GLOBAL ENERGY INSTITUTE
U.S. CHAMBER OF COMMERCE

INFRASTRUCTURE LOST

Why America Cannot Afford To ‘Keep It In the Ground’

INTRODUCTION

In recent years, anti-energy groups have rallied around a singular theme: "Keep it in the Ground." Environmental activists argue that many of our most reliable energy sources – coal, natural gas, and oil – should not be accessed at all, and instead be left deep underground. In support of this agenda, they are actively fighting against as many energy infrastructure and development projects as they can – pipelines and transportation networks, power plants and transmission lines, export facilities, and much more.

This campaign has significant costs: Power plants that are cancelled mean fewer job opportunities for blue collar workers and potential challenges for electric reliability. Pipelines that aren't built mean higher energy prices, as residents in the Northeast have discovered during frigid winters. Delaying or altogether blocking energy infrastructure means foregone tax revenue that would pay for public services, schools, emergency response, and roads.

While these efforts have been reported on over the years, their aggregate economic impact has never been calculated, until now.

This report examines 15 separate energy infrastructure and investment opportunities that were blocked, cancelled, or delayed due in some measure to the Keep it in the Ground (KIITG) movement. We also examined the cost of New York's ban on hydraulic fracturing (fracking).

Taken together, anti-energy activism has helped prevent at least $91.9 billion of economic activity in the United States, which is larger than the entire economies of 12 states.

KIITG has also kept people out of work, destroying an estimated 728,000 job opportunities for American men and women and undermining $57.9 billion of project investment costs. To top it all off, we estimate that these cancelled or delayed projects have cost us $20.3 billion in lost tax revenue.

Importantly, with the exception of two projects that would not have begun construction by the time of this report's publication (Puente Power Project and Tacoma Methanol Project), these estimates are retrospective and limited to direct economic benefits only, and thus do not include foregone prospective benefits in the form of jobs, increased Gross Domestic Product (GDP), or reduced consumer prices for energy. Furthermore, the projects that are part of this analysis represent only a snapshot of the countless energy activities under threat by the KIITG movement. While the degree and effectiveness of opposition varies widely from project to project, the activists leading the KIITG movement are explicitly calling for an end to all natural gas, oil, and coal production, transport, and use. Therefore, the estimates set forth in this analysis should be considered a conservative snapshot of the potential economic harm posed by KIITG.

METHODOLOGY

To illustrate the economic impact of the KIITG movement, we analyzed select projects throughout the U.S. that were either cancelled or delayed by KIITG activities, such as protests, lawsuits, or legislation. While the universe of projects targeted by KIITG is large, this report focuses on one statewide ban and 15 projects, including coal export facilities, natural gas pipelines, and power plants. Our research indicates that these 15 projects appear to have been delayed or cancelled almost entirely due to KIITG activities, rather than, for example, financial reasons.

We conducted a three-step process to determine the lost economic impact of these delayed or cancelled projects. First, we began by researching public sources for data on job creation, tax revenues, and other economic activity that these projects originally were expected to deliver during construction and operation. Second, we used this data to tabulate the direct impact of the delayed or cancelled projects through August 2018.

> **“When we have done everything we can to prevent this pipeline within legal means, we will resort to sabotage and we will defeat this symbol of domination, exploitation, globalized capital, earth pillage and outright [expletive].”**
>
> – Anonymous Contributor, "It's Going Down"

Third, we used multipliers from the IMPLAN model to calculate the total economic impact of these projects, which includes ancillary effects throughout the economy from project-related spending. IMPLAN is an input-output model of the economy that shows the direct, indirect (i.e., supply chain-related), and induced (i.e., payroll-related) impacts of new economic activity on the economy overall. (Note: IMPLAN estimates include both “job-years” during construction and sustained jobs during operations.)

The economic impact calculations depend on the 15 projects’ anticipated start dates for construction and operations. For example, for projects that would have begun operations by August 2018, the calculations include: (1) the full impact of construction, (2) the impact of lost operational activity since the originally planned in-service date, and (3) the output losses from upstream coal, oil, and gas extraction activity (production volumes multiplied by energy prices from the Energy Information Administration) that would have supported the project since the originally planned in-service date.

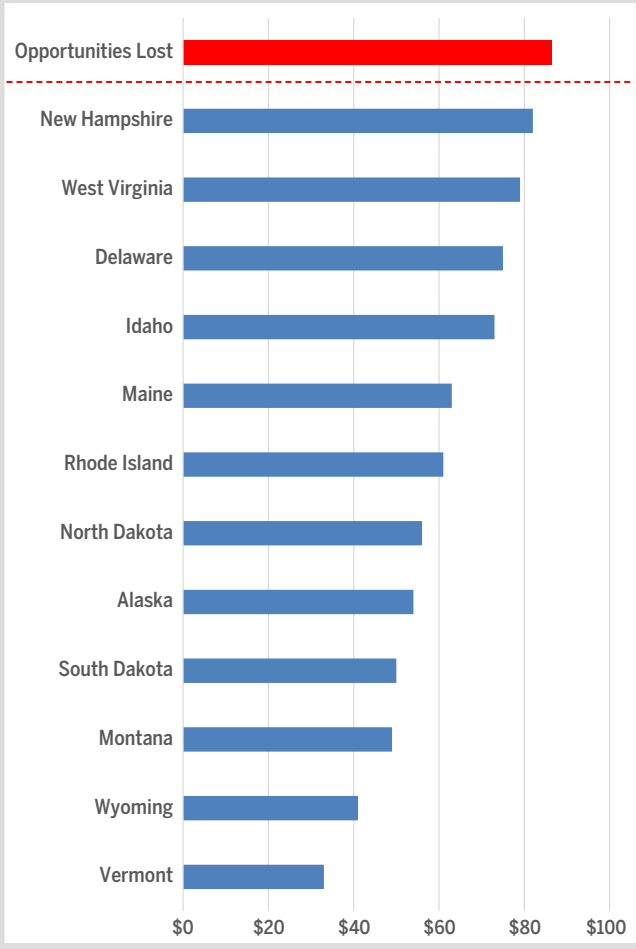
The total economic cost of these lost opportunities: **$91.9 billion,**

larger than the **entire economies** of 12 states.

For the New York hydraulic fracturing ban, we calculated the economic impact by estimating the state’s lost opportunity in gas extraction. We relied on a report from the American Petroleum Institute on the economic impact of the Marcellus Shale to forecast New York shale production had there been no ban.[1]

1 Timothy J. Considine, “The Economic Impacts of the Marcellus Shale: Implications for New York, Pennsylvania, and West Virginia,” American Petroleum Institute, 14 July 2010, http://marcelluscoalition.org/wp-content/uploads/2010/09/API-Economic-Impacts-Marcellus-Shale.pdf

LOST OPPORTUNITY COMPARED TO STATE GDPs (in billions of dollars)



Source: U.S. Department of Commerce Bureau of Economic Analysis

A CLOSER LOOK AT KEEP IT IN THE GROUND

While opposition to energy infrastructure projects is certainly not new, the origins of coordinated, focused campaigns are relatively recent. Beginning with the lucrative and polarizing campaign against the Keystone XL Pipeline, environmental activists set out to make opposition to individual energy projects a political litmus test. Led by Bill McKibben, the founder of 350.org, an influential and well-funded activist organization, this model evolved and was quickly expanded to other projects.

In March 2015, the London-based newspaper *The Guardian* formally launched an advocacy journalism campaign to, in the words of editor-in-chief Alan Rusbridger, "act at the political level to lay down regulations which say that fossil fuels are going to stay in the ground." In partnership with McKibben's organization, 350.org, *The Guardian* branded its campaign as "Keep it in the Ground." It rapidly caught on with the more extreme elements of the environmental movement and was soon adopted as a core objective.

In 2016, legislation titled "The Keep it in the Ground Act" was introduced in both houses of U.S. Congress, and an effort to enshrine the philosophy in the official Democratic party platform through a call to ban fossil fuel extraction on federal lands failed by just one vote. The legislation was reintroduced in the 115th Congress and has garnered 31 House and Senate co-sponsors.

The fundamental aim of KIITG represents a sharp departure from decades of environmental advocacy and policy that sought to ensure the production and use of energy resources was carried out as safely and cleanly as possible. The KIITG movement rejects this longstanding tenet of environmental responsibility in favor of the complete elimination of natural gas, oil, and coal from our diverse energy mix.

Furthermore, it aims to do so through any means necessary, employing a broad range of tactics (public relations, litigation, permitting and regulatory processes, divestment pressure, civil disobedience, and "direct action" campaigns) to block a broad range of projects (leasing, production, transport, use, manufacturing and refining, exports, etc.), regardless of the actual merits of any safety or environmental concerns associated with those projects. A November 2018 fundraising email from 350.org illustrates the sweeping nature of these tactics, promising that donations will be used "to train

KEEP IT IN THE GROUND ACT CO-SPONSORS

H.R. 2242

Rep. Jared Huffman D-CA*
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*bill sponsor

PRODUCTS REFINED FROM NATURAL GAS AND CRUDE OIL

thousands of activists in creative non-violent resistance and prepare them to resist and delay every project the fossil fuel industry proposes."

Moreover, when the KIITG movement's claims that hydraulic fracturing resulted in widespread groundwater contamination were shown to be false, it did not reverse its opposition or even acknowledge consensus opinion.

It continued to oppose fracking outright, while expanding opposition to pipeline development as an alternative to a fracking ban, recognizing that energy will not be produced if it cannot be transported to market.

The problems with this philosophy do not end with the movement's blanket opposition to all energy projects regardless of circumstances. If KIITG were to succeed, energy would become more expensive and less reliable. The prices of nearly all goods and services—which are typically made from and transported with carbon-based energy—would also rise.

Eventually, if KIITG succeeded at its goal of restricting access to natural gas, oil, and coal, we would not be able to produce or power many of the machines or amenities that are the foundation of modern society. Cars, airplanes, hospitals, air conditioning, computers, refrigerators, and nearly all other life-improving and sustaining tools depend overwhelmingly on these fuel sources. To support KIITG is to oppose these everyday conveniences and necessities.

Hydrocarbons provide more than 80 percent of the energy Americans use and fuel much of the economic prosperity and standard of living that we take for granted. It is long past time for an honest conversation about this movement and its potential implications. This report begins to explore those very real impacts.

> "Every piece of fossil-fuel infrastructure will have to be contested."
>
> —Bill McKibben, Founder, 350.org

LOCAL IMPACTS OF 'KEEP IT IN THE GROUND'

The lost economic opportunities mentioned previously have impacted families across the country, from Oregon and California to Florida, New York, and Pennsylvania.

For example, the Constitution Pipeline would be a $925-million project to connect natural gas production in Pennsylvania to end users in New York, where hydraulic fracturing has been banned. The pipeline is estimated to create more than 23,000 jobs and generate $930 million in tax revenue.

From day one, this project was protested, with opponents claiming the pipeline would destroy forests, disrupt wildlife, pollute drinking water, and worsen climate change.

On April 11, 2016, environmentalists claimed victory when New York state regulators, with the support of Governor Andrew Cuomo, denied a key necessary permit for the Constitution Pipeline.

While developers continue to consider ways to secure support for Constitution, the project has already been delayed for more than four years. During that time, the project could have been generating tax revenue and providing jobs for working families in both Pennsylvania and New York. It also could have provided much-needed affordable energy during the recent cold weather events that impacted New York and New England. Those foregone benefits – and the associated economic hardship – are a direct result of "Keep it in the Ground" advocacy.

The KIITG agenda is so focused on stopping projects, no matter what the cost, that they are failing to consider the damaging consequences to local communities.

Other projects, like the Atlantic Coast and the Valley Lateral pipelines, have been delayed almost two years, costing tens of thousands of jobs and over $500 million in lost tax revenue, while increasing project costs by $1.5 billion.

But it's not just pipelines. Other energy infrastructure, such as export and import terminals at ports, have faced equally intense opposition from anti-energy activists.

The Port Westward project in Oregon was a proposed coal export terminal that would have created more than 1,900 jobs and generated $200 million in local economic activity. Facing environmentalist opposition, the project was cancelled in May 2013.

At the time, Columbia County – where the terminal would have been built – had an unemployment rate of 9.4 percent, much higher than the national unemployment rate of 7.5 percent. As of June 2018, Columbia County's unemployment rate was still more than a full point above the national average.

Columbia Riverkeeper, a local environmental group, cheered the lost economic activity from Port Westward. "Another one bites the dust," said the group's executive director, Brett VandenHeuvel.

"I have been working pipelines for eight years now. Building Jordan Cove would mean bringing high-paying jobs to men and women in this state. Pipelines boosts the economy for everyone, especially in rural communities."

–Angela Ray, LIUNA member ready to work on Jordan Cove project

Also in Oregon, the Jordan Cove liquefied natural gas (LNG) export facility – along with the Pacific Connector pipeline that would supply it – have been delayed almost four years, at a cost of nearly 85,000 jobs and $9.4 billion in foregone GDP.

The project enjoys strong bipartisan support in the state, and indeed all across the West, as a critical source of new jobs and an opportunity to help America's trading partners meet their demands for cleaner energy. Ron Wyden (D), the state's senior U.S. Senator, has praised the project as a source of "new jobs and new investment," adding that it is "exactly what Coos Bay, North Bend, and America need." Anti-energy groups, however, continue to oppose the project.

TABLE 1 KEY

BPD	barrels per day
MMcf/d	million cubic feet per day
MMTPA	million metric tons per annum
MW	megawatts

Delayed | Cancelled | Banned

Note: N/A denotes projects that would not have begun operations by August 2018

TABLE 1. KIITG-TARGETED ENERGY INFRASTRUCTURE PROJECTS

Project Name	Type	Location	Size	Project Cost (Millions)	GDP Lost* (Millions)	Potential U.S. Jobs Lost * (Job-Years)	Tax Revenues Lost * (Millions)	Status
Constitution Pipeline	Gas pipeline	NY and PA	125 miles 650 MMcf/d	$925	$3,900	23,426	$930	Delayed over 4 years
Jordan Cove LNG and Pacific Connector Pipeline	LNG export terminal and gas pipeline	OR	LNG: 7.8 MMTPA Pipeline: 233 miles, 1,200 MMcf/d	$9,800	$9,400	84,407	$2,100	Delayed nearly 4 years
Keystone XL	Oil pipeline	MT, SD, and NE	875 miles; 830,000 BDP	$5,300	$12,400	74,523	$3,000	Delayed over 6 years
Northern Access Pipeline	Gas pipeline	NY and PA	96.5 miles 490 MMcf/d	$455	$1,600	10,113	$400	Delayed over 2 years
Valley Lateral Pipeline	Gas pipeline	NY	7.8 miles 130 MMcf/d	$39	$300	1,691	$60	Delayed nearly 2 years***
Atlantic Coast Pipeline	Gas pipeline	WV, VA, and NC	600 miles 1,500 MMcf/d	$6,250	$2,300	21,079	$500	Construction has begun but legal challenges continue
Millennium Bulk Terminal-Longview	Coal export terminal	WA	44 MMTPA	$680	$12,500	91,712	$2,300	Delayed over 4 years
Kalama Methanol Plant	Methanol plant/export terminal	WA	3.65 MMTPA	$1,800	$1,400	10,794	$300	Delayed nearly 2 years
Port Ambrose LNG Project	LNG import terminal	Offshore (NY and NJ)	400 MMcf/d	$600	$600	5,202	$130	Cancelled
Oregon LNG	LNG export terminal	OR	9 MMTPA	$6,300	$4,100	37,040	$900	Cancelled
Puente Power Project**	Gas power plant	CA	262 MW	$299	N/A	3,139	$80	Cancelled
Gateway Pacific Terminal	Coal export terminal	WA	54 MMTPA	$665	$17,100	117,423	$3,000	Cancelled
Tacoma Methanol Project**	Methanol plant	WA	7.3 MMTPA	$3,600	N/A	30,860	$830	Cancelled
Palmetto Pipeline	Oil pipeline	SC, GA, and FL	360 miles. 167,000 BPD	$1,000	$3,800	22,991	$850	Cancelled
Port Westward	Coal export terminal	OR	22 MMTPA	$175	$200	1,838	$40	Cancelled
New York State Fracking Ban	Statewide ban	NY (entire state)	18,750 square miles of Marcellus Shale	$20,000	$22,300	191,841	$4,900	Effective since December 2010
Total				**$57,888**	**$91,900**	**728,079**	**$20,320**	

* Number refers to total economic impact from construction/operations/upstream, through August 2018
** Construction losses only; does not include losses from operations
*** Operating as of July 2018

COSTLY DELAYS

Many of the costs and lost opportunities are not emanating from projects that were cancelled entirely, but rather from delays to the beginning of the projects' construction. Environmental groups frequently sue to stop projects, or make demands that final permitting decisions be put off until a list of stated – and often never-ending – concerns are addressed. This tactic is used to stall pipelines and other infrastructure – not for the sake of fixing problems, but because these professional activist organizations know such delays will discourage natural gas, coal, and oil investment throughout the supply chain.

In discussing his group's opposition to the Keystone XL Pipeline, Michael Marx from the Sierra Club said such delays are a key benchmark in their broader anti-fossil fuel campaign. "The theory has always been delay, delay, delay," Marx said. "We know the key to expanding the tar sands is getting the oil to market. So our strategy is to block the infrastructure."

The Sierra Club has brought the same strategy to its opposition to natural gas, launching the "Beyond Natural Gas" and associated "Gas Rush" campaigns to block gas infrastructure projects all around the country. Executive Director Michael Brune described the effort as such:

"As we push to retire coal plants, we're going to work to make sure we're not simultaneously switching to natural-gas infrastructure...and we're going to be preventing new gas plants from being built whenever we can."

Although "Keep it in the Ground" campaigners can point to projects that were cancelled as a result of their advocacy, they also know that delaying projects can have just as big of an impact in preventing natural gas, oil, and coal development.

But those delays also have a major economic impact: 317,745 of the 728,079 jobs lost as a result of "Keep it in the Ground" have been the result of delays rather than cancellations or outright bans.

COMBATING KIITG: NEPA AND PERMIT STREAMLINING REFORMS

As the White House and Congress continue consideration of major infrastructure legislation, the U.S. Chamber of Commerce has repeatedly warned that the effort will simply not be successful if it does not address the underlying permitting processes that are abused to obstruct the development of vital projects.

Exploitation of the permitting processes such as those associated with the National Environmental Policy Act (NEPA) is one of the most powerful tactics used not only by anti-energy KIITG activists, but by opponents of any type of infrastructure. The U.S. Chamber fully supports the fundamental goal of NEPA to ensure that potential environmental impacts of projects are considered and addressed. Special interest groups increasingly view NEPA less as a means to ensure environmental protection and more as a weapon to stop infrastructure development and land management activities in their tracks by creating uncertainty, delays, and escalating project risks and costs as outlined in this report. This is not the intended purpose of NEPA.

Exacerbating the time it takes to navigate NEPA processes is central to project opponents' strategy. A 2014 Government Accountability Office report estimated that the average time for federal agencies to undertake exhaustive environmental impact statements for proposed projects was 4.6 years. Moreover, these lengthy project reviews are commonly followed by lengthy litigation.

According to the White House Council of Environmental Quality, opponents of infrastructure projects file approximately 100 legal challenges alleging NEPA

> "The theory has always been delay, delay, delay. ... Our strategy is to block the infrastructure."
>
> —Michael Marx from the Sierra Club

“Pipeline project delays have made it hard to support my family. When the Constitution Pipeline was blocked, I struggled to make ends meet.”

–Pete Lomans, LIUNA member ready to work on Constitution Pipeline project

violations each year. Nearly every resource and project type is contested—from mining and energy development on federal lands to pipelines, power lines, rail expansions, export terminals, roads, and bridges.

While most NEPA challenges ultimately fail in the courts, significant harm to project development and use of precious government resources often occurs simply due to the risk and time associated with the federal permitting process and related litigation (including many of the projects profiled in this report).

This has distorted the original purpose and intent of NEPA. The law was designed by Congress as a “shield” to ensure development activities do not result in environmental harm, but KIITG opponents have used it as a “sword” to not only block new projects outright, but also as a tool to delay approvals indefinitely so that investors lose patience or become unwilling to take on litigation risks and uncertainties.

While permitting obstacles are one tool of many in the KIITG toolbox, commonsense actions to address them are a critical first step to successful expansion and modernization of U.S. infrastructure. Fortunately, many of these actions are underway and gaining increased attention.

For example, the President’s April 2018 One Federal Decision Memorandum of Understanding (MOU) establishes a coordinated and timely process for environmental reviews of major infrastructure projects for federal agencies involved in permitting infrastructure. One lead federal agency is responsible for navigating each major infrastructure project through the federal environmental review and permitting process.

In addition to better coordination and concurrent reviews by federal agencies, interagency disputes will be resolved quickly at a higher level, and a permitting timetable will be established with the goal of completing the process within two years.

While the MOU will improve federal permitting processes, it is critical that the reforms are included in legislation and passed into law to limit the possibility of a simple removal of the policies by future administrations.

Similarly, there are other legislative actions that could help improve the broken permitting processes.

The Trump Administration’s Legislative Outline for Rebuilding Infrastructure in America identifies a comprehensive suite of reforms that would limit many of the aforementioned abuses of NEPA and other statutes. For example, the Administration aims to improve the scoping of reviews and limit agencies’ analysis of alternatives to only those that are legally, technically, and economically feasible.

It has also recommended eliminating statutory requirements that increase redundancies in EPA NEPA reviews, and the reduction of the statute of limitations to initiate legal challenges on infrastructure projects to 150 days in order to align with the timelines Congress has already enacted for surface transportation projects. The U.S. Chamber strongly supports these reforms, many of which are outlined in our Roadmap to Modernizing America’s Infrastructure.

Moreover, addressing the misuse of Clean Water Act Section 401 (CWA 401) authority, which provides states with the opportunity to consider the potential water quality impacts of infrastructure projects requiring federal approval, will prove particularly beneficial.

Regrettably, at the direction of KIITG supporters, some states are improperly using Section 401 to hijack the permitting process for pipelines and other infrastructure

“I need to provide for my family. I need to keep working. I understand environmental issues, but I’m on the job site—if there were a problem, I would be the first one to sound the alarm, because I love this planet and I believe that we should take care of it.”

–Muata Khalif, LIUNA member on Atlantic Coast Pipeline project

projects such as the aforementioned Constitution Pipeline project, the Millennium Bulk Terminal coal export facility in Washington State, and the Islander East gas pipeline in Connecticut. These actions undermine the Federal Energy Regulatory Commission's and agencies' authorities to approve interstate projects, result in significant delays, and deny other states the opportunity to benefit from blocked infrastructure.

Legislation should be passed that reestablishes the Congressional intent and scope of CWA 401 permits so that a state cannot utilize the permit review process to deny certification on any basis other than water quality or apply conditions that are not required to ensure water quality. Furthermore, a project sponsor or state is limited to legal action as the only option in response to another state's denial of a CWA 401 permit for a project. Legislation should be passed that creates an alternate federal appeal process for impacted states or a project sponsor to challenge a CWA 401 permit denial.

CONCLUSION

The notion that blocking energy infrastructure results in a significant economic price tag may not be breaking news, but the cumulative impact of these anti-energy efforts—itself just a limited snapshot of the overall KIITG movement—is significant and alarming.

"Keep it in the Ground" is an integrated campaign that connects extreme activists with anti-energy groups throughout the country. Members of the campaign have described it as a global movement, yet advocacy against an export terminal or a power plant is often covered in the press only as it relates to the particular project.

When energy projects are proposed in any community, citizens have the right to understand the impact of the project, but they should also understand the motives and potential repercussions of efforts to halt economic investment in their area. Residents also need to know what "Keep it in the Ground" has already cost communities and states across the country, so they can assess whether they want to suffer the same fate – and consider that another victory for the global anti-energy campaign came at their expense.

STREAMLINING THE PERMITTING PROCESS

U.S. Chamber President and CEO Tom Donohue:

"The permitting process for major infrastructure projects remains broken. Projects become seriously delayed or even canceled and their budgets skyrocket due to an uncertain and seemingly endless permitting process.

"Today, many environmental reviews take an average of five years. The Empire State building was constructed in less than a year and half. You could build at least three Empire State buildings in the average time it takes to review paperwork today. It shouldn't take longer to approve a project than to build it. That's a surefire way to scare off private investment…

"Without permitting reform, all the funding and financing you could dream of won't get the job done."

After costing the country at least $91.9 billion and well over half a million jobs, "Keep it in the Ground" has done enough damage. For the betterment of our nation's economy, security, and self-determination, it's time to reform and streamline the permitting process in a way that protects the environment and allows for infrastructure investment and construction to move forward. The executive and legislative solutions identified in this report provide the framework to make these reforms a reality, and the U.S. Chamber of Commerce is committed to ensuring their successful implementation.

PROJECT PROFILES

What follows is a snapshot of the 15 projects and the statewide ban we've referenced throughout this report, including the economic impacts experienced as a result of their cancellations and/or delays.

To illustrate the economic impact of the KIITG movement, we analyzed select projects throughout the U.S. that were either cancelled or delayed by KIITG activities, such as protests, lawsuits, or legislation. While the universe of projects targeted by KIITG is large, this report focuses on one statewide ban and 15 projects, including coal export facilities, natural gas pipelines, and power plants. Our research indicates that these 15 projects appear to have been delayed or cancelled in large part due to KIITG activities, rather than, for example, financial reasons.

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Third, we used multipliers from the IMPLAN model to calculate the total economic impact of these projects, which includes ancillary effects throughout the economy from project-related spending. IMPLAN is an input-output model of the economy that shows the direct, indirect (i.e., supply chain-related), and induced (i.e., payroll-related) impacts of new economic activity on the economy overall. (Note: IMPLAN estimates include both "job-years" during construction and sustained jobs during operations.)

The economic impact calculations depend on the 15 projects' anticipated start dates for construction and operations. For example, for projects that would have begun operations by August 2018, the calculations include: (1) the full impact of construction, (2) the impact of lost operational activity since the originally planned in-service date, and (3) the output losses from upstream coal, oil, and gas extraction activity (production volumes multiplied by energy prices from the Energy Information Administration) that would have supported the project since the originally planned in-service date. For projects that would not have begun operations by August 2018, the calculations include only the pro-rated impact of construction given the original construction start data and the original in-service date.

For the New York hydraulic fracturing ban, we calculated the economic impact by estimating the state's lost opportunity in gas extraction. We relied on a report from the American Petroleum Institute on the economic impact of the Marcellus Shale to forecast New York shale production had there been no ban.[1]

Beyond IMPLAN calculations, additional data sources are noted on each project profile.

PROJECT PROFILES KEY	
BPD	barrels per day
MMcf/d	million cubic feet per day
MMTPA	million metric tons per annum
MW	megawatts

1 Timothy J. Considine, "The Economic Impacts of the Marcellus Shale: Implications for New York, Pennsylvania, and West Virginia," American Petroleum Institute, 14 July 2010, http://marcelluscoalition.org/wp-content/uploads/2010/09/API-Economic-Impacts-Marcellus-Shale.pdf

Constitution Pipeline

- **PROJECT TYPE:** Gas pipeline
- **LOCATION:** Beginning in Susquehanna County, Pennsylvania, and ending in Schoharie County, New York
- **INVESTMENT COST:** $925 million
- **ORIGINAL CONSTRUCTION DATE:** April 2014 → delayed over 4 years
- **ORIGINAL OPERATING DATE:** March 2015

LOST OPPORTUNITY

ECONOMIC IMPACT

$3.9 BILLION
in GDP impact*

23,426
total full-time equivalent job years*

$930 MILLION
in lost tax revenue*

$13.5 MILLION
annually in tax revenue during operations**

OVERVIEW

- In February 2012, a group of businesses announced a joint venture to build Constitution Pipeline in order to transport natural gas from the Marcellus Shale play eastward to key markets, providing critical utility infrastructure that would connect Northeast consumers with affordable supplies of natural gas.
- Shortly thereafter, an activist coalition called Stop the Pipeline organized an aggressive, multi-year campaign to oppose and attack the Constitution Pipeline. The group employed a wide range of tactics including protests, rallies, petitions, legal action, regulatory intervention, presentations, handouts and collateral.[1]
  - » One flyer delivered to local landowners read: "We urge you to refuse to negotiate – just say NO to Constitution Pipeline Company."

Image from Stop the Pipeline

- In December 2014, after an extensive environmental review and consultation process, the Federal Energy Regulatory Commission (FERC) granted federal approval to construct the project. Shortly thereafter, Stop the Pipeline filed a request seeking rehearing and rescission of the FERC order.[2]
- In April 2016, after most of the pipeline's federal permits were approved and project developers had begun shipping pipeline components to the site route, the administration of New York Governor Andrew Cuomo rejected key state permits for the project, drawing cheers from KIITG activists.[3]
- In November 2016, Earthjustice appeared before the U.S. Court of Appeals to defend the New York State Department of Environmental Conservation's (NYSDEC's) denial of Constitution's water permit, representing Catskill Mountainkeeper, Riverkeeper, Inc. and Sierra Club.[4]
- Note: Since its inception in 2012, the Constitution Pipeline Community Grant Program awarded more than $2 million to 159 organizations for noteworthy projects that directly benefit communities in the pipeline project area.

STATUS:

In response to New York's rejection of the pipeline, Constitution has pursued a lengthy series of legal and procedural appeals, most recently filing with the D.C. Circuit Court in July 2018.[5] In November 2018, FERC granted another two-year extension for the project to enter service as its sponsors continue to exhaust all legal options to proceed.[6]

* Number refers to total economic impact from construction/operation/upstream, through August 2018. Lost tax revenue estimate includes $226 million during the construction phase, $47 million during 3.5 years of lost operations, and $654 million from reduced upstream operations.

** Self-reported by project sponsor

Sources:
Global Energy Institute analysis
Constitution Pipeline - Economic Analysis

1. Stop the Pipeline website
2. Request for Rehearing of Stop the Pipeline, FERC filing, 1/2/15
3. New York State denies permit to Constitution Pipeline, halting construction, *StateImpact PA*, 4/22/16
4. Earthjustice to Defend New York State's Rejection of the Constitution Pipeline Project in Oral Argument, Earthjustice press release, 11/16/16
5. Constitution Pipeline to file new appeal with federal court, *Kallanish Energy*, 7/23/18
6. Constitution Pipeline Granted Two-Year Extension by FERC, *Natural Gas Intelligence*, 11/6/18

Jordan Cove LNG and Pacific Connector Pipeline

- **PROJECT TYPE:**
  LNG export terminal (Jordan Cove) and gas pipeline (Pacific connector)
- **LOCATION:**
  Terminal: Coos Bay, Oregon
  Pipeline: Malin to Coos Bay, Oregon
- **INVESTMENT COST:**
  $9.8 billion
- **ORIGINAL CONSTRUCTION DATE:**
  Early 2015
- **ORIGINAL OPERATING DATE:**
  Early/mid 2019 (now early/mid 2024 → delayed nearly 4 years)

LOST OPPORTUNITY

ECONOMIC IMPACT

$9.4 BILLION
in GDP impact*

84,407
total full-time equivalent job years*

$2.1 BILLION
in lost tax revenue*

215
full-time jobs during operations**

* Number refers to total economic impact from construction/operations/upstream, through August 2018
** Self-reported by project sponsor

Sources:
Global Energy Institute analysis
Jordan Cove 2017 FERC filing

OVERVIEW

- In December 2007, the Jordan Cove Energy Project applied to FERC for approval to export LNG from Coos Bay, OR.
- Throughout the project's long and winding history, KIITG activists have vigorously opposed its development. No LNG Exports, a large activist coalition involving groups such as Citizens Against LNG, Columbia Riverkeeper, Sierra Club, Rogue Climate, Stop Fracked Gas PDX and more, has led much of this campaign using a broad range of tactics and public pressure.[1]

> *"In a country filled with critically important fights to 'Keep It In the Ground,' this battle is one of the most consequential." – Sierra Club Beyond Gas, Oregon Chapter*[2]

- Between 2012 and 2016, the project languished while activist pressure and unfavorable FERC actions slowed progress. However, in September 2017, after finding buyers for the entire project's output, Jordan Cove and the Pacific Connector filed new applications with FERC.[3]
- In October 2017, private citizens and environmental groups sent a letter to FERC urging the agency to deny the projects.[4] According to activist group Rogue Climate, more than 400 groups and individuals filed motions to intervene in the FERC process.
- In December 2017, Oregon Senator Jeff Merkley, who introduced the Keep it in the Ground Act of 2017, announced his opposition to the project.[5]
- In April 2018, a group of activists calling itself Stop Fracked Gas PDX bought a full-page ad in *Willamette Week*'s political endorsement issue denouncing the Portland Business Alliance for its support of Jordan Cove. The group includes Oregon Physicians for Social Responsibility, Sierra Club, 350PDX and Audubon Society of Portland.[6]
  - » Ad: *"Massive fracked gas pipeline through Oregon? HELL NO!"*
  - » 350 PDX website: *"The good news is that Oregon has the authority to stop this dangerous project in its tracks regardless of what actions the federal government may take. Let's shut down the project once and for all!"*[7]

STATUS:

In August 2018, FERC published a Notice of Schedule for the project, outlining an anticipated publication date of the Draft Environmental Impact statement in February 2019, with a decision on the final statement in November 2019.[8]

Image from No LNG Exports

1. No LNG Exports website
2. FERC Rejects Jordan Cove LNG & Pacific Connector Gas Pipeline – Developer Turns to Trump, Oregon Sierra Club press release, 12/19/16
3. Twice-Rejected U.S. LNG Exporter Gives Project Another Shot, *Bloomberg*, 9/21/17
4. Landowners file anti-pipeline letter with FERC, *The News-Review*, 10/12/17
5. Create jobs without jeopardizing our future (Op-Ed), *Mail Tribune*, 12/7/17
6. Activists target Portland Business Alliance on Jordan Cove, *Portland Business Journal*, 4/30/18
7. Help Stop Jordan Cove LNG and the Pacific Connector Pipeline, 350PDX website
8. FERC schedules publication date for Jordan Cove project environmental impact statement, *The World Link*, 9/7/18

Keystone XL Pipeline

- **PROJECT TYPE:**
  Oil pipeline
- **LOCATION:**
  Morgan, Montana, through South Dakota to Steele City, Nebraska
- **INVESTMENT COST:**
  $5.3 billion
- **ORIGINAL CONSTRUCTION DATE:**
  2012 → delayed over 6 years
- **ORIGINAL OPERATING DATE:**
  2014

LOST OPPORTUNITY

ECONOMIC IMPACT

$12.4 BILLION
in GDP impact*

74,523
total full-time equivalent job years*

$3 BILLION
in lost tax revenue*

OVERVIEW

- In July 2008, TransCanada Corporation and ConocoPhillips, joint owners of the Keystone Pipeline, proposed a major extension to the network. Named "Keystone XL" (KXL), the pipeline is planned to transport over 800,000 barrels per day of oil from Alberta, Canada, and the U.S. Bakken Region to Gulf Coast refiners.

Image from *Reuters*

- Throughout KXL's long history, KIITG activists have vigorously opposed the project at every level. Prominent national and regional activist groups including the National Resources Defense Council (NRDC), the Sierra Club, the National Wildlife Federation (NWF), Idle No More and Bold Nebraska mobilized and co-opted local ranchers, landowners and indigenous groups to oppose KXL, prioritizing the pipeline battle *"as a way of fighting the reckless and rapid expansion of the tar sands in Canada."*[1]

> *"Moving crude by rail to the Gulf costs twice as much as by pipe...Without Keystone XL, the tar sands industry has cancelled projects rather than shift to rail, subsequently leaving more of the earth's dirtiest fuel in the ground where it belongs." – NRDC*[2]

- For more than a decade, KIITG groups have employed a wide range of tactics including protests, rallies, petitions, legal action and regulatory intervention resulting in the extensive and costly delays to the project.
- In January 2013, the Sierra Club Board of Directors approved the use of civil disobedience for the first time in the organization's 120-year history to protest against Keystone XL.[3] One month later, 46 protesters were arrested after handcuffing themselves to the White House fence. Activist Julian Bond told the Washington Post, *"When you find that ordinary methods of persuasion are not working, you turn to other methods."*[4]
- Despite numerous federal environmental analyses indicating that KXL will have no adverse impact and has minimal risk to the environment, President Obama rejected the project in 2012. After TransCanada submitted a new application for a new route, President Obama rejected the project again in 2015.
- In March 2017, President Trump and the State Department approved the Keystone XL pipeline.[5]

STATUS:

In November 2018, a federal district court judge ordered work to stop on KXL and required the State Department to update and complete further analysis and justifications for its March 2017 approval of KXL. Opponents continue their legal and public relations assault on the project and the associated permitting process, with new legal challenges at the state and federal level continuing to delay the project.

* Number refers to total economic impact from construction/operations/upstream, through August 2018

Sources:
Global Energy Institute analysis
Final Supplemental Environmental Impact Statement for Keystone XL (2014)

1. The inside story of the campaign that killed Keystone XL, *Vox*, 11/7/15
2. What Is the Keystone Pipeline? How a single pipeline project became the epicenter of an enormous environmental battle, *NRDC article*, 4/7/17
3. How the Sierra Club and its Allies Beat the Keystone XL Pipeline, Sierra Club press release, 11/6/15
4. Activists arrested at White House protesting Keystone pipeline, *Washington Post*, 2/13/13
5. Trump administration approves Keystone XL pipeline, *CNN*, 3/24/17

Northern Access Pipeline

- **PROJECT TYPE:** Natural gas pipeline and associated facilities
- **LOCATION:** Beginning in Sergeant Township, McKean County, Pennsylvania, and ending in the Town of Elma, Erie County, New York
- **INVESTMENT COST:** $455 million
- **ORIGINAL CONSTRUCTION DATE:** Est. construction period of one year
- **ORIGINAL OPERATING DATE:** 11/1/16 (revised multiple times and now listed as late 2019) → delayed over 2 years

LOST OPPORTUNITY

ECONOMIC IMPACT

$1.6 BILLION
in GDP impact*

10,113
total full-time equivalent job years*

$400 MILLION
in lost tax revenue*

* Number refers to total economic impact from construction/operations/upstream, through August 2018

Sources:
Global Energy Institute analysis
Northern Access 2016 fact sheet
National Fuel 2017 press release

OVERVIEW

- After a 31-month review process, FERC approved National Fuel's application to construct the pipeline in February 2017, finding that the proposed project would have "no negative environmental impact."[1]
- The Allegheny Defense Project and Sierra Club filed a request for rehearing of FERC's February 2017 order in addition to a request for stay of construction, which FERC rejected in August 2017, reaffirming its stance that the proposed pipeline "is an environmentally acceptable action."[2]
- Three months later, the New York State Department of Environmental Conservation (NYSDEC) rejected National Fuel's water permit in April 2017.[3]

Image from Sierra Club Niagara Group

- Environmental groups, such as the NRDC[4] and Sierra Club,[5] who protested the proposed project for years, credit themselves for influencing the NYSDEC's decision.
- National Fuel filed a petition for review with the U.S. Court of Appeal in April 2017 asking the federal court to vacate the NYSDEC's rejection of its water permit, which the appeals court rejected.
- National Fuel also filed a request for rehearing of FERC's February 2017 order requesting the Commission clarify that it does not need approval from the NYSDEC to begin construction and that NYSDEC failed to act on its application within a reasonable period of time,[6] which currently remains pending before FERC.
- In August 2018, FERC rejected a request by New York's Department of Environmental Quality to deny water quality permits for the project, citing the agency's failure to act on Northern Access' water quality certificate application within one year, as obligated.[7]

STATUS:

In November 2018, a New York state appellate court ruled to restrict National Fuel's eminent domain authority based on DEC's water permit rejection, ignoring FERC's prior order overruling the DEC's denial because the state exceeded the maximum time allotted to make a permit decision. Further legal actions are anticipated.[8]

1. Northern Access Project: Exporting PA's Marcellus Gas Northward, Fracktracker Alliance blog, 2/16/17
2. Order Denying Stay, FERC filing, 8/31/17
3. New York State Executive Branch Agency Denies Permits for National Fuel's Northern Access Pipeline Project, National Fuel press release, 4/10/17
4. Gov. Cuomo Blocks Northern Access Pipeline, NRDC blog, 4/9/17
5. NO NORTHERN ACCESS 2016 PIPELINE, Sierra Club Niagara Group website
6. National Fuel Asks FERC to Clarify NYSDEC Role For Northern Access Project, *Natural Gas Intelligence*, 3/8/17
7. FERC overrules New York permit denial for Millennium gas pipeline, *Utility Dive*, 9/18/17
8. Hold-out landowners get court victory against pipeline, *WIVB 4*, 11/26/18

Valley Lateral Pipeline

- **PROJECT TYPE:**
  Gas pipeline
- **LOCATION:**
  Orange County to Wawayanda, New York (i.e., CPV Valley Energy Center)
- **INVESTMENT COST:**
  $39 million
- **ORIGINAL CONSTRUCTION DATE:**
  September 2016 → delayed nearly 2 years
- **ORIGINAL OPERATING DATE:**
  April 2017

LOST OPPORTUNITY

ECONOMIC IMPACT

$300 ⬇ MILLION
in GDP impact*

1,691 ⬇
total full-time equivalent job years*

$60 ⬇ MILLION
in lost tax revenue*

OVERVIEW

- In April 2015, Millennium Pipeline Company submitted an application with FERC to build a 7.8-mile natural gas pipeline called "Valley Lateral" to supply a new, efficient $900-million electricity generating power plant in Orange County, N.Y.
- Local, regional, and national KIITG organizations formed and opposed the Valley Lateral Pipeline and the new power plant, despite rising demand for electricity generation in the region. Activist groups involved included the Sierra Club, NRDC, Protect Orange County and Riverkeeper.
- In July 2017, after months of delays and intense political pressure from the KIITG activists, New York Governor Cuomo's administration denied Millennium's application for a federal water permit, using authority under Section 401 of the Clean Water Act.[1] NRDC immediately took credit for the decision, applauding Governor Cuomo and describing his decision as "a historic breakthrough in our fight to move New York away from fossil fuels, and a hard-fought victory for grassroots leaders across the state that have been fighting these projects for many years."[2]
- A later report by NPR describes this "new strategy" by activists to misuse Section 401 of the Clean Water Act to stop pipeline projects, which "essentially gives states veto power over federal decisions."

Image from It's Going Down

- In September 2017, FERC overturned New York's rejection of Millennium's permit application, finding that the state waived its right to decide on the permit when it continually delayed its decision and failed to act on the application within the one-year timeframe specified by federal law.[3]
- In response to FERC's decision, NRDC stated, "NRDC is going to continue to fight harmful fracked gas pipelines in New York State and elsewhere."[4]
- Through January 2018, Hudson Valley Earth First – a self-described "radical eco-defense" group – engaged in tree-sitting to stop the construction of the pipeline. "This pipeline is the bottleneck to stopping this [power] plant," stated one of the tree sitters, adding, "Tree sits can be long term endeavors, and Hudson Valley Earth First is prepared to stay in the trees as long as it takes to protect the wild!!"[5]

STATUS:

In March 2018, the United States Court of Appeals for the Second Circuit issued a decision reinforcing FERC's determination that under federal law, New York State waived its right to block the Valley Lateral pipeline. The pipeline has been constructed and was put in service in July 2018.

* Number refers to total economic impact from construction/operations/upstream, through August 2018

1. Notice of Decision – Valley Lateral Project, NYSDEC filing, 8/30/17
2. New York State Blocks the Valley Lateral Pipeline!, NRDC article, 8/31/17
3. FERC overrules New York permit denial for Millennium gas pipeline, *Utility Dive*, 9/18/17
4. Court of Appeals: NYS Cannot Block Valley Lateral Pipeline, NRDC article, 3/12/18
5. Hudson Valley Earth First! Maintain Tree Sits to Stop Valley Lateral Pipeline—Day 2, Earthfirst! Newswire, 12/11/17

Sources:
Global Energy Institute analysis

Atlantic Coast Pipeline

- **PROJECT TYPE**
  Gas pipeline
- **LOCATION:**
  Harrison County, West Virginia, through Virginia to Robeson County, North Carolina
- **INVESTMENT COST:**
  $6.25 billion
- **ORIGINAL CONSTRUCTION DATE:**
  Late 2016 → construction has begun but legal challenges continue[1]
- **ORIGINAL OPERATING DATE:**
  Late 2018

LOST OPPORTUNITY

ECONOMIC IMPACT

$2.3 BILLION
in GDP impact*

21,079
total full-time equivalent job years*

$500 MILLION
in lost tax revenue*

$377 MILLION
in annual energy cost savings across the region for consumers**

OVERVIEW

- In September 2014, Dominion Energy, Duke Energy, Piedmont Natural Gas and AGL Resources formally announced a joint venture to construct the Atlantic Coast Pipeline (ACP).[1] The plan calls for Dominion to construct and operate the 600-mile pipeline that would deliver natural gas from West Virginia to areas with rapidly growing demand for affordable supplies of energy in Virginia and North Carolina.
- Just months after announcement of the project, local opposition groups formed[2] and focused on encouraging activists to write letters to FERC, contact representatives and politicians, sign petitions and join protests opposing the pipeline.[3] Larger regional and national KIITG opposition groups, such as the Southern Environmental Law Center, Appalachian Voices, 350.org, the Bold Alliance and the Sierra Club, lent their resources and support to the opposition.
- In addition to working with FERC, the ACP has been working with local, state and federal agencies to receive more than 2,500 other permits before the pipeline opens.[4]
- In December 2017, just before the Virginia Water Control Board (VWCB) conditionally approved ACP permits, KIITG protesters hung an anti-pipeline banner on the home of a VWCB official.[5]

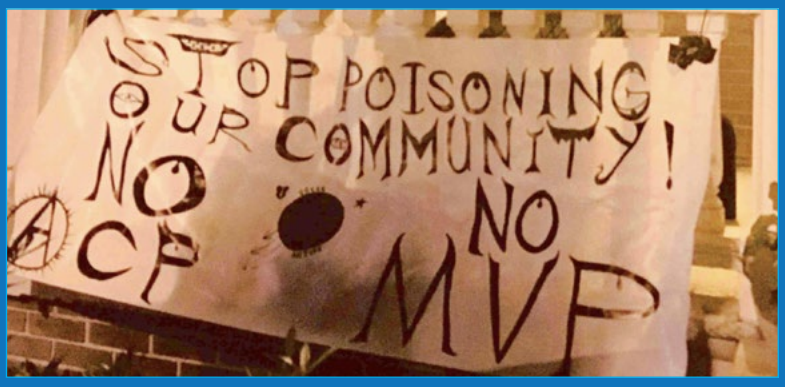

Image from *Washington Examiner*

- A story about the banner found on the "It's Going Down" website – "a digital community for anarchists, anti-fascists, autonomous anti-capitalist and anti-colonial movements" – stated, "When we have done everything we can to prevent this pipeline within legal means, we will resort to sabotage and we will defeat this symbol of domination, exploitation, globalized capital, earth pillage and outright [expletive]."[6]
- In early 2018, the Alliance To Protect Our People And The Places We Live held a sit-in in North Carolina Governor Roy Cooper's office,[7] while protesters set up resistance camps ("Three Sisters Camp") along the pipeline route in Buckingham County, Va.[8]
- In August 2018, the Southern Environmental Law Center filed lawsuits against permits issued by the National Park Service[9] and U.S. Fish and Wildlife Service.

STATUS:

While ACP has secured key state and federal permits necessary to begin construction, KIITG opponents continue to pursue legal challenges in an attempt to further delay the project.

* Number refers to total economic impact from construction/operations/upstream, through August 2018
**Self-reported by project sponsor

Sources:
Global Energy Institute analysis
Atlantic Coast Pipeline website

1. Dominion, Duke Energy, Piedmont Natural Gas and AGL Resources Form Joint Venture to Own Proposed Atlantic Coast Pipeline, Dominion Energy press release, 9/2/14
2. Environmental Groups Join Forces to Oppose Pipeline, *NBC 29*, 9/10/14
3. Letters to FERC samples, Friends of Nelson website
4. Permitting Process, Atlantic Coast Pipeline website
5. Green Antifa-type group takes aim against pipelines with aggressive tactics, *Washington Examiner*, 12/17/17
6. Virginia: On Eve of ACP decision, Banner Dropped at Board Member's Home, It's Going Down blog, 12/12/17
7. Dozens Occupy NC Governor's Office to Protest Atlantic Coast Pipeline, Earthfirst! Journal, 2/4/18
8. Three Sisters Camp Digs in to Resist the Atlantic Coast Pipeline, It's Going Down blog, 3/14/18
9. New FERC filing claims Atlantic Coast Pipeline unnecessary, duplicative, *WV News*, 8/9/18

Millennium Bulk Terminals - Longview

- **PROJECT TYPE:** Coal export terminal and redevelopment of existing bulk materials port
- **LOCATION:** Longview, Washington
- **INVESTMENT COST:** $680 million
- **ORIGINAL CONSTRUCTION DATE:** Late 2013 → delayed over 4 years
- **ORIGINAL OPERATING DATE:** 2015, with full capacity operations by 2018

LOST OPPORTUNITY

ECONOMIC IMPACT

$12.5 BILLION in GDP impact*

91,712 total full-time equivalent job years*

$2.3 BILLION in lost tax revenue*

300 full-time jobs during operations**

$43.1 MILLION lost annual state and local tax revenue during operations**

OVERVIEW

- In February 2012, Millennium submitted several permit applications in order to develop a world-class coal export facility on the Columbia River in Longview, WA. KITG activists immediately mobilized an aggressive opposition to the project.

> *"Tens of thousands of folks throughout the Pacific Northwest have been organizing, petitioning, taking direct action, and otherwise speaking out against proposed fossil fuel infrastructure projects...This region has kept an incredible amount of carbon in the ground by slowing and blocking the development of coal terminals, gas pipelines, and oil trains."*[1]
> *- Greenpeace*

- In January 2017, ThinkProgress explained the draw of activists to Longview, stating that, as the "last remaining coal export terminal proposed on the West Coast," it was a "crucial target" for activists.[2] These groups included the Power Past Coal Coalition, Columbia Riverkeeper, Sierra Club, Washington Environmental Council, Climate Solutions and Friends of the Columbia Gorge.[3]
- Project developers worked with state agencies to prepare a 4,000-page environmental impact statement, but in January 2017, the Washington Department of Natural Resources (DNR) denied Millennium's aquatic lands lease application, which Millennium described as a "political decision."[4] In March 2017, Columbia Riverkeeper, Sierra Club and the Washington Environmental Council filed a formal motion to intervene in Millennium's appeal case in support of the DNR.[5]
- In September 2017, the Washington State Department of Ecology denied Millennium's water permit application, which Millennium appealed in a lawsuit filed in October 2017.[6] In response to the ruling, the Sierra Club prematurely boasted, "This renders the project formally dead!"[7]
- Millennium appealed the decision, and in October 2017, a Cowlitz County Superior Court judge overruled the DNR decision rejecting Millennium's sublease application, calling it "arbitrary and capricious."[8]

> *"This debate isn't just about coal exports. Today it's coal but tomorrow it could be about liquefied natural gas. Soon it could be non-organic produce. America simply cannot allow one state to use geography and ideology to discriminate against another state's commodities."*
> *– Montana Attorney General Tim Fox*[9]

STATUS:

In January 2018, Lighthouse Resources filed a federal lawsuit against Governor Inslee and state officials for unlawfully denying and refusing to process permits to redevelop Millennium's brownfield site for coal export on the Columbia River.

* Number refers to total economic impact from construction/operations/upstream, through August 2018

** Self-reported by project sponsor

Sources:
Global Energy Institute analysis
Millennium Bulk Terminal website

1. A Victory for Indigenous Rights Over Fossil Fuel Greed, Greenpeace blog, 5/11/16
2. Washington state denies lease permit for proposed coal export terminal, ThinkProgress story, 1/4/17
3. Millennium Coal Loses Again, Earthjustice press release, 4/20/18
4. A Win for Millennium, Judge Overturns DNR, Millennium Bulk press release, 10/27/17
5. Conservation Groups Intervene to Defend Washington State Against Coal Exporter's Lawsuit, Columbia Riverkeeper press release, 3/7/17
6. Millennium Files Claims Against Ecology in Court; Appeals Denial of Water Quality Certification, Millennium Bulk press release, 10/24/17
7. Major Grassroots Victory: Last Coal Export Terminal Goes Down in the Northwest, Sierra Club article, 9/27/17
8. Judge sides with Millennium, says state unfairly denied sublease, *The Daily News*, 10/28/17
9. Washington State Should Stop Blocking Planned Coal Export Terminal (Op-Ed), *New York Times*, 6/21/18

Kalama Manufacturing and Marine Export Facility

- **PROJECT TYPE:**
  The KMMEF project consists of three parts: 1. Methanol manufacturing facility, 2. Marine terminal, 3. Natural gas pipeline (Kalama Lateral Project)
- **LOCATION:**
  Port of Kalama, Cowlitz County, Washington
- **INVESTMENT COST:**
  $1.8 billion
- **ORIGINAL CONSTRUCTION DATE:**
  Late 2016 → delayed nearly 2 years
- **ORIGINAL OPERATING DATE:**
  As early as mid-2018 and as late as mid-2020

LOST OPPORTUNITY

ECONOMIC IMPACT

$1.4 BILLION
in GDP impact*

10,794
total full-time equivalent job years*

$300 MILLION
in lost tax revenue*

192
full-time equivalent jobs during operations**

$36 MILLION
lost annual state and local tax revenue during operations**

OVERVIEW

- In 2014, Northwest Innovation Works (NWIW) leased approximately 90 acres of land from the Port of Kalama in Washington to construct and operate a methanol manufacturing plant and export facility.
- In response, activists launched a well-organized opposition campaign to attack the project, focusing on key elected officials. In March 2016, 350.org's Portland chapter initiated a petition directed at Washington Governor Jay Inslee and implored citizens to submit comments to the Washington Department of Ecology (Ecology) opposing the Kalama project.[1]
- In March 2016, Columbia Riverkeeper called on members to "flood the Port of Kalama and Cowlitz County with comments to fix the flaws in the draft [Environmental Impact Statement]. You can comment daily if you want, there is no limit! Click here to submit your comment today!. ... NWIW needs nearly two dozen permits before they can build their proposed methanol refinery at the Port of Kalama."[2]
- In April 2016, FERC approved the application for the Kalama Lateral Project pipeline,[3] and in June 2017 Ecology approved two permit applications filed by NWIW.[4]
- In June 2017, the Sierra Club attacked Ecology and its permit approval and called on the governor to come out against the project. "Governor Inslee recently championed a coalition of governors committed to climate action. Approval of this methanol refinery runs counter to his and Washington State's climate commitments. Environmental groups throughout the state will be looking to see if he delivers on these commitments. He could start by publicly opposing this refinery."[5]
- Columbia Riverkeeper, the Center for Biological Diversity and the Sierra Club then filed suit and won an appeal of key Ecology permit approvals.[6] In September 2017, the Washington State Shorelines Hearings Board invalidated the permits approved by Ecology, granting the activist groups' appeal. The decision was upheld upon appeal by the Cowlitz County Superior Court in May 2018.[7]

Image from 350 PDX

STATUS:

In November 2018, the Port of Kalama released a Draft Supplemental Environmental Impact Statement for public comment. The report affirms third-party analysis finding that the methanol plant would result in a net reduction in global greenhouse emissions equivalent to taking 2.2 million cars off the road.[8]

* Number refers to total economic impact from construction/operations/upstream, through August 2018

** Self-reported by project sponsor

Sources:
Global Energy Institute analysis
2016 Final Environmental Impact Statement
NW Innovation Works Project Facts

1. Kalama Methanol Refinery, 350PDX website
2. Fighting Methanol in Kalama, Columbia Riverkeeper blog, 3/28/16
3. FERC Authorizes Construction of Northwest Pipeline's "Kalama Lateral Project," Finds EPA's Criticisms of FERC Staff's Environmental Assessment Unpersuasive, But Rejects The Rates Proposed for Transportation Service on the Lateral, Troutman Sanders Energy Report, 4/18/16
4. Columbia River Methanol Plant Gets Approval On Two Washington Permits, *OPB*, 6/8/17
5. Kalama Methanol Refinery gets one step closer to approval, Sierra Club press release, 6/9/17
6. Permits Invalidated for Big Washington State Methanol Plant, *Associated Press*, 9/19/17
7. Port of Kalama Refinery Violated the Law by Failing to Evaluate Greenhouse Gas Impacts, Earthjustice press release, 9/18/17
8. Study: Kalama methanol project would help fight climate change, *The Columbian*, 11/13/18

Port Ambrose LNG Project

- **PROJECT TYPE:** LNG import terminal
- **LOCATION:** Offshore in federal waters; off the coast of New York and New Jersey
- **INVESTMENT COST:** $600 million
- **ORIGINAL CONSTRUCTION DATE:** 2017
- **ORIGINAL OPERATING DATE:** December 2018

LOST OPPORTUNITY

ECONOMIC IMPACT

$600 MILLION
in GDP impact*

5,202
total full-time equivalent job years*

$130 MILLION
in lost annual tax revenue*

OVERVIEW

- In September 2012, Liberty Natural Gas submitted a license application for the Port Ambrose LNG Deepwater Port to the U.S. Maritime Administration.
- In the succeeding years, KIITG activists organized a public relations campaign to attack the project, focusing on key elected officials.
- In March 2015, Food & Water Watch sent a letter signed by 217 state, national and local environmental organizations opposing the project to Governors Chris Christie (New Jersey) and Andrew Cuomo (New York). The letter stated in part, "*The project's threats would be compounded by the extent it would drive demand for drilling and fracking for natural gas.*"[1]
- A 2015 *Politico* story summarized the opposition campaign: "The state's potent anti-fracking movement is also using its network of activists to fight the plan. 'The grassroots campaign to reject the proposed offshore liquefied natural gas terminal has clearly become the 'next step' for the victorious anti-fracking movement in the state,' Seth Gladstone, a spokesman for Food and Water Watch, said in an emailed statement."[2]
- *Politico* added that, "The draft federal [environmental] review of the plant was largely benign, but hundreds of opponents filled public hearings in January to voice disapproval."
- In October 2015, 14 environmental groups including 350NYC, the Anti-LNG Coalition, NY/NJ Baykeeper, Sierra Club Atlantic Chapter and the Surfrider Foundation organized a protest outside a Cuomo fundraiser to "call for the governor to exercise his veto power this fall" against the Port Ambrose project, on the basis that it would "also increase dependence on fossil fuels throughout the region."[3]

POLITICO

Opposition to offshore L.N.G. facility gears up

By DAVID GIAMBUSSO | 11/04/2014 04:55 AM EST

By the end of this year, developers of a controversial offshore liquefied natural gas plant are expected to release an environmental impact statement for the project, starting the clock for federal approval and the potential veto of governors Chris Christie and Andrew Cuomo.

Opponents on Long Island and in New York City and New Jersey are already planning their attack.

Image from *Politico*

STATUS:

In November 2015, Governor Andrew Cuomo rejected the proposed project.[4]

* Number refers to total economic impact from construction/operations/upstream, through August 2018

Sources:
Global Energy Institute analysis
2015 Final Environmental Impact Statement

1. Hundreds of National, State and Local Groups Urge Govs. Christie and Cuomo to Veto Port Ambrose LNG Plan, Food and Water Watch press release, 3/16/15
2. Opposition to Port Ambrose project gathers political steam, *Politico*, 3/16/15
3. Hundreds to Rally at Gov. Cuomo Fundraiser at Hamilton to Call for Veto of Port Ambrose Offshore Natural Gas Facility, NY/NJ Baykeeper press release, 10/13/15
4. Cuomo Rejects Natural Gas Port Proposed Off Long Island, *New York Times*, 11/12/15

Oregon LNG Terminal

- **PROJECT TYPE:** LNG export terminal
- **LOCATION:** Warrenton, Oregon
- **INVESTMENT COST:** $6.3 billion
- **ORIGINAL CONSTRUCTION DATE:** Fourth Quarter of 2016
- **ORIGINAL OPERATING DATE:** Fully operational by 2020

LOST OPPORTUNITY

ECONOMIC IMPACT

$4.1 BILLION
in GDP impact*

37,040
total full-time equivalent job years*

$900 MILLION
in lost tax revenue*

$60 MILLION
lost annual state and local tax revenue during operations**

OVERVIEW

- In July 2012, Oregon LNG entered FERC's pre-filing process to initiate permitting for an LNG export facility in Warrenton, OR.
- Numerous KIITG groups organized in opposition to the proposal, employing an aggressive, multi-year public relations and litigation campaign to halt the project.

Image from Columbia Riverkeeper

- The campaign involved lawsuits,[1] activist canvassing[2] and a well-organized public relations effort.

"The project would've been built seven years ago without local activists standing up. [Oregon LNG] had local approvals. They were marching forward, and people challenged those approvals. There [were] lawsuits. There was a change in the [county] commission. All of those things led to the demise...Financially, it doesn't make sense if you can't make progress in 10 years. But the reason for those 10 years was local opposition." – Brett VandenHeuvel, Columbia Riverkeeper[3]

Image from No Fracking Way

STATUS:

Ultimately, after extensive delays and a number of legal and regulatory setbacks, in April 2016 the project was cancelled by Oregon LNG.

* Number refers to total economic impact from construction/operations/upstream, through August 2018

** Self-reported by project sponsor

1. COLUMBIA RIVERKEEPER v. LNG LLC DBA LNG, United States Court of Appeals - Ninth Circuit filing, 8/5/14
2. Canvass Hits the Road to Oppose LNG in Astoria, Columbia Riverkeeper blog, 8/26/14
3. Plan To Ship Fracked Gas To China is DOA, No Fracking Way blog, 4/23/16

Sources:
Global Energy Institute analysis
2013 LNG World News article
2015 FERC Draft Environmental Impact Statement

Puente Power Project

- **PROJECT TYPE:** Gas power plant
- **LOCATION:** Oxnard, California
- **INVESTMENT COST:** $299 million
- **ORIGINAL CONSTRUCTION DATE:** Late 2018
- **ORIGINAL OPERATING DATE:** June 2020

LOST OPPORTUNITY

ECONOMIC IMPACT

$400 MILLION
in GDP impact*

3,139
total full-time equivalent job years*

$80 MILLION
in lost tax revenue*

$2.8 MILLION
in lost annual local tax revenue during operations**

OVERVIEW

- In April 2015, NRG Oxnard Energy Center filed an application for the Puente Power Project with the California Energy Commission (CEC) to provide backup power during peak times of energy use. The project was intended to assist California's transition to greater renewable energy use. In fact, the name "Puente" itself is derived from the Spanish word for "bridge."
- In June 2016, the California Public Utilities Commission approved the project, recognizing the need for highly flexible gas facilities such as Puente to balance intermittent resources to meet the state's 50-percent-by-2030 renewables mandate.[1]
- Nonetheless, activists organized a campaign to stop the project. The Sierra Club called on activists to write letters to the CEC in opposition of the power plant, providing people with a sample letter, talking points and tips on how to write letters.[2]
- In January 2017, members of Central Coast Alliance United for a Sustainable Economy (CAUSE) and other advocacy groups stood up in the middle of a CEC meeting, where they linked arms and chanted their opposition to the Puente Power Plant.
- At an August 2017 CEC hearing, unidentified activists made remarks both formally and informally outside of the building, stating, "We have to stop it right now. Never again should we be building a fossil fuel plant in the state of California," and "We need to make sure this plant does not get built."[3] Billionaire KIITG activist Tom Steyer lent his support to the effort, speaking against Puente at a public hearing.
- In October 2017, after receiving hundreds of letters, CEC members Janea Scott and Karen Douglas issued a rare statement recommending that the full regulatory body reject the project, despite the California Public Utilities Commission's approval of it in June 2016.[4]

STATUS:

In an October 2017 response to the CEC statement, NRG Energy asked the CEC to "to end all hearings regarding its proposal while the company determines whether it will completely withdraw the application," effectively cancelling the project.

*Because Puente operations would not have begun by August 2018, modeled impacts represent prospective lost opportunities from construction/operations/upstream

** Self-reported by project sponsor

1. California regulators approve 262 MW Puente natural gas peaker plant for SCE, *Utility Dive*, 6/1/16
2. Stop Puente Power Plant, Sierra Club website
3. Puente Power Project hearing draws protesters to Oxnard (VIDEO), *VC Star*, updated 10/17/17
4. Power plant developer pulls the plug on its natural gas project in Oxnard, *Los Angeles Times*, 10/16/17

Sources:
Global Energy Institute Analysis
Puente Power FAQs
(page was deleted upon project cancellation)

Gateway Pacific Terminal

- **PROJECT TYPE:** Coal export terminal
- **LOCATION:** Cherry Point Whatcom County, Washington
- **INVESTMENT COST:** $665 million
- **ORIGINAL CONSTRUCTION DATE:** 2013
- **ORIGINAL OPERATING DATE:** 2015

LOST OPPORTUNITY

ECONOMIC IMPACT

$17.1 BILLION
in GDP impact*

117,423
total full-time equivalent job years*

$3 BILLION
in lost tax revenue*

1,251
full-time jobs during operations**

$10 MILLION
in lost annual tax revenue during operations**

OVERVIEW

- In June 2011, Pacific International Terminals (PIT) submitted an application for the Gateway coal export terminal to Whatcom County, WA, noting that the project will support more than 1,200 jobs and generate over $10 million in annual state and local tax revenue.[1]
- KIITG activists launched a coordinated campaign to block the project. A visit from KIITG leader Bill McKibben even encouraged civil disobedience as a means to halt the project.

> *"I take it seriously when the well-being of my community is threatened. Some of you might have heard the call for civil disobedience from environmentalist Bill McKibben. McKibben hails from Vermont, but he has been spending time in the Northwest a lot lately to talk about coal exports. In fact, while in Oregon, he even encouraged opponents of coal exports to take the law into their own hands. What I want McKibben to know is that here in the Northwest, we have a long history of dealing with contentious issues without lawbreaking or disorder."*
> *– Ozzie Knezovich, Spokane County Sherriff*[2]

> *"The demand is simple: Leave it in the ground." – Spokane City Council President Ben Stuckart*[3]

- In August 2015, the Lummi Chairman said he and his supporters would fight the coal terminal "by all means necessary."[4]
- In May 2016, the Army Corps of Engineers denied PIT's permit application on the grounds that it could potentially impact tribal fishing rights, despite state data showing that over a 12-year observation period, only 15 fishing boats were sighted near the project location. "This is an inconceivable decision. Looking at the set of facts in the administrative summary, it's quite obvious this is a political decision and not fact based." – PIT President Bob Waters[5]

> *"The advent of the environmental movement in the 1970s and 1980s introduced a few new rules, but it didn't try to shut down the whole enterprise...The only way to short-circuit this zombie process is to fight like hell, raising the price, both political and economic, of new fossil fuel infrastructure to the point where politicians begin to balk. That's what happened with Keystone and it's happening elsewhere, too. Other Canadian tar sands pipelines have been blocked. Coal ports planned for the West Coast haven't been built. In May, a coalition across six continents is being organized to engage in mass civil disobedience to 'keep it in the ground.'" –Bill McKibben*[6]

STATUS:

In June 2017, after a series of delays resulting from activist opposition and regulatory setbacks, PIT formally withdrew its permit application, effectively cancelling the proposed terminal.

*Number refers to total economic impact from construction/operations/upstream through August 2018. Lost tax revenue estimate includes $183 million during the construction phase, $35 million during 3.75 years of lost operations, and $2.8 billion from reduced upstream operations

** Self-reported by project sponsor

1. Gateway Pacific Terminal Major Project Permit Application Submittal, Whatcom County Planning & Development Services filing, 6/6/11
2. Coal Ports, Rail Facilities Essential to Economic Growth, Says New Report, Alliance for Northwest Jobs & Exports article, 8/19/13
3. Western Washington tribe brings protest against planned coal export terminal to Spokane, *The Spokesman-Review*, 8/27/14
4. Lummi Chairman: We will fight coal terminal 'by all means necessary', *Longshore & Shipping News*, 8/27/15
5. PIT Shocked by US Army Corp Permit Determination, PIT press release, 5/9/16
6. Bill McKibben: How to drive a stake through the heart of zombie fossil fuel (Op-Ed), *Los Angeles Times*, 1/19/16

Sources:
Global Energy Institute analysis
Pacific International Terminals Project / Information Document

Tacoma Methanol Project

- **PROJECT TYPE:** Methanol plant
- **LOCATION:** Tacoma, Washington
- **INVESTMENT COST:** $3.6 billion
- **ORIGINAL CONSTRUCTION DATE:** September 2018
- **ORIGINAL OPERATING DATE:** December 2022

LOST OPPORTUNITY

ECONOMIC IMPACT

$3.9 BILLION in GDP impact*

30,860 total full-time equivalent job years*

$830 MILLION in lost tax revenue*

260 full-time equivalent jobs during operations**

$166 MILLION in lost property tax revenue generated during the project's first 10 years of operations**

OVERVIEW

- In May 2014, Northwest Innovation Works (NWIW) secured a lease with the Port of Tacoma to build a multi-billion-dollar facility to convert natural gas to methanol as a first step in the plastics manufacturing process.[1] The announcement was hailed by state and local officials, as well as business and labor leaders. Washington Governor Inslee voiced his support, noting that methanol manufacturing "moves our clean energy future forward at a very rapid pace." [2]
- Nonetheless, the Sierra Club led an aggressive campaign to block the plant, encouraging activists to write letters to the state emphasizing that "Methanol is produced from natural gas, a fossil fuel which should be left in the ground."[3] Other Sierra Club sample materials recommended activists "make it personal if possible," with suggestions such as "My kids ride a school bus past the site of the storage facility for the explosive methanol."[4]
- In February 2016, protesters interrupted a hearing to examine the city's environmental review of the plan.[5] A South Sound Vegan ad for the protester sign-up said, "It is up to us to change the course and keep this plant from being built!"[6]
- In February 2016, NWIW asked the city of Tacoma to pause the environmental review process after a public hearing on the project attracted "largely hostile" opposition.[7]

The Seattle Times

Methanol plant in Tacoma on hold amid opposition

Originally published February 19, 2016 at 8:08 pm | *Updated February 20, 2016 at 11:14 am*

Citing the "tone and substance of vocal opposition," Northwest Innovation Works has asked the city of Tacoma to temporarily halt an environmental review of a $3.4 billion methanol plant proposed at a port site.

Image from *Seattle Times*

STATUS:

In April 2016, as Sierra Club was preparing "a phone-banking blitz to pack the upcoming Port Commission meeting" on the lease agreement."[8] NWIW cancelled the project, citing costs and uncertainties associated with the regulatory and permitting process for the facility.

*Because Tacoma operations would not have begun by August 2018, modeled impacts represent prospective lost opportunities from construction/operations/upstream

** Self-reported by project sponsor

Sources:
Global Energy Institute analysis
NW Innovation Works - Economic Impact Analysis

1. Port of Tacoma Commission unanimously approves methanol plant lease, *The News Tribune*, 5/2/14
2. Gov. Inslee: Methanol plants boost 'our clean energy future', *The Daily News*, 8/6/15
3. Sample Comments on the Scope of the Environmental Impact Statement for the Tacoma Manufacturing & Marine Export Facility, Sierra Club document
4. Comment letter suggestions, Sierra Club document
5. South Sound opposition opens up against Tacoma methanol proposal, *The News Tribune*, 2/10/16
6. Environmental Activism - Tacoma Methanol Plant, *Meetup*, 2/10/16
7. Methanol plant in Tacoma on hold amid opposition, *The Seattle Times*, 2/19/16
8. No Methanol Plant in Tacoma!, Sierra Club Washington blog

Palmetto Pipeline

- **PROJECT TYPE:** Oil pipeline
- **LOCATION:** Belton, South Carolina, through Georgia to Jacksonville, Florida
- **INVESTMENT COST:** $1 billion
- **ORIGINAL CONSTRUCTION DATE:** Spring 2016
- **ORIGINAL OPERATING DATE:** First Quarter of 2017

LOST OPPORTUNITY

ECONOMIC IMPACT

$3.8 BILLION in GDP impact*

22,991 total full-time equivalent job years*

$850 MILLION in lost tax revenue*

$14 MILLION lost annual state and local tax revenue during operations**

OVERVIEW

- In August 2014, Kinder Morgan announced the launch of the Palmetto Project, a 360-mile pipeline that would transport gasoline, diesel and ethanol from the Gulf Coast to consumers in South Carolina, Georgia and Florida.[1]
- KIITG activists immediately launched a coalition called "Push Back the Pipeline," involving Sierra Club and several local groups, to stop Palmetto.[2] The group employed a relatively new tactic focused on using eminent domain to block the project. In June 2016, The Rockefeller Family Fund and the Park Foundation, along with GreenLaw, sponsored a conference in Atlanta that brought together traditional KIITG activists with property rights advocates.[3]
- An interview with KIITG activist Jane Kleeb described the effort: "Kleeb believes the time is right for a national organizing effort against the use of eminent domain for the construction of energy pipelines. 'We have all the pieces. We have all the legal experts. We have the advocates and landowners. We have active pipeline fights, which you need in order to build grassroots momentum to be pressuring politicians. But to succeed on the eminent domain front, more funds will be needed. I think the foundations are ready. It will have to be a multi-million-dollar effort. We will need to convince other donors to come to the table to fund this effort.'"[4]

"If we had talked about ending fossil fuel use — then the landowners wouldn't have been with us."[5] *– Savannah Riverkeeper Executive Director Tonya Bonitatibus*

Image from Push Back The Pipeline

STATUS:

- The activists convinced several landowners along the route to mobilize in opposition to the pipeline, and in April 2016, the project was suspended after the Georgia legislature passed a bill tightening eminent domain restrictions.[6]

* Number refers to total economic impact from construction/operations/upstream, through August 2018

** Self-reported by project sponsor

Sources:

Global Energy Institute analysis

USC Economic Impact Analysis

2016 Charleston Regional Business Journal article

2016 Augusta Chronicle article

1. Kinder Morgan Announces Open Season for Palmetto Project to Serve New Southeast Markets, Kinder Morgan press release, 8/4/14
2. Push Back the Pipeline website
3. Anti-Pipeline Activists, Eminent Domain Experts Gather in Atlanta, Ohio Gas Association, 6/19/16
4. Ibid.
5. How the Kinder Morgan Palmetto Pipeline Was Defeated, *Corporate Crime Reporter* article, 11/21/16
6. Palmetto Pipeline project suspended, *The Greenville News*, 4/1/16

Port Westward Terminal

- **PROJECT TYPE:**
  Coal export terminal
- **LOCATION:**
  Port of St. Helen's, Oregon
- **INVESTMENT COST:**
  $175 million
- **ORIGINAL CONSTRUCTION DATE:**
  2017
- **ORIGINAL OPERATING DATE:**
  2019

LOST OPPORTUNITY

ECONOMIC IMPACT

$200 BILLION
in GDP impact*

1,838
total full-time equivalent job years*

$40 MILLION
in lost tax revenue*

80
full-time equivalent jobs during operations**

$3.7 MILLION
lost annual state and local tax revenue during operations**

OVERVIEW

- In June 2011, news reports announced that the Port of St. Helens had initiated talks to develop a coal export facility in Northwest Oregon.[1] In January 2012, Port of St. Helens Commissioners granted Kinder Morgan permission to export coal from the Port Westward Industrial Park.
- The commissioners' approval prompted the Power Past Coal Coalition, whose members include Columbia Riverkeeper, Friends of the Columbia Gorge and Sierra Club, to immediately protest and organize activist efforts to defeat the project.
- In May 2012, volunteer groups and Power Past Coal Coalition held a rally to oppose development of coal terminals. More than 600 people attended, and Robert F. Kennedy, Jr. gave a speech condemning the plant.
- In March 2013, Columbia County held a hearing for Port Westward zoning changes. One hundred activists came to the hearing to oppose the expansion.

"Another one bites the dust" - Brett VandenHeuvel, Columbia Riverkeeper[2]

STATUS:

In May 2013, after a series of delays and setbacks, Kinder Morgan announced its decision to cancel the project.

* Number refers to total economic impact from construction/operations/upstream, through August 2018

** Self-reported by project sponsor

1. Port of St. Helens a potential candidate for a terminal to export coal to Asia *The Oregonian*, 6/14/11
2. Kinder Morgan scraps Port Westward coal terminal proposal *The Daily News*, 5/8/13

Sources:

Global Energy Institute analysis

New York State Fracking Ban

- **PROJECT TYPE:** Statewide ban on fracking
- **LOCATION:** Entire state of New York
- **INVESTMENT COST:** $20 billion
- **ORIGINAL CONSTRUCTION DATE:** December 2010
- **ORIGINAL OPERATING DATE:** Indefinite → 7 years so far

LOST OPPORTUNITY

ECONOMIC IMPACT

$22.3 BILLION
in GDP impact*

191,841
total full-time equivalent job years*

$4.9 BILLION
in lost tax revenue*

OVERVIEW

- In December 2010, New York Governor David Paterson issued a temporary statewide ban on fracking, pending reviews by state agencies.
- In response, KIITG activist groups mounted a broad, multi-year campaign to make the ban permanent. The effort was led by New Yorkers Against Fracking, a "coalition that helped unify the national, state and grassroots organizations calling for a statewide ban, ultimately comprising more than 250 organizations."
- The activists focused their campaign on Governor Andrew Cuomo. "'[O]ur signature tactic was 'bird-dogging,' the practice of establishing a presence at a political target's public appearances. The movement bird-dogged Cuomo relentlessly, rallying outside fundraisers, press conferences, state fairs and dozens of other public events...Cuomo realized that everywhere he went, he'd be met by fracktivists."[1]

"In New York, we're very fortunate. We have a governor who's willing to keep it in the ground very much because of the pressure that a lot of the people in this room put on him...Our governor had the guts to lead and lead the nation and ban fracking."[2]
– Celebrity activist Mark Ruffalo

Image from Common Dreams

STATUS:

In December 2014, Governor Cuomo announced an indefinite statewide ban on fracking.[3]

* Number refers to total economic impact from construction/operations/upstream, through August 2018

1. Mark Ruffalo Urges President Obama to Keep Fossil Fuels in the Ground in Gripping New Documentary, Alternet blog, 6/16/16
2. Ibid.
3. Citing Health Risks, Cuomo Bans Fracking in New York State, *New York Times*, 12/17/14

Sources:

Global Energy Institute analysis

APPENDIX

DETAILED ECONOMIC IMPACT MODELING METHODOLOGY

The Global Energy Institute undertook a detailed process of data collection, analysis, and modeling to demonstrate the economic impact of the KIITG movement. We assessed the lost economic contribution of 15 select projects throughout the United States that were either delayed or cancelled by KIITG activities. In addition, we estimated the lost economic contribution from the New York state ban on hydraulic fracturing activities.

The steps employed for the methodology were the following:

- **Identify candidate projects**
- **Research project data**
- **Determine direct (project-specific) impacts**
- **Run IMPLAN**
- **Calculate results**

The following sections describe each of these steps in further detail.

1. Identify candidate projects

The universe of projects targeted by KIITG is large. This report culled the list of projects targeted by KIITG and focused on 15 projects that were clearly delayed or cancelled in large part due to KIITG activities, rather than, for example, financial reasons. The final list of projects includes the New York statewide ban on hydraulic fracturing and 15 individual projects, including coal export facilities, natural gas pipelines, and power plants.

2. Research project data

For each project, we researched public articles, reports, and other media discussing the projects' investments necessary to begin construction and bring them to fruition, associated job creation, demand for energy, tax revenues, and a timeline of events for delays or cancellations.

An example project is the Millennium Bulk Terminal (MBT), which is a planned coal export terminal in the State of Washington. An economic impact study for MBT reported its original construction start date as 2013, with operations to begin in 2015. The same study estimated MBT's capital expenditures to be $680 million. The project has been stalled due to KIITG pressures. In late 2017, The Washington Department of Ecology denied MBT the necessary water permits to move forward. MBT is appealing the decision.

3. Determine direct impacts

We calculated three categories of direct impacts for all projects through the end of August 2018:

- Capital expenditures: construction labor, materials, and other services acquired during construction
- Operational expenditures: labor, equipment, materials, and other service costs during operation of the facilities, if applicable
- Upstream opportunity losses: the upstream effect of lost energy demand for project-specific coal, natural gas, or petroleum processing or consumption

For capital expenditures, we closely reviewed the research from Step 2 and selected the most robust and defendable values for construction labor, materials, and other services acquired during each year of construction.

For operational expenditures, we similarly reviewed the research from Step 2 and selected the most robust and defendable values for labor, materials, and other services estimated to be consumed during operations.

The amount of lost capital and operational expenditures depend on the timing of the projects activities. For projects originally slated to be under construction in August 2018, we pro-rated their anticipated spending given planned construction start and planned construction end dates. For projects originally slated to be operating by August 2018, we included their full construction impact and their annual operational and upstream impacts multiplied by the number of years of operations lost because of KIITG activities.

To calculate the size of the upstream opportunity losses, we determined the energy demand of the projects in either short tons of coal, thousands of cubic feet of natural gas, or barrels of oil. Using historical and projected prices from the Energy Information Administration (EIA), we converted these quantities of energy into dollars and modeled them as output (sales) losses in IMPLAN. Using reasonable estimates, we accounted for capacity factors and energy sourced in the United States for pipelines near or crossing international borders, such as the Keystone XL Pipeline, to show only the U.S. impact of reduced energy fossil fuel extraction.

The planned construction start for two cancelled projects was after August 2018; Puente Power and the Tacoma Methanol Project were intended to break ground in late 2018. For these, we have assumed their impact to be the full weight of construction but not any operational or upstream impact.

For the New York ban on hydraulic fracturing, we calculated the impact by estimating the state's lost opportunity in natural gas extraction using a report from the American Petroleum Institute on the impact of the Marcellus Shale. We then entered this loss of output into the IMPLAN extraction sector.

4. Run IMPLAN

We modeled the economic impact of these projects in the IMPLAN model. IMPLAN is an input-output modeling software and data system that tracks the movement of money through an economy, looking at linkages between industries along the supply chain, to measure the cumulative effect of spending in terms of job creation, income, production, and taxes. The IMPLAN datasets represent all industries within the economy and are derived primarily from data collected by federal agencies.

IMPLAN works by determining a "multiplier" from "direct" spending that then affects industry supply chains (the "indirect" effect) and engenders consumer spending (the "induced" effect). For example, the direct purchase of steel pipes by a project means increased ore and energy demand from steel as inputs (the indirect effect) and income for spending by workers throughout the steel pipe supply chain (the induced effect).

IMPLAN produces four main outputs to measure economic impacts of lost or additional spending:

- Employment Contributions: direct, indirect, and induced annual average jobs for full-time, part-time, and seasonal employees and self-employed workers.
- Gross Domestic Product (GDP): an industry's value of production over the cost of its purchasing the goods and services required to make its products. GDP includes wages and benefits paid to wage and salary employees and profits earned by self-employed individuals (labor income), monies collected by industry that are not paid into operations (profits, capital consumption allowance, payments for rent, royalties and interest income), and all payments to government (excise taxes, sales taxes, customs duties) except for payroll and income taxes.

- Labor Income: the wages and benefits paid to wage and salary employees and profits earned by self-employed individuals. Labor income demonstrates a complete picture of the income paid to the entire labor force within the model.
- State, Local, and Federal Taxes: payments to government that represent employer collected and paid social security taxes on wages, excise taxes, sales taxes, customs duties, property taxes, severance taxes, personal income taxes, corporate profits taxes, and other taxes.

As discussed previously, we modeled three aspects of each project in the IMPLAN model:

- Capital Expenditures: represented through the construction industry and materials industries for the various projects.
- Operational Expenditures: represented through the operations of the relevant utility, manufacturing, or transportation industries to illustrate operations.
- Upstream Opportunity Losses: represented by the relevant mining and extraction industries.

The next section walks through an example for one of the projects, the MBT.

5. Calculate results

From the IMPLAN modeling we extracted the necessary outputs to calculate the lost economic opportunity for each of the 15 projects and the New York statewide ban on hydraulic fracturing. In this section, we step through the calculations applied for the MBT project to fully illustrate our application of the IMPLAN results and our derivation of overall economic impacts.

The planned construction start date for MBT was late 2013 and the planned opening date was in 2015, which we have assumed to be specifically Dec. 1, 2013, and June 1, 2015. This implies a construction span of 1.5 years, and all construction should have finished by August 2018.

MBT's planned capital expenditures were $680 million. We entered this into IMPLAN, assuming 80 percent went to materials ($544 million) and 20 percent to construction labor ($136 million). Such an 80-20 ratio is typical of large infrastructure construction projects, such as a coal export terminal like MBT.

Because the construction project lasts more than a year and the model includes total expenditures, the jobs related to its construction are expressed in "job-years." A job-year is a unit of labor equivalent to a full-time equivalent job lasting for one year. For example, a worker working in the same job for eight years totals eight job-years over time, the same as eight workers working for one year.

According to IMPLAN, the total impact to U.S. job-years from MBT's construction would be 8,591 job-years.

Between June 1, 2015, and August 31, 2018, a total of 3.25 years elapsed. This increment becomes a basis for calculating the lost operational and upstream impact of MBT.

The project includes 300 direct operational jobs. According to IMPLAN, the water transportation industry – which includes ports – has a multiplier of 7.88. The 300 jobs times 7.88 provides 2,364 jobs each year which, when multiplied by the span of 3.25 years, provides 7,683 job-years lost from lost operations.

For the upstream impact, the stated capacity of MBT is 44.0 million metric tons (or 48.5 million short tons) per year. Assuming the facility operates at a 100-percent capacity factor and 100 percent of the coal comes from U.S. coal mines, we then calculated the monetary value of its implied throughput.

Coal exports from the Pacific Northwest are usually discussed as coming from the Powder River Basin (PRB) in Wyoming and Montana. We assumed a $12 per short ton price for PRB coal and $33.50 per short ton to transport the coal via rail to the Pacific Northwest. We multiplied each

number by MBT's annual capacity to come up with $582 million in coal output and $1.62 billion in output for rail transportation.

Per IMPLAN, $1 billion in spending in the coal mining sector creates 9,764 jobs, and $1 billion in spending in the rail transportation sector creates 10,809 jobs. Using these numbers, we calculated MBT could support 5,683 annual jobs from coal mining operations and 10,809 jobs from increased rail transportation activities.

Combined, this is 17,531 annual jobs. Once multiplied by the 3.25 years of lost economic activity by August 2018, it means a total of 75,440 job-years lost from reduced upstream activities.

Adding the three produces a total of 91,712 U.S. job-years lost because of KIITG delaying MBT, or roughly 19,318 jobs per year, on average, for 4.75 years of construction and operation.

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