virginia, and especially of the Highlands Region of West Virginia, for the cultural, social, educational, physical, health, spiritual and economic benefit of present and future generations of West Virginians. For the past 50 years the West Virginia Highlands Conservancy has worked tirelessly to preserve and protect areas of particular scenic, geologic, biologic, historic, wilderness, and/or recreational importance in West Virginia, as well as protecting the air, water, forests, streams, and mountains that make West Virginia a wonderful and healthy place to live.

West Virginia Highlands Conservancy has approximately 1500 members who live and/or recreate in West Virginia. Some of those members are already experiencing loss or damage to property and quiet country life style from the drilling of shale gas that would be transported through the MVP pipeline. They and others will be further harmed by the impacts of pipeline construction to the ecology and biologically important flora and fauna of the area, damage to water resources throughout the karst areas especially in southeastern West Virginia, segmentation of the forest, and permanent impacts of sediment to streams along the pipeline route.

West Virginia Rivers Coalition (WVRC) is a statewide non-profit organization dedicated to conserving and restoring West Virginia's exceptional rivers and streams. Founded in 1989 by paddlers and river enthusiasts, WVRC continues today as a voice for clean water for its growing membership base through education, advocacy and direct programming.

WVRC has approximately 1,500 members who live in or recreate in West Virginia. Our members have an invested interest in protecting the rivers in which they fish, swim, and recreate and rely on as their drinking water source. The proposed pipeline construction and associated natural gas development activities have the potential to affect water quality, aquatic life and overall stream health along its route – impacting WVRC members’ abilities to use and enjoy those streams.

Together, these groups represent thousands of citizens, consumers, and landowners that would be directly affected by construction and operation of the proposed pipeline and associated facilities. Although these groups share common goals, each group has its own independent mission and supporter base and each group joins this motion as individual movants, requesting independent intervenor status on behalf of their organizations in the above-captioned proceedings.

The movant’s interests are not adequately represented by any existing party to the proceeding and their participation would further the public interest. This motion is timely filed in accordance with FERC’s November 5, 2015 Notice.

II. PROTEST COMMENTS IN OPPOSITION

Pursuant to 18 C.F.R. § 385.211, the above-listed groups file the following protest comments in opposition to the issuance of a Certificate of Convenience and Necessity under Section 7 of the Natural Gas Act, 15 U.S.C. § 717f, for the Mountain Valley Pipeline (MVP). These groups (“Proposed-Intervenors”) protest the MVP because the project is not needed, will have significant adverse impacts on a wide variety of environmental resources, will disrupt the traditional character of numerous communities and substantially lower property values in the vicinity of the project and the supply

production areas, and will further commit the nation to long-term dependence on climate-altering fossil fuels.

This Motion and Protest states the interests and positions of the Proposed-Intervenors to the extent known at this time. Proposed-Intervenors intend to obtain and develop additional factual evidence and arguments in this proceeding and reserve the right to submit those materials to FERC as they are developed.

Under the Natural Gas Act, the Federal Energy Regulatory Commission (“FERC”) must determine whether the construction of the applicant’s proposed pipeline “is or will be required by the present or future public convenience and necessity.” 15 U.S.C. § 717f(e). If FERC cannot make that determination, then the “application shall be denied.” *Id.* In 1999, FERC issued a Policy Statement setting forth the criteria that it uses in determining whether to authorize the construction of major new pipeline facilities, *i.e.*, whether a proposed pipeline is required by public convenience and necessity. 88 FERC ¶ 61,227.

The threshold question under the 1999 Policy Statement is “whether the project can proceed without subsidies from . . . existing customers.” *Id.* at 61,746. Because the MVP is a new pipeline without existing customers, the threshold question does not apply to the pending application at issue. *Id.*¹

The second step of the analysis under the 1999 Policy Statement is to address “whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the existing customers of the pipeline proposing the project, existing pipelines in the market and their captive customers, or landowners and

¹ See also Application at 21.

communities affected by the route of the new pipeline.” Id. at 61,745. Regarding the latter group, FERC has stated that

[L]andowners whose land would be condemned for the new pipeline right-of-way, under eminent domain rights conveyed by the Commission’s certificate, have an interest, as does the community surrounding the right-of-way. The interest of these groups is to avoid unnecessary construction, and any adverse effects on their property associated with a permanent right-of-way.

Id. at 61,748.

If adverse effects on those three interests remain, then FERC must balance those adverse effects against public benefits of the proposal. Id. at 61,745. “To demonstrate that its proposal is in the public convenience and necessity, an applicant must show public benefits that would be achieved by the project that are proportional to the project’s adverse impacts.” Id. at 61,748. Types of public benefits “could include meeting unserved demand, eliminating bottlenecks, access to new supplies, lowers costs to consumers, providing new interconnects that improve the interstate grid, providing competitive alternatives, increasing electric reliability, or advancing clean air objectives.” Id. “Vague assertions of public benefits will not be sufficient,” and the stated interests must outweigh the adverse effects caused by the project for FERC to grant a Certificate. See id. at 61,748, 61,750; see also Millennium Pipeline Co., 141 FERC ¶ 61,198, 2012 WL 60607320, at *4 (2012). “The more interests adversely affected or the more adverse impact a project would have on a particular economic interest, the greater the showing of public benefits from the project required to balance the adverse impact.” Id. at *5.

A crucial component of the assessment of the public benefits of the project is the determination of whether the project is needed. FERC cannot merely rely on the amount

of capacity under contract, but must rather look at “all relevant factors reflecting on the need for the project.” 88 FERC ¶ 61, 744, 61,748.

FERC must make these determinations based on the record before it. This means that, regardless of any applicable presumptions, FERC has a duty to make its *own* determination. See Panhandle Producers and Royalty Owners Ass’n v. Econ. Regulatory Admin., 822 F.2d 1105, 1110–11 (D.C. Cir. 1987). Simply put, “the agency must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” Motor Vehicle Mfrs. Ass’n of the U.S. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). Mountain Valley’s application does not support the finding that the MVP is required by the public convenience and necessity.

In Section V of its application, Mountain Valley purports to apply the 1999 Policy Statement to the MVP, and summarily concludes that the pipeline is required by public convenience and necessity. Mountain Valley’s application of the Policy Statement, however, is conclusory and without support. Contrary to Mountain Valley’s assertions, the adverse effects of the MVP far outweigh any public benefits. First, Mountain Valley vastly overstates and/or entirely fails to support its claims regarding the benefits to the public that would accrue as a result of the MVP. Second, Mountain Valley ignores the significant negative environmental and economic impacts that the MVP would inflict.

1. Mountain Valley Has Not Demonstrated Need for the MVP

Mountain Valley’s application fails to demonstrate that the markets it proposes to serve cannot be adequately served by increased use of clean, renewable energy sources or, alternatively, by existing pipeline infrastructure. If FERC determines that the

increased use of renewables cannot adequately serve the MVP's markets, it must determine if any need for the MVP can be met using available capacity in appropriate pipelines to transport the gas proposed by Mountain Valley.

Here, Mountain Valley identified two existing systems—the Columbia Gas Transmission Pipeline and the East Tennessee Natural Gas pipelines—as possible system alternatives.² Mountain Valley rejected them both, concluding that none of them were viable alternatives, based in part on its unsubstantiated belief that capacity in those existing systems was constrained.³

Contrary to Mountain Valley's assertion, evidence shows that significant existing pipeline capacity may be available to serve the South East and Mid-Atlantic markets. The Department of Energy has reported that gas pipelines nationwide on average utilized only 54 percent of their capacity between 1998 and 2013.⁴ FERC has similarly acknowledged the underutilization of pipeline capacity and found that improved scheduling of natural gas deliveries would make “more efficient use of existing pipeline infrastructure.”⁵ Mountain Valley has not adequately demonstrated that existing infrastructure lacks capacity to serve the MVPs' markets.

In addition to full utilization of existing pipelines, the need for the MVP could be obviated by reversing the flow of the Transco Mainline, which currently only flows south to north, from the Gulf Coast to New York. Increased supplies of gas coming from the

² Resource Report 10 at 10-6 to 10-7.

³ Id.

⁴ U.S. Dep't of Energy, Implications of Increased Demand from the Electric Power Sector at 23 (Feb. 2015), available at http://energy.gov/sites/prod/files/2015/02/f19/DOE%20Report%20Natural%20Gas%20Infrastructure%20V_02-02.pdf.

⁵ FERC, Final Rule, Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities, 151 FERC 61,049, P 107 (April 16, 2015).

Marcellus region, however, are driving a reversal of flow along that line.

Transcontinental Gas Pipe Line Company, LLC, has sought FERC approval for the Atlantic Sunrise Project to deliver 1.7 bcf/day to the Transco Mainline in Lancaster County, Pennsylvania, and reverse flows on the Mainline allowing Marcellus gas to reach existing markets as far south as Choctaw County, Alabama.⁶ The company expects this project to be operational in July 2017.⁷ A recent study released by the Department of Energy suggests that reversing flow to the south along pipelines could accommodate natural gas demand in the markets that the MVP proposes to serve.⁸

Mountain Valley's application fails to adequately analyze the increased use of existing infrastructure, including the reversal of flows, to accommodate any need that the MVP purports to serve. FERC is obligated under the Natural Gas Act to give scrutiny to Mountain Valley's rejections of these alternatives, and facts surrounding these alternatives should be developed during an evidentiary hearing on Mountain Valley's application.

2. Mountain Valley Overstates the Economic Benefits of the Pipeline

Even if Mountain Valley can establish a need for the MVP, it nonetheless has significantly overstated the public benefits that the project would provide. In order to quantify the expected public benefits of the MVP, Mountain Valley relies in part on two

⁶ See Transcontinental Gas Pipe Line Company, LLC, Resource Report No. 1, Atlantic Sunrise Project at 1-1 (Mar. 2015) (on file with FERC, eLibrary No. 20150331-5153). Proposed-Intervenors do not in any way support the approval and construction of the Atlantic Sunrise Project, but mention the proposed project here solely to demonstrate the feasibility of reversal of flows on existing pipelines.

⁷ See *id.*

⁸ U.S. Dep't of Energy, Implications of Increased Demand from the Electric Power Sector at 23 (Feb. 2015) http://energy.gov/sites/prod/files/2015/02/f19/DOE%20Report%20Natural%20Gas%20Infrastructure%20V_02-02.pdf.

studies that it commissioned from FTI Consulting.⁹ Those studies are deeply flawed and significantly inflate the benefit that the MVP would provide to the affected communities. A coalition of concerned citizen groups commissioned a report by Key-Log Economics, LLC, to review Mountain Valley’s reports.

The Key-Log Report concluded that the FTI studies “employ methods, and either make or fail to examine assumptions in the use of those models, that lead to overstatement” of public economic benefits of the MVP in four major areas: (1) economic impacts resulting from spending on the construction of the pipeline; (2) economic impacts due to the ongoing operation and maintenance of the pipeline; (3) energy cost savings for energy users who switch to newly available natural gas; and (4) taxes paid to county governments.¹⁰

Regarding the short-term economic impacts of pipeline construction, the Key-Log study found that the “FTI studies’ estimates of economic impacts resulting from spending on the construction of the pipeline suffer from inherent problems with input-output analysis, for which FTI used the IMPLAN data and modeling software. . . . [U]sing input-output models as a proxy for real-world decision-making tends to overestimate a firms’ spending and results in overestimates of ‘multiplier effects’ (Hoffman and Fortmann 1996). What that means in this case is that construction of the MVP will not involve as much indirect and induced spending, or create as many indirect and induced jobs, in the real world as the output from FTI’s run of the IMPLAN model suggests.”¹¹

⁹ MVP Application, Appendix 5-A. “Economic Benefits of the Mountain Valley Pipeline Project in West Virginia,” Ditzel, Fisher, and Chakrabarti 2014a; “Economic Benefits of the Mountain Valley Pipeline Project in Virginia,” Ditzel, Fisher, and Chakrabarti 2014b.

¹⁰ “Reason for Caution: Mountain Valley Pipeline Economic Studies Overestimate Benefits, Downplay Costs,” Spencer Phillips, PhD, Key-Log Economics 2015 at 3, [available at](http://www.preservecraig.org/wp-content/uploads/2015/10/MVP_EconBenefitStudyCritique_FINAL_20151006.pdf) www.preservecraig.org/wp-content/uploads/2015/10/MVP_EconBenefitStudyCritique_FINAL_20151006.pdf.

¹¹ *Id.* at 3.

The FTI studies' estimate of construction benefits is further flawed because they use the entire states of West Virginia and Virginia as regions for analysis instead of focusing on the smaller areas that would be directly affected by pipeline construction. "The bigger the region, the more likely it is that you can find a firm in the region from which to buy materials or services, and the more likely it becomes that one could hire labor from someone living inside the region. In other words, the larger the region, the larger the multiplier effect. The FTI studies do not present a rationale for the choice of entire states as the study regions. While the appropriate regions might be somewhat larger than the 10 West Virginia and 5 Virginia counties the proposed MVP would cross, they should not consist of the entirety of both states. Consequently, the estimated multiplier effects and the benefits during construction, as presented in the FTI studies, are further overstated."¹² Additionally, many of the studies' construction jobs impacts are illusory because "only 10% of the construction jobs would be filled by local workers. . . . With 90% of workers coming from outside the affected region, a lot less of workers' spending will occur inside the region. Unless accounted for in the use of IMPLAN—and FTI presents no information to suggest that it has accounted for the non-localness of construction workers—estimated multiplier effects will be inflated."¹³

Further, Key-Log found that the FTI studies inflate long-term employment impacts of MVP operation and maintenance because the studies' use of an "economic base" approach to assess long-term impacts is unreasonable as such an approach "has been empirically shown to be unreliable for that purpose."¹⁴ "Due to [their] restrictive

¹² Id. at 4.

¹³ Id.

¹⁴ Id. at 4.

assumptions, economic base models have a dismal track record when it comes to predicting economic growth in the real world and in the long run. . . . In a review of 23 studies, Krikelas (1991) compared predictions of the economic base model against the actual experience of the subject regions and found only 4 studies where the models correctly predicted longer run economic growth.”¹⁵

Key-Log also found that the FTI studies’ overestimate the benefits of fuel switching because “almost half of the fuel-switching in Virginia is assumed to happen under on a set of circumstances in a single county that are unlikely to occur.”¹⁶ Even without that flaw, the studies’ fuel switching analysis is unreliable because the studies fail to “explain or provide information that makes it possible to evaluate their assumptions regarding the level of fuel switching in any of the 15 counties.” A cursory analysis of those assumption demonstrates flaws, such as the inclusion of AEP Glen Lyn facility as a potential new user of natural gas from the MVP despite that facility shutting down last May.¹⁷ Also problematic is the studies’ “unstated but obvious assumption that fuel switching to natural gas will continue to provide an advantage in terms of *variable* costs in the mid- to long run.” The FTI studies ignore numerous factors that demonstrate that the price competitiveness of natural gas is likely to decline significantly in the future. “Neither volatility in natural gas prices nor the likely erosion of the cost advantages of natural gas were incorporated into the FTI studies’ estimates of benefits stemming from fuel switching. This could and should have been accomplished by adding a risk premium to the price of natural gas (and to competing energy sources, as appropriate) and/or by

¹⁵ Id. at 5.

¹⁶ Id. at 6.

¹⁷ Id. at 7.

running different scenarios for varying levels of cost savings for natural gas relative to other fuels. Such an approach would have made the estimates more realistic”¹⁸

Finally, the FTI studies’ “do not consider that there are other energy sources, including conservation and renewables, to which would-be gas customers could otherwise switch. . . . [B]y ignoring this obvious possibility, the studies further inflate their estimates of potential benefits of switching to gas.”¹⁹

Lastly, the FTI studies overstate the expected tax revenues while ignoring public service costs of pipeline construction and operation. First, the studies fail to consider “risk or uncertainty regarding natural gas prices (see above) or other market factors that could reduce the capitalized income and therefore local tax revenue.” Such potential risks include lack of need for the MVP’s capacity, price volatility and long-term price trends that could decrease demand for natural gas in the future, and the inevitable long-term decline in natural gas production. “There is no indication in the FTI studies that there would ever be any end to the stream of estimated tax revenue. But gas is a nonrenewable resource that will become economically and/or technically impossible to recover long before the methane itself is used up. When there is no more gas to transmit from the Marcellus, there will be no more capitalized income, and the stream of revenue will evaporate.”²⁰ While the studies overestimate potential tax benefits, they simultaneously ignore public service costs of the MVP that would drain local tax dollars, such as lowered property values, need for increased training and equipping of first responders, and

¹⁸ Id. at 7-9.

¹⁹ Id. at 9.

²⁰ Id. at 9-10.

emergency response and evacuation plans necessitated by the presence of a 42-inch diameter high pressure gas pipeline.²¹

Thus, the materials underlying Mountain Valley’s claims of economic benefits of the pipeline are wholly insufficient to support its assertions. Even accepting those assertions as true, however, the MVPs’ benefits are far outweighed by its adverse effects.

3. Mountain Valley’s Application Ignores Adverse Effects of the MVP That Would Be Extremely Costly to the Public

Proposed-Intervenors agree with Mountain Valley that the threshold requirement of the Policy Statement—that the project not be subsidized by existing pipeline customers—has no application to the Mountain Valley Pipeline because it is a new pipeline without existing customers. Proposed-Intervenors disagree vehemently, however, with Mountain Valley’s assertion that the construction of the Mountain Valley Pipeline will have no adverse consequences on existing customers or existing pipelines and will have only minimal potential for adverse effects to landowners and communities.²² Mountain Valley makes that statement without any real analysis, and, in so doing, ignores the extensive adverse effects the project will have on landowners and communities.

Mountain Valley states that the MVP “will not adversely affect other existing pipelines or their captive customers because the proposed pipeline system (i) will not duplicate service already provided by another pipeline and (ii) is not designed to bypass an existing pipeline.”²³ But Mountain Valley provides no support for those assertions. Mountain Valley does not even bother to identify existing pipelines that serve the same

²¹ *Id.* at 10.

²² MVP Application at 21–23.

²³ *Id.* at 21–22.

market that it proposes to serve, let alone consider the effects of its proposal on customers of those pipelines. Proposed-Intervenors expect that, during this application process, it will become clear that the MVP will have adverse effects on existing pipelines and their existing customers.

Even more astounding, however, is Mountain Valley's claim that it will have only minimal adverse effect on landowners and communities. Contrary to Mountain Valley's unsubstantiated claims, the MVP will have numerous significant adverse effects on those constituencies and the public at large.

a. Adverse Effects Associated With the Use of Eminent Domain

Although Mountain Valley's application details its Open Houses and "extensive outreach program" conducted during the pre-filing process, it neglects to discuss the litigation that it brought against scores of landowners in attempt to force those landowners to grant them survey access to their property.²⁴ Mountain Valley also fails to quantify how many easements it has negotiated or how many rights-of-way it will have to condemn using eminent domain. Indeed, Mountain Valley fails to use the term "eminent domain" at all in its application. Because of landowner opposition to the MVP, Mountain Valley will have to use eminent domain extensively to gain the rights-of-way it needs to construct the project. The use of eminent domain is, in itself, an adverse effect on landowners.²⁵ Moreover, landowners and communities surrounding the right-of-way have an interest in avoiding unnecessary construction and adverse effects on their property.²⁶ Accordingly, the MVP will have substantial adverse effects on a key interest group.

²⁴ Id. at 25–27.

²⁵ 88 FERC at 61,748.

²⁶ Id.

b. Costs to Landowners and Communities Along the Pipeline Route

The proposed route of the Mountain Valley Pipeline will cross primarily rural landscapes where agriculture and forestry are and have been for multiple generations the dominant land uses, constituting socioeconomic resources for landowners. The communities that would be affected by the MVP also have deep roots in and strong cultural identification with the land and its rural character as a result of this long-term land use. In addition to adverse effects associated with the use of eminent domain, construction and right of way maintenance associated with the MVP will have significant adverse effects on the character of these currently non-industrialized areas as well as on property values of individuals.

The adverse effects of the taking and alteration of private property for construction of the MVP must be assessed in light of the affected communities' "cultural attachment" to the land. Cultural attachment is the "cumulative effect over time of a collection of traditions, attitudes, practices, and stories that ties a person to the land, to physical place, and kinship patterns."²⁷ Much of the land that would be affected by the MVP has been held in families for generations and people's reliance on the land for survival and prosperity has resulted in high levels of cultural attachment. Rural Appalachian communities have historically suffered from significant intrusions, such as railroad highway construction, that have "undercut the cultural patterns that had developed through people's relation to the land, physical place, and kin."²⁸ As the U.S.

²⁷ Unites States Forest Service, Draft Environmental Impact Statement for APCO 765 kV Transmission Line, June 1996 at 4.15-2.

²⁸ Id. at 4.15-1.

Forest Service recognized in a Draft Environmental Impacts Statement for a major utility corridor project in rural West Virginia and Virginia,

Substantial outside-generated intrusions (such as highways, railroads, and transmission lines) that breach the boundary of a high cultural attachment area may have significant adverse impacts to the sustainability of the local culture. One important characteristic of these intrusions is their permanency — the cement and steel of these projects have a life span far greater than that of man, so the intrusions will also be felt by future generations. The permanence of the intrusions is a symbol of the imposed dominance of commerce and economic interests.

. . . [Additionally,] [p]ermanent and elongated linear intrusions tend to bifurcate previously existing cultural units into new units. This tends to fracture informal support systems and create new boundary areas. Boundary areas created by intrusion are often abandoned by area residents from cultural management, thereby increasing the likelihood of additional intrusions.²⁹

Those cultural impacts are difficult if not impossible to mitigate.³⁰

In addition to the adverse effects of the intrusion of the pipeline itself, FERC must also account for the potential for the character of these communities to be disrupted by gas drilling activities that would not be economical absent their close proximity to a pipeline to move the gas to market, as discussed below. In order to properly assess the MVP's adverse impacts to communities along the proposed pipeline route, FERC must conduct a study similar to that performed for the U.S. Forest Service's DEIS for the APCo 765 kV Transmission Line in West Virginia and Virginia.³¹

²⁹ Id. at 4.15-1 – 4.15-2.

³⁰ Id. at 4.15-6.

³¹ See JKA Associates, Cultural Attachment: Assessment of Impacts to Living Culture, Appendix M to USFS DEIS for APCo 765 kV Transmission Line.

Not only would the MVP have adverse impacts as a result of changes to community character, the pipeline would also directly lower property values both in the right-of-way and on adjacent tracts within the blast radius. FERC may not limit its assessment of the economic impacts of the MVP on property owners to the value of acreage lost to the pipeline right of way. Rather, FERC must determine the portion of the existing value that is attributable to the largely undisturbed, rural character of the properties and how that value would be affected by construction and maintenance of the MVP. Special consideration must be given to impacts on farms, both during construction and permanently. During pipeline construction, access to large portions of a property by equipment needed for farming would likely be restricted, leading to significant lost revenues or access to home garden produce or forest products. Restrictions on the size and type of equipment that can cross the permanent pipeline right of way could also limit future economic and cultural use of properties that are bisected by the MVP. Additionally, pesticide spraying to control invasive species on the pipeline corridor would constrain adjacent agricultural uses, particularly for property owners who farm organically.

FERC must also consider the adverse effects on property values and social well-being associated with pipeline safety hazards. Last year, more than 700 pipeline failures killed 19 people, injured 97 and caused more than \$300 million in damage.³² A recent investigation into the Pipeline and Hazardous Materials Safety Administration (PHMSA), which is responsible for ensuring the safety of oil and gas pipelines, found that the

³² Elana Schor and Andrew Restuccia, "Pipelines blow up and people die," Politico, April 21, 2015, <http://www.politico.com/story/2015/04/the-little-pipeline-agency-that-couldnt-117147.html#ixzz3Y2zoJ0g9>.

agency “lacks the manpower to inspect the nation’s 2.6 million miles of oil and gas lines,” “grants the industry it regulates significant power to influence the rule-making process,” and “has stubbornly failed to take a more aggressive regulatory role, even when ordered by Congress to do so.” In public testimony before the House Transportation and Infrastructure Committee’s Subcommittee on Railroads, Pipelines, and Hazardous Materials, Congresswoman Jackie Speier recently stated that “Even when [PHMSA] has crystal-clear authority, it still refuses to act. PHMSA is not only a toothless tiger, but one that has overdosed on Quaaludes and is passed out on the job.”³³ Those criticisms have been echoed in reports from the National Transportation Safety Board (NTSB) and the Department of Transportation Inspector General.³⁴ The significant number of highly publicized dangerous pipeline failures and the many public statements that the agency charged with ensuring pipeline safety is not up to the task lead to the rational perception that natural gas pipelines are not safe neighbors.

That perception not only impacts the well-being of communities that have to live everyday with fears of a fatal accident, but also significantly lowers property values by dissuading others from wanting to buy property near the pipeline. A recent report by Synapse Energy Economics, Inc. commissioned to review reports released by Atlantic Coast Pipeline analyzed the relevant literature and found that

Research by Boxall, et al. (2005) and Hansen, et al. (2006) show nearby pipelines may have negative impacts on property values, particularly following catastrophic events like the explosions cited above. The Forensic Appraisal Group, LTD, found that the negative impact on property values could be “up to 30% or more of the whole property

³³ Press Release: Congresswoman Speier Calls for Improved Pipeline Safety, April 14, 2014, http://speier.house.gov/index.php?option=com_content&view=article&id=1652:congresswoman-speier-calls-for-improved-pipeline-safety-phmsa-is-a-toothless-tiger&catid=20&Itemid=14.

³⁴ Id.

value.” Resale value is also a concern, particularly in states that require disclosure of potentially hazardous conditions. Reduced property values would lead to lower assessed real estate values and, therefore, lower tax revenues.³⁵

FERC and Mountain Valley thus may not ignore adverse impacts from safety concerns by stating that all safety issues after construction are handled by the Dept. of Transmission.

Construction and operation of facilities related to the pipeline, particularly the proposed gas compressor stations, will also adversely affect communities. The pollution and noise emitted from compressor stations, and associated health and safety risks, are well known. Noxious fumes, increased toxic poisoning levels, radioactive materials and large amounts of contaminants have been reported at compressor sites, including cancer-causing volatile organic compounds. Air pollution comes from compressor blowdowns that release large amounts of toxic chemicals into the atmosphere. Compressor noise, both audible and low frequency, has produced reported negative health effects. Mountain Valley fails to account for the risk of these adverse impacts on communities which would be near the proposed compressor stations.

c. Climate Change Costs

Mountain Valley’s application completely ignores the costs of the project associated with its contributions to climate change. Indeed, the application fails to mention climate change at all. There is no doubt, however, that the changes to the climate

³⁵ Synapse Energy Economics, Inc., *Atlantic Coast Pipeline Benefits Review* (June 12, 2015) at 10, available at <http://www.synapse-energy.com/sites/default/files/Atlantic-Coast-Pipeline-Benefits-Review-14-150.pdf>.

that are caused by the life cycle of extraction, transportation, and burning of fossil fuels—to which the MVP would contribute significantly—have immense societal costs.

In performing its balancing test, FERC must consider in detail the potential for the MVP to contribute to climate change both directly from the pipeline itself as well as from indirect contributions from other sources. Every link in the chain of natural gas production, transmission, and use that the MVP will facilitate will contribute significant greenhouse gas (GHG) emissions that result in substantial adverse climate impacts on the public.

The MVP would contribute to climate change in several different ways. First, construction and operation of the MVP and associated facilities would directly emit GHGs as a result of the fossil fuels that would be needed to power construction equipment and compressor stations. According to the U.S. Environmental Protection Agency (EPA), the construction sector has the third highest GHG emissions among all industrial sectors.³⁶ EPA estimates that construction of oil and gas pipelines and related structures contributed nearly one million metric tons of CO₂ equivalents in 2002 alone.³⁷ Construction of the MVP through the rugged mountainous terrain of the proposed route is likely to require increased energy use beyond what is required for construction in flatter terrain. Additionally, operation of the compressor stations will require significant energy with attendant GHG emissions. All three of the proposed stations will be powered by gas-driven turbine engines, with a combined output of 171,600 horsepower.³⁸ The three new

³⁶ US EPA, Potential for Reducing Greenhouse Gas Emissions in the Construction Sector (2009) at 3, available at www.epa.gov/sectors/pdf/construction-sector-report.pdf.

³⁷ *Id.* at 31.

³⁸ MVP Application at 2.

compressor stations proposed for the MVP are estimated to emit hundreds of thousands of tons per year of carbon dioxide equivalent.³⁹

Second, fugitive emissions from the pipeline and compressor stations will contain high levels of GHGs, most notably methane, which the Intergovernmental Panel on Climate Change (“IPCC”) estimates to have 86 times the global warming potential (“GWP”) of carbon dioxide over a 20-year period.⁴⁰ EPA estimates that 23 percent of annual US methane emissions come from natural gas systems and that 34 percent of all methane emissions from the natural gas industry come from the transmission and storage sector, with emissions totaling 54.4 million metric tons in 2013.⁴¹ Recent studies suggest that EPA may be underestimating the methane emissions from all sources by as much as 75 percent.⁴² According to EPA, “methane losses can occur from leaks (also referred to as fugitive emissions) in all parts of the infrastructure, from connections between pipes and vessels, to valves and equipment.”⁴³

In January 2015, the White House announced a goal to reduce methane emissions from the natural gas and oil sector.⁴⁴ According to the White House, “[m]ethane

³⁹ Resource Report 9, Appendix 9-B.

⁴⁰ Working Group I Contribution to the IPCC Fifth Assessment Report, Climate Change 2013: The Physical Science Basis 8-58 (June 7, 2013), [available at](http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf) http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf.

⁴¹ U.S. EPA, [Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2013 \(April 2015\)](http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html#fullreport) at 3-69 – 3-70, [available at](http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html#fullreport) <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html#fullreport>.

⁴² Subramanian, *et al.*, Methane Emissions from Natural Gas Compressor Stations in the Transmission and Storage Sector: Measurements and Comparisons with the EPA Greenhouse Gas Reporting Program Protocol, *Environ. Science & Technology*, 49, 3252–61 (2015) at 3252, [available at](http://pubs.acs.org/doi/abs/10.1021/es5060258) <http://pubs.acs.org/doi/abs/10.1021/es5060258>.

⁴³ EPA Natural Gas Star, Basic Information, <http://www.epa.gov/methane/gasstar/basic-information/index.html>.

⁴⁴ Press Release from the White House, Administration Takes Steps Forward on Climate Action Plan by Announcing Actions to Cut Methane Emissions (Jan. 14, 2015), [available at](https://www.whitehouse.gov/the-press-office/2015/01/14/fact-sheet-administration-takes-steps-forward-climate-action-plan-anno-1) <https://www.whitehouse.gov/the-press-office/2015/01/14/fact-sheet-administration-takes-steps-forward-climate-action-plan-anno-1>.

emissions accounted for nearly 10 percent of U.S. greenhouse gas emissions in 2012, of which nearly 30 percent came from the production[,] transmission[,] and distribution of oil and natural gas.”⁴⁵ In August 2015, the EPA proposed a draft rule setting new source performance standards for methane for the oil and natural gas industry.⁴⁶ The proposed rule emphasizes that “methane is a greenhouse gas (GHG), and the oil and natural gas category is currently one of the country's largest emitters of methane.”⁴⁷

Third, there will be significant GHG emissions from the end use of the natural gas carried by the MVP. The proposed pipeline has the capacity to carry 2.0 billion cubic feet per day of gas from production areas to end users. According to the U.S. Energy Information Administration, on average burning one thousand cubic feet of natural gas produces 119.9 pounds of CO₂ emissions.⁴⁸ Thus if the MVP operates at full capacity, combustion of the gas it carries will result in 239,800,000 pounds (108,771.5 metric tons) of CO₂ emissions every day that it is in operation, which equates to nearly 40 million tons of CO₂ emissions annually.

Finally, the drilling activities that would be necessary to supply gas for the MVP will emit high levels of GHGs, distinct from the downstream emissions of the pipeline, compressors stations, and end use of the gas. Science shows that when the entire lifecycle of shale gas is accounted for, its use as an energy source actually results in greater GHG emissions than the use of coal or oil.⁴⁹ A major reason for that is the “upstream” GHG

⁴⁵ *Id.*

⁴⁶ Env'tl. Protection Agency, Proposed Rule, Oil and Natural Gas Sector: Emission Standards for New and Modified Sources (Aug. 18, 2015), *available at* <http://www.epa.gov/airquality/oilandgas/actions.html>.

⁴⁷ *Id.*

⁴⁸ Carbon Dioxide Emissions Coefficients, http://www.eia.gov/environment/emissions/co2_vol_mass.cfm.

⁴⁹ Robert W. Howarth, “A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas,” *Energy Science & Engineering* 2014, *available at* <http://www.eeb.cornell.edu/howarth/index.php>.

emissions associated with shale gas drilling operations, which through leaks and flaring cause anywhere from 2.2 to 4.3 percent of the total gas produced to be emitted directly to the atmosphere.⁵⁰

Together, those GHG emissions represent a meaningful contribution to climate change, which imposes significant costs on the public. The 2010 report Weathering Climate Change by insurance firm Swiss Re found that global insured economic losses from climate-related disasters, not including health costs, had soared from \$5 billion to \$27 billion annually from 1970 to 2010.⁵¹ That figure does not include uninsured climate change losses, which likely far exceed insured losses.

In addition to the costs related to property damage from sea level rise and intensified storm events, wildfires, droughts, and flooding, climate would have significant human health costs as well. A collaborative study between university economists and scientists from the Natural Resources Defense Council looked at six individual case studies of climate change-related environmental events in the U.S. from 2002 through 2009. The study found that the six events—a 2006 heat wave in California, 2003 wildfires in Southern California, 2009 flooding in North Dakota, a 2002 outbreak of West Nile virus in Louisiana, 2004 Hurricanes in Florida, and smog pollution nationwide in 2002—caused over \$14.1 billion in human health costs in the form of deaths, hospitalizations, and emergency room visits.⁵² There is no question that, if climate

⁵⁰ Id. at 3.

⁵¹ Reichenmiller P, Spiegel A, Bresch D, and Schnarwiler R. Weathering climate change: Insurance solutions for more resilient communities. Zurich: Swiss Re; 2010, available at http://www.swissre.com/rethinking/climate_and_natural_disaster_risk/Weathering_climate_change.html.

⁵² Knowlton K, Rotkin-Ellman M, Geballe L, Max W, Solomon G. 2011 (in press). Health costs of six climate change-related events in the United States, 2002-2009. *Health Affairs*, 2011; 30(11) p.2167-2176.

change associated with the ongoing use of fossil fuels intensifies, these costs will increase.⁵³

Other federal agencies are accustomed to analyzing the environmental consequences of a project's greenhouse gas emissions and have developed tools, such as the "social cost of carbon," to do so. FERC and Mountain Valley must use existing tools that estimate the harm caused by MVP's GHG emissions when determining if the proposed project serves the public convenience and necessity.

Moreover, while climate change is a global problem, North Carolina and Virginia— to which much of the gas carried by the MVP would ultimately be delivered — are two of the most climate-vulnerable states in the country. The East Coast of the United States is threatened by an Atlantic Ocean that is rising three to four times faster than the global average.⁵⁴ The Tidewater region of Virginia is especially susceptible. By the year 2100, sea level rise in Virginia is projected to be as much as seven feet or more, substantially higher than global projections.⁵⁵ This rapid sea-level rise places much of Tidewater Virginia second only to New Orleans and Louisiana's Gulf Coast as the largest population center at greatest risk of flooding and largely disappearing. Not only must the MVP consider its contribution to global climate change, it must also consider the impacts

⁵³ A report from the international reinsurance company MunichRe, which has studied extreme events from 1980 through 2011, concluded that the frequency of extreme events in the United States is on the rise. Munich Re. 2011. Half-Year Natural Catastrophe Review, July 12, 2011. MR NatCatSERVICE. http://www.munichreamerica.com/webinars/2011_07_natcatreview/MR_III_2011_HalfYear_NatCat_Review.pdf.

⁵⁴ Press Release, U.S. Geological Survey, Sea Level Rise Accelerating in U.S. Atlantic Coast, June 24, 2012 available at http://www.usgs.gov/newsroom/article.asp?ID=3256&from=rss_home#.ViFf3X6rTIV.

⁵⁵ Va. Inst. of Marine Sci., Recurrent Flooding Study for Tidewater Virginia p.78, fig.16 (Jan. 2013), available at http://ccrm.vims.edu/recurrent_flooding/Recurrent_Flooding_Study_web.pdf.

climate change will have on the project. FERC and Mountain Valley must take this acute vulnerability into account when assessing the project's impacts as well as its design.

FERC must consider adverse effects of the GHG emissions associated with the MVP in concert with emissions from past, present, and reasonably foreseeable future actions. In the past decade, there has been a marked increase in the number of applications to FERC for approval of pipelines in the region to transport natural gas extracted from the Marcellus and Utica shale formations. The MVP is one of four new natural gas pipeline projects currently proposed or contemplated for the region. Together, these projects and other related actions contribute to climate change and will have a variety of adverse effects, including changes in net agricultural productivity, health impacts, property damages from increased flood and storm risk, and changes in energy system costs, such as increased costs for air conditioning.⁵⁶ Those adverse effects would impact Proposed-Intervenors' members, the communities along the proposed route of the MVP, the consumers of the gas carried by the MVP, and the larger world.

d. Costs Associated with Induced Gas Drilling Impacts Other Than GHG Emissions

As explained above, Mountain Valley has not demonstrated the need for the MVP. If, however, FERC finds that the need for the MVP cannot be met by increased use of renewable energy and that the markets that the MVP would serve cannot adequately be

⁵⁶ See Interagency Working Group on Social Cost of Carbon, United States Government, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* p.3 (Nov. 2013), available at <http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf> (federal tool to assess the climate costs and benefits of government action).

served by existing infrastructure, then construction of the MVP would necessarily lead to increased gas drilling to supply the pipeline.

Mountain Valley's stated purpose for constructing the pipeline is to meet demand for natural gas markets in Mid-Atlantic and Southeastern regions for electric power generation and other industrial and domestic uses.⁵⁷ Mountain Valley proposes to meet that demand with gas produced in the Marcellus and Utica shale formations in the Appalachian Basin, which the MVP would allow to displace current natural gas supplies from the Gulf of Mexico.⁵⁸ Further, the Mountain Valley claims that the MVP would "provide opportunities to expand the use of natural gas and economic growth along the Project route in West Virginia and southwestern Virginia."⁵⁹ The MVP would thus allow for the production of 2.0 billion cubic feet of gas per day in those formations that would not otherwise have a direct route to market. As the West Virginia Oil and Gas Association stated in its motion to intervene in the Certificate Application proceeding for the similar Atlantic Coast Pipeline, the construction of a pipeline from the Appalachian Basin to the Southeast and Mid-Atlantic markets would lead to an "increase in production" and that shale gas producers would "greatly benefit from these new end-use consumption markets created by the . . . pipeline."⁶⁰ Without the pipeline to move the gas from the production areas, the drilling would not likely be economical and would not occur. Likewise, without the ongoing production from the shale gas sources, there would be no need for the pipeline.

⁵⁷ Resource Report 1 at 1-1.

⁵⁸ MVP Application at 12.

⁵⁹ Id.

⁶⁰ Motion to Intervene of the West Virginia Oil and Gas Association (October 22, 2105) in FERC docket No. CP15-554 at 2.

That drilling would result in significant environmental impacts. Natural gas production—particularly from “unconventional” sources such as the shale gas formations that would supply the MVP—is a significant air pollution source, can disrupt ecosystems and watersheds, leads to industrialization of entire landscapes, disrupts communities, and presents challenging waste disposal issues. A subcommittee of the DOE’s Secretary of Energy’s Advisory Board recently highlighted “a real risk of serious environmental consequences” resulting from continued expansion of shale gas production.⁶¹ Shale gas production requires employing the controversial practice of hydraulic fracturing or “fracking,” which imposes a large number of environmental harms.

For instance, fracking operations are a significant source of air pollution beyond the GHG emissions discussed above. EPA acknowledges that “[t]here have been well-documented air quality impacts in areas with active natural gas development, with increases in emissions of methane, volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).”⁶² Exposure to this pollution can cause eye, nose, and throat irritation, respiratory illnesses, central nervous system damage, birth defects, cancer, or premature death.⁶³ In Colorado, for example, an evaluation of birth defects in areas with high concentrations of oil and gas activity found that mothers who lived near many oil and gas

⁶¹ DOE, Secretary of Energy’s Advisory Board, Shale Gas Production Subcommittee Second 90-Day Report 10 (Nov. 18, 2011); *see also* DOE, Shale Gas Production Subcommittee, First 90-Day Report (Aug. 18, 2011) (hereinafter “First 90-Day Report”).

⁶² US EPA, Natural Gas Extraction - Hydraulic Fracturing, <http://www2.epa.gov/hydraulicfracturing#air>.

⁶³ John L. Adgate et al., “Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development,” *Environmental Science and Technology* (2014), available at <http://pubs.acs.org/doi/abs/10.1021/es404621d>.

wells were 30 percent more likely to have babies with heart defects.⁶⁴ Similarly, preliminary results from a study in Pennsylvania show impacts among newborns that could be linked to air pollution such as increases in low birth weight.⁶⁵ In many rural areas, the boom in oil and gas activity has been linked to unhealthy spikes in ozone concentrations.⁶⁶ In 2008 and 2011, increased ozone concentrations in Wyoming's Sublette County were associated with subsequent increases in outpatient clinic visits for respiratory problems.⁶⁷ Researchers who looked at air pollution levels near fracking sites in Colorado also found an increased risk of chronic and sub-chronic effects mainly stemming from oil and gas related pollutants, which can harm the respiratory and neurological systems and lead to symptoms like shortness of breath, nosebleeds, headaches, dizziness, and chest tightness.⁶⁸ FERC must consider those public costs associated with air quality impacts that would result from the shale gas drilling necessary to supply the MVP.

FERC must also consider the adverse effects of water quality impacts associated with induced drilling. The chemicals injected into the ground to aid in the hydraulic fracturing process pose a serious risk to groundwater supplies, many of which are used for drinking water. EPA's Acting Assistant Administrator for Water testified before

⁶⁴ Lisa M. McKenzie et al., "Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado," *Environmental Health Perspectives*, (2014) at 12, [available at http://ehp.niehs.nih.gov/1306722/](http://ehp.niehs.nih.gov/1306722/).

⁶⁵ Adgate et al.

⁶⁶ Detlev Helmig et al., "Highly Elevated Atmospheric Levels of Volatile Organic Compounds in the Uintah Basin, Utah," *Environmental Science & Technology*, March 27, 2014, [available at http://www.ncbi.nlm.nih.gov/pubmed/24624890](http://www.ncbi.nlm.nih.gov/pubmed/24624890).

⁶⁷ State of Wyoming Department of Health, "Associations of Short-Term Exposure to Ozone and Respiratory Outpatient Clinic Visits — Sublette County, Wyoming, 2008–2011," 2013, [available at health.wyo.gov/Media.aspx?mediaId=16318](http://health.wyo.gov/Media.aspx?mediaId=16318).

⁶⁸ McKenzie et al.

Congress about the dangers posed by these injected chemicals, particularly the use of diesel fuel. She explained that:

Diesel fuels in hydraulic fracturing fluids are a concern because they often contain benzene, toluene, ethylbenzene, and xylene compounds (BTEX). BTEX compounds are highly mobile in ground water and are regulated under national primary drinking water regulations because of the risks they pose to human health. People who consume drinking water containing any of these compounds in excess of the EPA's drinking water standard over many years may experience health complications such as increased cancer risk, anemia, and problems with the nervous system, kidneys, or liver.⁶⁹

The human health and environmental impacts of many other chemicals injected in the fracking process are not completely understood, in large part because operators are not required to disclose what they are injecting.

In addition to the chemicals injected, fracking also impacts water quality by releasing contaminants into the groundwater that were formerly bound within rock formations. A study from Duke University found methane concentrations 17 times higher in drinking water wells within 1 kilometer of active hydrofracking sites.⁷⁰ Additionally, much of the brine brought closer to the surface by fracking operations contains very high levels of radioactive materials.⁷¹

Not only does shale gas drilling contaminate groundwater *in situ*, it also uses and contaminates an incredible amount of surface water that, once injected and then returned

⁶⁹ Testimony of Nancy K. Stoner Before the Subcommittee on Technology, Information Policy, Intergovernmental Relations and Procurement Reform Committee on Oversight and Government Reform, United States House of Representatives, May 31, 2012, at 3 [available at](http://www.epa.gov/ocir/hearings/testimony/112_2011_2012/n_stoner_testimony.pdf) http://www.epa.gov/ocir/hearings/testimony/112_2011_2012/n_stoner_testimony.pdf

⁷⁰ See "Hydrofracking Changes Water Wells: New method of extracting shale gas may force methane into the water supply," <http://today.duke.edu/2011/05/hydrofracking>.

⁷¹ "Radionuclides in Fracking Wastewater: Managing a Toxic Blend," *Environmental Health Perspectives* 122:A50–A55 (2014), [available at](http://dx.doi.org/10.1289/ehp.122-A50) <http://dx.doi.org/10.1289/ehp.122-A50>.

to the surface, must be disposed of. A recent report by the consulting firm Earthworks showed that between two and five millions of gallons of water are required to hydraulically fracture a shale well.⁷² The disposal of the produced water and flowback of surface water once well pressure is released have serious water quality impacts. Samples of flowback from the Marcellus Shale have shown consistently high levels of sodium, chloride, strontium, barium, and bromide. In addition, flowback can contain substances originating from the fractured formation, such as hydrogen sulfide and various volatile organic compounds.⁷³ In 2008, improper disposal of shale gas wastewater in the Monongahela River caused a surge in levels of Total Dissolved Solids (TDS) leading to a bottled water advisory for Pittsburgh residents.⁷⁴ In 2013, there were nearly 600 spills of wastewater, fracturing fluids, and other substances at oil and gas well sites in Pennsylvania, a 70 percent increase since 2011.⁷⁵ Those represent just a couple of the many examples of water quality impacts that result from the challenges associated with disposing of massive quantities of wastewater from fracking operations. All of those impacts impose significant costs on the public that outweigh any benefit that would be provided by the MVP.

In addition to failing to account for the environmental costs of induced gas drilling, Mountain Valley's application overlooks the direct long-term economic toll that boom-and-bust extractive industries like gas drilling take on communities. For example, Mountain Valley's application does not account for the losses to tourism dollars in the

⁷² Earthworks, "Wasting Away: Four states' failure to manage gas and oil field waste from the Marcellus and Utica Shale," April 2015, at 7, [available at www.earthworksaction.org/library/detail/wasting_away_full_report#.VTRgofC9Qb4](http://www.earthworksaction.org/library/detail/wasting_away_full_report#.VTRgofC9Qb4).

⁷³ Id.

⁷⁴ Id. at 6.

⁷⁵ Id. at 7.

gas production areas that would feed the MVP. Gas production harms tourism, for example, by clogging roads, impacting infrastructure, and diminishing the scenic value of rural areas. A study by Dean Runyan Associates found that tourism spending injected more than \$5 billion into the West Virginia economy in 2012, or nearly \$14 million per day.⁷⁶ The industrial development attendant to gas drilling poses a significant threat to that economic engine.

Further, Mountain Valley's application fails to account for the economic disruption of communities that will be caused by induced gas production. The boom and bust cycle inherent in gas extraction often leaves communities worse off, particularly if they are unable to convert the temporary boom into permanent growth. Although a few owners of the gas are temporarily enriched, in the long term such extractive industries leave communities impoverished and without any economic foundation. According to research done by Cornell University's Department of City and Regional Planning on the economic impacts of the gas boom on Pennsylvania and New York:

The extraction of non-renewable natural resources such as natural gas is characterized by a "boom-bust" cycle in which a rapid increase in economic activity is followed by a rapid decrease. The rapid increase occurs when drilling crews and other gas-related businesses move into a region to extract the resource.

During this period, the local population grows and jobs in construction, retail and services increase, though because the natural gas extraction industry is capital rather than labor intensive, drilling activity itself will produce relatively few jobs for locals. Costs to communities also rise significantly, for everything from road maintenance and public safety to schools. When drilling ceases because the commercially recoverable resource is depleted, there is an economic "bust" — population and jobs

⁷⁶ Dean Runyan Associates, Economic Impact of Travel on West Virginia 2013 at 6, available at http://www.wvcommerce.org/App_Media/assets/doc/travelandrec/industry/marketing/2012_Economic_Impact.pdf.

depart the region, and fewer people are left to support the boomtown infrastructure.⁷⁷

This boom-and-bust cycle is exacerbated by the purportedly vast resources of the recently discovered shale gas play, because regional impacts will persist long after local benefits have dissipated and may be destructive, if communities are not able to plan for, and capture, the benefits of industrialization:

[T]he experience of many economies based on extractive industries warns us that short-term gains frequently fail to translate into lasting, community-wide economic development. *Most alarmingly, a growing body of credible research evidence in recent decades shows that resource dependent communities can and often do end up worse than they would have been without exploiting their extractive reserves.* When the economic waters recede, the flotsam left behind can look more like the aftermath of a flood than of a rising tide.⁷⁸

Mountain Valley may not tout illusory economic benefits of the MVP while at the same time ignoring the substantial costs to communities that would be imposed by the pipeline and the drilling necessary to supply it.

4. Mountain Valley Ignores the Economic and Environmental Benefits of the Clean Energy Development That the MVP Would Displace

The substantial adverse effects discussed above must be balanced by a showing of substantial public benefits by the applicant.⁷⁹ Mountain Valley has failed to make the necessary showing. In addition to the flaws with Mountain Valley's calculations of

⁷⁷ Susan Christopherson, CaRDI Reports, The Economic Consequences of Marcellus Shale Gas Extraction: Key

Issues 4 (2011) ("Cornell Study") (Sept. 2011), available at http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus_SC_NR.pdf.

⁷⁸ Id. at 6.

⁷⁹ 88 FERC ¶ 61,749 ("The strength of the benefit showing will need to be proportional to the applicant's proposed exercise of eminent domain procedures.").

economic benefits to the public, Mountain Valley's reliance on public benefits related to clean air objectives is also misplaced.

Mountain Valley's application assumes without support that the gas delivered for electrical generation by the proposed pipeline would necessarily displace coal-fired electrical generation.⁸⁰ Mountain Valley ignores the likelihood that, in the absence of the pipeline and associated increased gas plant generation, the demand for electricity created by a reduction in coal-fired generation could be met by increases in clean, renewable sources. Although Mountain Valley touts the reduced emissions from natural gas,⁸¹ as compared to coal, the GHG emissions from natural gas production, transportation, and consumption still far exceed those of renewable energy sources such as wind and solar. Accordingly, Mountain Valley cannot show sufficient public benefits from the MVP related to clean air objectives. Accordingly, Mountain Valley cannot justify the MVP on the basis of advancing clean air objectives.

At the same time, Mountain Valley ignores the economic benefits that would accrue to the public from a significant scale-up of the renewable energy industry. Contrary to the flawed analysis in Mountain Valley's Resource Report 10, increased implementation of renewables represents a viable alternative to the construction of the MVP. The costs of renewables have dropped drastically in recent years and are expected to continue to drop as growing global demand translates into manufacturing and supply chain efficiencies. For example, the U.S. Department of Energy's National Renewable

⁸⁰ MVP Application at 10–11.

⁸¹ MVP Application at 23–24 (“The Mountain Valley Project will provide a number of benefits for those in the Project area and in the broader Appalachian, Mid-Atlantic, and southeastern regions, including . . . [o]verall reduction in air emissions by providing the ability for utilities and industry in the region to use cleaner-burning natural gas.”)

Energy Laboratory (NREL) found that distributed solar photovoltaic (PV) system prices dropped by 12–19 percent nationwide in 2013 and forecasted another reduction of 3–12 percent in 2014,⁸² depending on system location and market segment. These price drops are even greater than expected, such that utility-scale solar photovoltaic systems prices per watt are 59 percent less than were projected as recently as 2010.⁸³ Another estimate predicted an additional 40 percent drop in costs of solar power over the next three to four years.⁸⁴

The International Renewable Energy Agency (IRENA) recently released a report finding that renewables such as biomass, hydropower, geothermal and onshore wind are all competitive with or cheaper than coal, oil, and gas-fired power stations, even without financial support and despite falling oil prices.⁸⁵ That report found that the cost of solar PV equipment fell by 75 percent and the cost of wind generation by almost a third since the end of 2009, while utility scale solar PV system costs fell by about 50 percent on average since 2010.⁸⁶

Integration of those renewables into the grid on a large scale is possible with very little disruption. As IRENA explained:

There are no technical barriers to the increased integration of variable renewable resources, such as solar and wind energy. At low levels of penetration, the grid integration costs will be negative or modest, but can

⁸² NREL, Solar Energy Prices See Double-digit Declines in 2013; Trend Expected to Continue, <http://www.nrel.gov/news/press/2014/15405.html>.

⁸³ Id.

⁸⁴ Clean Technica, “Deutsche Bank Predicts Solar Grid Parity In 80% Of Global Market By 2017,” January 14th, 2015, <http://cleantechnica.com/2015/01/14/deutsche-bank-predicts-solar-grid-parity-80-global-market-2017/>.

⁸⁵ International Renewable Energy Agency (IRENA), *Renewable Power Generation Costs in 2014*, available at http://www.irena.org/DocumentDownloads/Publications/IRENA_RE_Power_Costs_2014_report.pdf.

⁸⁶ Id. at 12.

rise as penetration increases. Even so, when the local and global environmental costs of fossil fuels are taken into account, grid integration costs look considerably less daunting, even with variable renewable sources providing 40% of the power supply. In other words, with a level playing field and all externalities considered, renewables remain fundamentally competitive.⁸⁷

The clean energy development that the MVP would displace would have significant positive economic impacts. The Union of Concerned Scientists explains that “[c]ompared with fossil fuel technologies, which are typically mechanized and capital intensive, the renewable energy industry is more labor-intensive. This means that, on average, more jobs are created for each unit of electricity generated from renewable sources than from fossil fuels.”⁸⁸ Indeed, the renewable energy sector already provides an immense number of domestic jobs. For example, the American Wind Energy Association estimates that the entire wind energy sector directly and indirectly employed 80,700 full-time workers in the United States at the end of 2012, an increase of 5,700 jobs from the previous year.⁸⁹ Those jobs are in a wide variety of sectors, including manufacturing, project development, construction and turbine installation, operations and maintenance, transportation and logistics, and financial, legal, and consulting services.⁹⁰ More than 500 factories in the United States manufacture parts for wind turbines, and the amount of

⁸⁷ Id. at 14.

⁸⁸ Union of Concerned Scientists, Benefits of Renewable Energy Use, http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/public-benefits-of-renewable.html#bf-toc-3.

⁸⁹ U.S. Dept. of Energy, 2012 Wind Technologies Market Report, August 2013 at vi, available at <https://emp.lbl.gov/sites/all/files/lbnl-6356e.pdf>.

⁹⁰ American Wind Energy Association (AWEA). 2012a. AWEA U.S. Wind Industry Annual Market Report: Year Ending 2011. Washington, D.C.

domestically manufactured equipment used in wind turbines has grown dramatically in recent years: from 25 percent in 2006 to 72 percent in 2012.⁹¹

Other renewable energy technologies employ even more workers. As of November 2014, the solar industry employed 173,807 solar workers, representing a growth rate of 21.8 percent since November 2013. Over the next 12 months, employers surveyed expect to see total employment in the solar industry increase by 20.9 percent to 210,060 solar workers.⁹² As the survey of solar industry shows, scaling up clean energy technologies has the potential to create many more jobs. Indeed, a 2009 analysis conducted by the Union of Concerned Scientists found that increasing the portion of the nation's energy demand met by renewables to 25 percent by 2025 would create more than three times as many jobs as producing an equivalent amount of electricity from fossil fuels—resulting in a benefit of 202,000 new jobs in 2025.⁹³

Virginia's energy industry is undergoing a major transition as it retires older power plants and builds new infrastructure to meet the needs of citizens while simultaneously planning to meet federal environmental regulations. The most notable regulatory obligation is the development of a plan for implementing the EPA's Clean Power Plan (CPP), which will require a transition to low and zero-carbon energy resources.

The Assessing Virginia's Energy Future report considers the employment outcomes of two possible Clean Power Plan (CPP) compliance strategies. Specifically,

⁹¹ U.S. Dept. of Energy, 2012 Wind Technologies Market Report, August 2013 at vi, available at <https://emp.lbl.gov/sites/all/files/lbnl-6356e.pdf>.

⁹² The Solar Foundation. 2014. National Solar Jobs Census 2014, available at <http://www.thesolarfoundation.org/national-solar-jobs-census-2014/>.

⁹³ UCS, Clean Power Green Jobs (2009), available at http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/clean-energy-green-jobs.html#.ViEnEW69Qb4.

this report summarizes employment modeling that compares Clean Power Plan implementation scenarios to a “business as usual” future by looking at new labor in Virginia associated with building and operating new power plants and efficiency improvement projects and labor lost from plants retiring and other planned changes. The analysis considers a “Diversified Portfolio” that achieves compliance by implementing changes already planned by utilities and some additional renewable energy and energy efficiency. Since Virginia has long examined ways to limit its electricity imports, which provide less than 40 percent of the state’s electricity, the report also considers an “Import Reduction” scenario that utilizes additional renewable energy, energy efficiency, and natural gas generating resources to eliminate the state’s electricity imports while also meeting EPA’s emission reduction target for the state.

In both scenarios, compliance with the CPP would provide substantial net employment benefits for Virginia. By 2030, the Diversified Portfolio option will result in 54,231 cumulative additional job years that result from compliance actions, and the Import Reduction scenario will result in 122,912 job-years, more than double the employment gains of the Diversified Portfolio scenario. These numbers are in addition to the 7,964 net job-years that will be created by changes that are already planned by the state’s utilities. Under the Diversified Portfolio scenario, job gains will peak in 2029, with more than 5,700 net jobs that year, near the current employment in beverage production in Virginia. Under the Import Reduction scenario, the employment peak will

come in 2027, with 12,600 additional jobs that year – nearly equal to existing jobs in commercial construction.⁹⁴

Increasing renewable energy creates significant additional public benefits beyond creating jobs. Property and income taxes and other payments from renewable energy development can help local governments provide vital public services, especially in rural communities where projects are often located. Landowners also receive significant benefits from renewable energy development without the pollution that attends fossil fuel extraction. For example, landowners on whose land wind projects are built also often receive lease payments ranging from \$3,000 to \$6,000 per megawatt of installed capacity, as well as payments for power line easements and road rights-of-way.⁹⁵ The UCS study evaluating a move to 25 percent renewables by 2025 found that the clean energy development would stimulate \$263.4 billion in new capital investment for renewable energy technologies, \$13.5 billion in new landowner income, and \$11.5 billion in new property tax revenue for local communities.⁹⁶ Renewable energy projects therefore keep money circulating within the local economy and reduce the need to spend money on importing fossil fuels for electric generation, in addition to reducing the public costs associated with climate change.

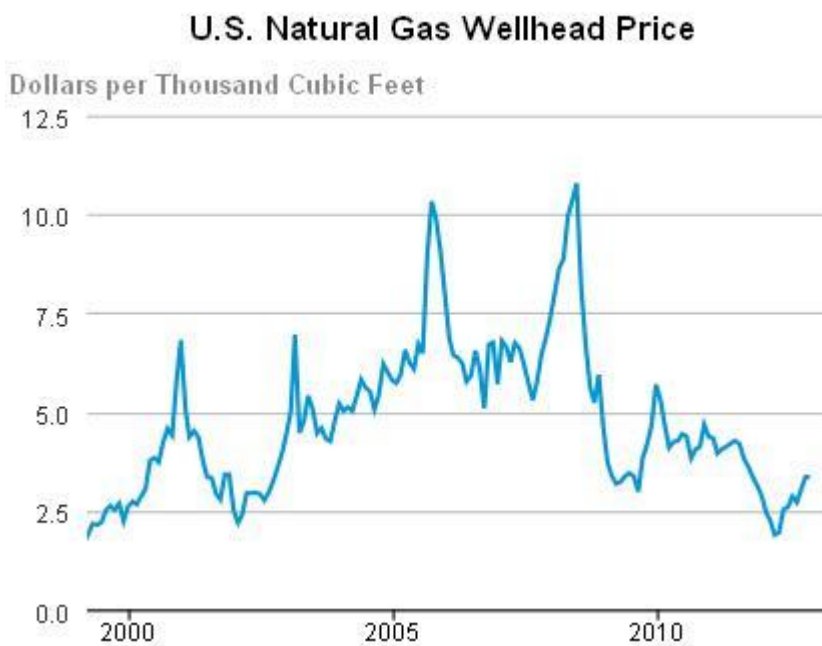
Moreover, in contrast to the volatile prices of fossil fuels that can have negative impacts on customers, development of renewables benefits the public by stabilizing

⁹⁴ ASSESSING VIRGINIA'S ENERGY FUTURE Employment Impacts of Clean Power Plan Compliance Scenarios Report was prepared for the Advanced Energy Economy Institute and the Virginia Advanced Energy Industries Coalition by Meister Consultants Group, Inc., April 2015.

⁹⁵ Union of Concerned Scientists, Benefits of Renewable Energy Use, http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/public-benefits-of-renewable.html#bf-toc-3.

⁹⁶ UCS, Clean Power Green Jobs (2009), available at http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/clean-energy-green-jobs.html#.ViEnEW69Qb4.

energy prices. As explained above, renewable energy prices continue to fall as existing technologies are scaled up and new technologies emerge. While renewable facilities require upfront investments to build, once built they operate at very low cost and, for most technologies, the fuel is free. As a result, renewable energy prices are relatively stable over time. The UCS study evaluating a move to 25 percent renewables by 2025 found that such development would lower electricity prices by 7.6 percent by 2030. In contrast, fossil fuel prices can vary dramatically and are prone to substantial price swings.⁹⁷ For example, U.S. Energy Information Administration data shows that the wellhead price of natural gas fluctuated wildly between 2000 and 2013:



Indeed, the UCS warns that Virginia and North Carolina run a high risk of becoming over-reliant on natural gas. From 2008 to 2014, Virginia’s in-state electricity generation fueled by natural gas increased by 14.3 percent while North Carolina’s

⁹⁷ EIA. 2013. U.S. Natural Gas Wellhead Price, [available at http://www.eia.gov/dnav/ng/hist/n9190us3m.htm](http://www.eia.gov/dnav/ng/hist/n9190us3m.htm).

increased by 19.3 percent.⁹⁸ Ninety-eight percent of new plants contemplated for the commonwealth will be powered by natural gas; Virginia is projected to install 12,500 megawatts of new natural gas capacity by 2017.⁹⁹ North Carolina plans to install 10,700 megawatts of new gas capacity.¹⁰⁰ The MVP, together with the states' other investments in natural gas, will further their overreliance on natural gas and poses a risk to consumers.

In contrast to the threats posed by over-reliance on fossil fuels, increasing the use of renewables protects consumers when fossil fuel prices have sudden upswings. Increased diversification of energy production also helps utilities avoid the costs of “hedging” against fossil fuel price increases. Utilities spend millions of dollars on financial instruments to hedge themselves from fossil fuel price uncertainties. Since hedging costs are not necessary for electricity generated from renewable sources, long-term renewable energy investments can help utilities save money they would otherwise spend to protect their customers from the volatility of fossil fuel prices. Those utility savings can then be passed on to customers.

5. FERC Must Consider Alternatives to the MVP Beyond What Mountain Valley Has Assessed In Its Application

As part of its “public convenience and necessity” determination under the Natural Gas Act, FERC must consider alternatives to the specific proposals presented by certificate applicants. The Natural Gas Act does not constrain FERC solely to accept or reject the specific proposal presented by a certificate applicant. That is, FERC can issue a certificate that differs from the certificate requested. Sunray Mid-Con. Oil Co. v. Federal

⁹⁸ See Union of Concerned Scientists, Rating the States on their Risk of Natural Gas Overreliance (Oct. 2015), [available at](http://www.ucsusa.org/clean-energy/rating-the-states-on-their-risk-of-natural-gas-overreliance#.ViVe6X6rTIV) <http://www.ucsusa.org/clean-energy/rating-the-states-on-their-risk-of-natural-gas-overreliance#.ViVe6X6rTIV>.

⁹⁹ Id.

¹⁰⁰ Id.

Power Com'n, 364 U.S. 137 (1960); 15 U.S.C. 717f(e) (“The Commission shall have the power to attach to the issuance of the certificate and to the exercise of the rights granted thereunder such reasonable terms and conditions as the public convenience and necessity may require.”). FERC and its predecessor agency have long recognized that:

in passing upon proposed certificate authorizations, it seems clear that we have the authority, if the application of the act’s standards to the facts before us requires, to issue a certificate providing for such reasonable variations or departures from the parties’ proposals as may be said to be fairly within their contemplation and are necessary or appropriate to carry out the provision of the Act. A contrary holding would exalt mere procedural incidents above substantial public interests.

Re Natural Gas Pipeline Co. of Amer., 1957 WL 8339 at *3 (F.P.C. Jan. 31, 1957). Even more importantly, the Supreme Court similarly recognized that Section 7(e) of the NGA provides “ample power” to FERC to attach appropriate conditions to certificates. United Gas Imp. Co. v. Callery Properties, Inc., 382 U.S. 223 (1965). Under the Natural Gas Act, FERC must consider alternatives to a particular proposal to determine whether the application “would serve the public convenience and necessity.” City of Pittsburgh v. Federal Power Comm’n, 237 F.2d 741, 756 n. 28 (D.C. Cir. 1956). The Natural Gas Act imposes a duty on FERC “to give proper consideration to logical alternatives which might serve the public interest better than any of the projects outlined in the applications.” Northern Natural Gas Co. v. Federal Power Comm’n, 399 F.2d 953, 973 (D.C. Cir. 1968). Indeed, FERC should reject proposals when alternative proposals would better serve public convenience and necessity, even when the agency lacks the authority to mandate the alternative. City of Pittsburgh, 237 F.2d at 756 n. 28.

In accordance with those principles, FERC must, in addition to considering the potential for the energy supplied by the pipeline to be met by increased renewables as

discussed above, consider alternatives that involve (1) collocating the proposed pipeline with currently existing pipeline rights-of-way, and (2) improving existing pipelines, either through looping or pipeline replacement.

a. Collocating with Existing Rights-of-Way

As explained above, Proposed-Intervenors do not believe that Mountain Valley has demonstrated the need for the MVP and that, no matter where it would be constructed, the adverse effects outweigh any public benefits. If FERC does not agree, however, it must evaluate alternatives that collocate in currently existing utility rights-of-way. FERC has an admitted “general preference for utilizing ‘routing along existing road or utility rights-of-way, whenever possible, over creating a new greenfield pipeline right-of-way.’” Texas Eastern Transmission, LP, 131 FERC ¶ 61164, 2010 WL 2069842 at *14 (FERC May 20, 2010) (citing Islander East Pipeline Co., 102 FERC ¶ 61,054, at 133 (2003)). The “use of existing utility corridors for pipeline construction is preferred over the creation of new utility corridors.” Portland Natural Gas Transmission System Maritimes & Northeast Pipeline, LLC & Portland Natural Gas Trans. Sys., 83 FERC ¶ 61,080, 1998 WL 292787 at *11 (FERC Apr. 23, 1998). Collocation in existing rights-of-way is preferred under FERC’s interpretation of its mandate to issue certificates only on a demonstration of public necessity and convenience. In its 1999 Policy Statement, FERC made clear that it would seek to avoid the unneeded exercise of eminent domain. 88 FERC ¶ 61,227, 1999 WL 718975 at *1. Such an exercise of that extraordinary power presents adverse impacts to landowners, and must be balanced against the public benefits of a proposed pipeline. Id. at *18–*20. Accordingly, to eliminate or minimize adverse impacts to landowners and the environment, and hence demonstrate public necessity and

convenience under the Natural Gas Act, id. at * 14, an applicant must consider collocating its route with existing rights-of-way. See, e.g., National Fuel Gas Supply Corp., 150 FERC ¶ 61,162, 2015 WL 898840 at *4 (FERC Mar. 2, 2015) (concluding that the Certificate Policy Statement’s requirement that pipeline companies seek to minimize the need to rely on eminent domain is satisfied where a company collocates on an existing pipeline right-of-way). Consequently, FERC will violate the Natural Gas Act if it fails to consider all possible collocation opportunities with existing pipeline corridors.

Nonetheless, Mountain Valley has proposed a project that is primarily greenfield—or new right-of-way development.¹⁰¹ Mountain Valley analyzed a number of potential collocation opportunities but rejected them with minimal analysis, some solely on the basis that it would increase the length of the pipeline.¹⁰² It did this without any discussion of how collocation would affect the balance between the adverse effects of the MVP and its purported public benefits. Moreover, Mountain Valley also rejected multiple collocation opportunities with (1) an existing pipeline (the East Tennessee Natural Gas pipeline), (2) electric power lines, and (3) Interstate and Federal Highways.¹⁰³ Mountain Valley concluded that each and every one of those alternatives was neither feasible nor viable. FERC cannot simply accept Mountain Valley’s conclusions at face value. Rather, the Commission must scrutinize these collocation opportunities, and develop an evidentiary record on them at a hearing on Mountain Valley’s application.

¹⁰¹ Resource Report 1 at 1-12.

¹⁰² Resource Report 10, Appendix 10A.

¹⁰³ Id. at 10-10–10-11, 10–19. Atlantic also considered and rejected the alternative of collocating with the proposed Atlantic Coast Pipeline. That pipeline would itself be constructed in mainly greenfields, such that collocation would not avoid the adverse effects to the public of pipeline construction and operation and is thus not preferable to collocation with currently existing rights-of-way.

b. Upgrading Existing Pipelines

Because of FERC's broad authority to impose appropriate terms and conditions on certificates under the Natural Gas Act, and because of FERC's duty under the Natural Gas Act to consider logical alternatives that better serve the public interest, FERC must consider the use of existing pipelines as an alternative to the construction of the MVP. 15 U.S.C. § 717f(e); see also Northern Natural Gas Co., 399 F.2d at 973. FERC is authorized, under Section 7(a) of the NGA, to require existing pipelines to improve or expand. 15 U.S.C. § 717f(a). Panhandle Eastern Pipe Line Co. v. Federal Power Comm'n, 204 F.2d 675, 683 (3d Cir. 1953) (holding that 15 U.S.C. § 717f(a) authorizes the Commission to, "if necessary or desirable in the public interest, direct [a pipeline company] to improve its facilities by their rehabilitation and repair, or even reconstruction, to the extent necessary to restore them to their original designed and approved capacity or former actual capacity").

Although FERC may not have authority to order the enlargement of an existing pipeline under Section 7(a) of the Natural Gas Act, 15 U.S.C. § 717f(e), that does not obviate FERC's obligation to consider alternatives that might involve the enlargement of an existing pipeline. City of Pittsburgh, 237 F.2d at 756 n. 28 ("The existence of a more desirable alternative is one of the factors which enters into a determination of whether a proposal would serve the public convenience and necessity. That the Commission has no authority to command the alternative does not mean that it cannot reject the proposal."). Because the Natural Gas Act requires FERC to consider options that it would not necessarily be able to command, FERC must investigate and consider alternatives to the

proposed route for the MVP that would use existing pipelines to carry Mountain Valley's gas.

Existing natural gas pipelines that serve the same areas as the proposed MVP provide opportunities to minimize the environmental impact of the proposed pipeline and the effect on landowners and communities. Where those pipelines exist, FERC must consider alternatives that include looping existing pipelines or replacing older, smaller diameter pipelines with larger diameter pipelines to meet the combined need of the existing pipeline and the MVP. Looping and/or replacing smaller pipelines could reduce adverse effects on landowners, by reducing the need to condemn new rights-of-way, as required by the 1999 Policy Statement. 88 FERC at 61,747. Additionally, FERC could order that existing pipelines be repaired to reduce leaks and thus increase capacity for carrying the gas that would travel along the MVP.

Under the Natural Gas Act and City of Pittsburgh, FERC must give the possibility of upgrading existing systems real consideration, in contrast to the back-of-the-hand treatment given to the alternatives by Mountain Valley. Improving and using the existing infrastructure would minimize the effect on landowners who would be faced with condemnation proceedings on Mountain Valley's proposed route—a minimization required under the 1999 Policy Statement. For those reasons, it would be arbitrary and capricious for FERC not to investigate the potential for the improvement and use of existing systems further at an evidentiary hearing on Mountain Valley's application.

6. FERC Must Perform a Full Environmental Impact Statement

Under the National Environmental Policy Act, FERC is required to prepare an Environmental Impact Statement for every major action that would significantly affect

the quality of the environment. 42 U.S.C. § 4332(C). On April 17, 2015, FERC in the pre-filing docket for the MVP issued a Notice of Intent to Prepare an Environmental Impact Statement. It there stated that FERC “will prepare an environmental impact statement (EIS) that will discuss the environmental impacts of the Mountain Valley Pipeline Project (MVP Project) involving construction and operation of natural gas facilities.” FERC explained that it “will use this EIS in its decision-making process to determine whether the project is in the public convenience and necessity.”¹⁰⁴

While FERC initially correctly recognized that a full EIS is necessary to assess the MVP’s significant environmental effects, the agency in its November 5, 2015 Notice of Application for the MVP and related facilities cast some doubt on that determination. There, FERC stated that “within 90 days of this Notice the Commission staff will either: complete its environmental assessment (EA) and place it into the Commission’s public record (eLibrary) for this proceeding; or issue a Notice of Schedule for Environmental Review. If a Notice of Schedule for Environmental Review is issued, it will indicate, among other milestones, the anticipated date for the Commission staff’s issuance of the final environmental impact statement (FEIS) or EA for this proposal.”¹⁰⁵ Those statements indicate that, contrary to the agency’s early commitment, FERC may now be considering performing a more limited Environmental Assessment in place of a full EIS.

Because the environmental impacts of the MVP would easily exceed NEPA’s threshold for “significance,” FERC must prepare a full EIS. Indeed, FERC’s regulations explicitly classify “[m]ajor pipeline construction projects under section 7 of the Natural

¹⁰⁴ FERC, Notice of Intent to Prepare an Environmental Impact Statement for the Planned Mountain Valley Pipeline Project (April 17, 2015) at 1.

¹⁰⁵ FERC, Notice of Applications (November 5, 2015).

Gas Act using rights-of-way in which there is no existing natural gas pipeline,” such as the MVP, as projects that normally require an EIS. 18 C.F.R. § 380.6. There is nothing unique about the MVP that would make its environmental impacts less significant than other major pipeline construction projects. To the contrary, the MVP would have numerous severe impacts on forests, streams, wetlands, karst systems, air quality, the climate, wildlife (including sensitive, threatened, and endangered species), and human communities. Those impacts are extensively catalogued in the numerous NEPA scoping comments submitted in response to FERC’s Notice of Intent to prepare an EIS. Proposed-Intervenors hereby incorporate by reference the scoping comments submitted to the MVP’s pre-filing docket (PF15-3) by citizen groups Appalachian Mountain Advocates, Southern Environmental Law Center, and Center for Biological Diversity; Appalachian Voices; Border Conservancy; Chesapeake Climate Action Network; Greenbrier River Watershed Association; Laurel Mountain Preservation Association; the Nature Conservancy; Preserve Craig; Save Monroe; Trout Unlimited; and the Virginia Chapter of the Sierra Club; as well as those comments submitted by the United States Environmental Protection Agency, National Park Service, and Forest Service. Those comments unequivocally demonstrate that FERC must prepare a full EIS to assess the significant adverse environmental impacts of the proposed MVP.

To analyze the full direct, indirect, and cumulative impacts of the MVP as required by NEPA, FERC must assess the pipeline’s potential impacts and alternatives in light of the other existing and proposed natural gas infrastructure in the region. As FERC has recognized, “Proposed actions with potential cumulative impacts may mandate the

preparation of a regional or comprehensive impact statement.”¹⁰⁶ NEPA’s regulations define cumulative impacts as the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”¹⁰⁷ There are currently multiple reasonably foreseeable proposed projects in the same region as the MVP the full cumulative impacts of which would be overlooked in an EIS focused solely on a single project. FERC thus must prepare a single, regionally-focused Programmatic Environmental Impact Statement that addresses the impacts of the MVP as well as the Atlantic Coast Pipeline, the Appalachian Connector Pipeline, and the WB Express Project.¹⁰⁸

III. CONCLUSION

For the reasons stated above, the above listed groups respectfully request that they be permitted to intervene as parties in this proceeding and request that FERC set the Mountain Valley Pipeline application for a full evidentiary hearing to resolve contested issues of fact regarding the need for the MVP and balance of public benefits and adverse impacts of the MVP. Proposed-Intervenors believe that an evidentiary hearing will show that Mountain Valley cannot demonstrate the need for the MVP. Even if FERC finds that the MVP is needed, Proposed-Intervenors believe that a hearing will demonstrate that the adverse effects of the MVP substantially outweigh the public benefits of the proposal and

¹⁰⁶ Columbia Gas Transmission, LLC, 148 FERC ¶ 61,138, *6 (Aug. 22, 2014) (emphasis omitted) (citations and quotations omitted).

¹⁰⁷ 40 C.F.R. § 1502.4(a).

¹⁰⁸ See *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976) (“when several proposals for . . . actions that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together.”); *Churchill Cnty. v. Norton*, 276 F.3d 1060, 1077 (9th Cir. 2001) (“[A]n agency must prepare both a programmatic EIS and a site-specific EIS where there are large scale plans for regional development. At least when the projects in a particular geographical region are foreseeable and similar, NEPA calls for an examination of their impact in a single EIS.”).

the project is thus not in the public convenience and necessity. Finally, Proposed-
Intervenors request that FERC perform a PEIS to assess the full cumulative impacts of
the MVP and other major proposed gas infrastructure projects in the region.

Respectfully submitted on behalf of all parties in this intervention and protest,

Joseph M. Lovett
Appalachian Mountain Advocates
PO Box 507
Lewisburg, WV 24901
(304) 645-9006
jlovett@appalmad.org

Benjamin A. Lockett
Appalachian Mountain Advocates
PO Box 507
Lewisburg, WV 24901
(304) 645-0125
blockett@appalmad.org