

# Natural Gas Pipelines: Problems From Beginning to End

Fact Sheet • January 2013

**T**he oil and gas industry plans to massively expand a labyrinth of pipelines to market natural gas extracted from the Marcellus Shale and other rock formations using hydraulic fracturing, or fracking.<sup>1</sup> But allowing the industry to build out its sprawling pipeline infrastructure and to lock-in decades more of U.S. dependence on natural gas would be a colossal mistake. The industry’s pipeline projects must be stopped.

## Increased dependence on fracking

Drilling and fracking shale to produce natural gas, or shale gas, result in local air pollution problems,<sup>2</sup> degrade water quality in rivers and streams<sup>3</sup> and create short- and long-term risks to underground sources of drinking water.<sup>4</sup> In part because of such environmental impacts, communities with shale gas development can be made worse off as the boom-and-bust cycle of extraction runs its course.<sup>5</sup> More pipelines simply mean more environmental and public health problems for these local communities.

As for addressing the dire threat of global climate change, shifting to a greater U.S. energy dependence on natural gas is not a solution, and may even exacerbate the threats in the near future.<sup>6</sup> Methane, a potent greenhouse gas,<sup>7</sup> is emitted as natural gas is produced and transported,<sup>8</sup> and carbon dioxide is emitted as natural gas is burned.<sup>9</sup> To avoid catastrophic climate change, investments in fossil fuel infrastructure must end.<sup>10</sup>

Yet despite all the problems with shale gas, the U.S. Federal Energy Regulatory Commission (FERC), the government body charged with approving or rejecting construction of interstate natural gas pipelines or upgrades of existing pipeline infrastructure, fails to fully account for how individual pipeline projects, taken together, negatively impact public health and the environment.<sup>11</sup> Long pipelines are segmented into individual projects that have cumulative negative impacts.

In fact, according to FERC’s most recent clarification of official policy, when “considering the potential adverse

environmental impact of a project, the Commission will continue to take into account as a factor for its consideration the *overall benefits* to the environment of natural gas consumption” [emphasis added].<sup>12</sup> Thus, “overall benefits” are presumed from the beginning. FERC’s narrow scope of review, based on outdated science to weigh the risks, costs and benefits of modern drilling and fracking, does the public a disservice. It serves the oil and gas industry, which stands to profit immensely from locking-in another several decades of U.S. dependence on natural gas.

## Pipeline companies are empowered to condemn your property

The industry’s advantages only begin with FERC’s narrow review of impacts from pipelines. Under a federal law known as the Natural Gas Act, when FERC awards a pipeline company a Certificate of Public Convenience and



Necessity, the company is granted the right to exercise eminent domain so it can condemn private property for constructing and maintaining the pipeline.<sup>13</sup> As a result, landowners are left with no recourse if FERC concludes, based on its narrow review, that “the public benefits from the project outweigh any adverse effects” and then certifies a pipeline project through their property.<sup>14</sup>

In a policy journal published by the Cato Institute, a libertarian think tank, the author of one article explains that, in the context of natural resource development, “eminent domain is often a tool used by private industry to promote private interests at the expense of other private parties with no state or local government involvement in the eminent domain proceeding.”<sup>15</sup> Eminent domain is a necessary governmental power to ensure public interest, but private industry should not be allowed to wield this power and abuse it for corporate gain.

Moreover, pipeline companies can target public lands for rights of way and take advantage of how public lands may be undervalued relative to private lands, meaning that companies can then pay less in compensation to landowners.<sup>16</sup> In some cases, such as the New Jersey Highlands, these lands are public through efforts to conserve forests and farmland that play an essential role in filtering (on a landscape scale) rainwater that is ultimately used as a source of drinking water.<sup>17</sup> The stormwater runoff that results from pipeline construction projects defeats the purpose of such conservation.

## Accidents, spills, explosions and lack of oversight and regulation

Of course, once a pipeline is built, the unlucky landowners along the path of the pipeline, or next door to a compressor station, also have no choice but to accept living with the constant risk of accidents, spills and explosions. Several large pipeline failures in the past few years, leading to massive damage and even loss of life, have highlighted this risk.<sup>18</sup>

In September 2010, a natural gas pipeline explosion rocked neighborhoods of San Bruno, California, killing eight people.<sup>19</sup> The National Transportation Safety Board investigated the cause, and in the words of Chairman Deborah Hersman, found “troubling revelations ... about a company that exploited weaknesses in a lax system of oversight and government agencies that placed a blind trust in operators to the detriment of public safety.”<sup>20</sup> And, according to a *Philadelphia Inquirer* investigative report, such revelations ring true in Pennsylvania, where “[h]undreds of miles of high-pressure pipelines already



have been installed in the shale fields with no government safety checks — no construction standards, no inspections, and no monitoring.”<sup>21</sup>

A key reason for the apparent lack of pipeline oversight, according to the federal Pipeline and Hazardous Material Safety Administration, is the difficulty of maintaining a staff of inspectors, in part because of high turnover.<sup>22</sup> Evidently, safety inspectors are highly sought after by pipeline companies, making it tempting for public inspectors to join the private sector and cash in on their experience.

## Special delivery: radon

But rural landowners, and residents along the path of a pipeline, are not the only ones at risk. All the consumers of the shale gas may be exposed to harmful levels of radon.

Radon is a naturally occurring radioactive material that is the leading cause of lung cancer among non-smokers in the United States, killing more than 20,000 Americans each year.<sup>23</sup> Any level of radiation from radon can damage DNA, and this damage can result in cancer-causing mutations, so no level of short-term or long-term radon exposure is safe.<sup>24</sup> The U.S. Environmental Protection Agency recommends preventive action if indoor air contains radon above a concentration of 2 picocuries per liter (pCi/L).<sup>25</sup>

Radon derives from the radioactive decay of radium, and both are known to be present in the Marcellus Shale.<sup>26</sup> In a preliminary analysis of repeated samples from just two Marcellus Shale wells, the U.S. Geological Survey (USGS) found that each of these two wells had produced shale gas with radon above a concentration of 30 pCi/L.<sup>27</sup> Two samples from one well showed that the produced gas contained radon above 75 pCi/L.<sup>28</sup> Estimates based on earlier data suggest that much higher levels of radon are possible.<sup>29</sup>

It takes about four days of radioactive decay to cut radon concentration in half.<sup>30</sup> So, shale gas that is piped directly into kitchens just days after extraction could bring a special delivery of high levels of DNA-damaging radioactive radon to American consumers, increasing their cancer risk. The USGS emphasizes that additional data are needed to better understand the risk to consumers of shale gas, yet FERC has rejected concerns raised about radon exposure from the consumption of shale gas.<sup>31</sup>

### Pipeline companies enjoy special tax exemptions

Pipeline companies receive special tax breaks that translate to lower federal revenues, and this means that American taxpayers have to pick up the slack. The most illuminating of these giveaways is the industry's use of Master Limited Partnerships (MLPs) — a special business structure that allows the partners, or owners, of a project to avoid corporate income taxes.<sup>32</sup> The list of MLPs has “long been dominated by midstream pipeline operators.”<sup>33</sup>

One would think that at least the wind and solar industry could benefit from establishing the same sort of business structures, but currently the U.S. Internal Revenue

Service explicitly excludes investments in renewable resources from qualifying as MLPs.<sup>34</sup> This highlights just one of the many ways that U.S. policy favors the fossil fuel industry, obstructing the changes needed to remake the U.S. energy system around conservation, efficiency and renewables.<sup>35</sup>

### Conclusion and recommendations

Shale gas pipelines are not the energy infrastructure that America needs if it is to build a clean energy future.<sup>36</sup>

Shale gas pipelines simply commit the country to several more decades of destructive dependence on the oil and gas industry. The notion that natural gas offers a bridge to a low-carbon future presumes, falsely, that the industry will willingly walk away from the billions of dollars that it plans to invest in natural gas infrastructure. And it's important to remember that not all of the natural gas would be piped to U.S. consumers. The industry hopes to maximize its profits by exporting huge amounts of liquefied natural gas to foreign countries.<sup>37</sup>

Food & Water Watch recommends that:

- Natural gas consumers demand certainty about the risks of radon exposure from shale gas;
- Landowners organize and resist pipeline projects that threaten their safety and their property values; and
- Federal policymakers overhaul FERC's narrow scope of review of pipeline project impacts, stop granting pipeline companies the power of eminent domain, end the lucrative tax breaks enjoyed by pipeline companies and step up oversight and regulation to avoid more pipeline accidents, spills and explosions in the future.



### Endnotes

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