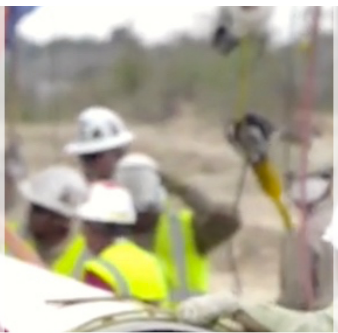
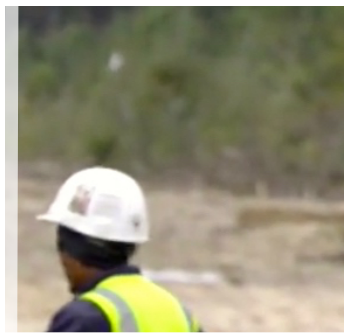


# We Need Pipelines

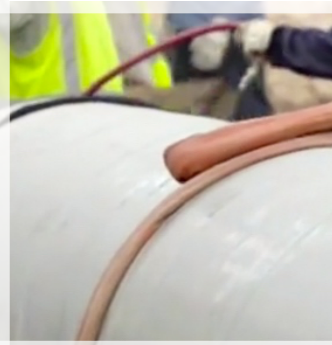
Access, Affordability, Opportunity & Lower Emissions



**Affordability**



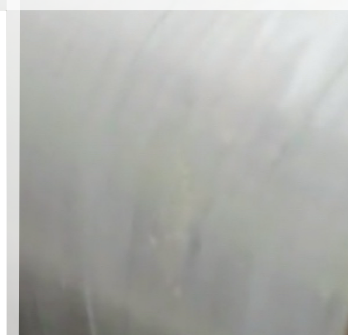
**Opportunity**



**Lower Emissions**



**Access**





**John Stoody**

Vice President

**Government & Public Relations**

900 17<sup>th</sup> St, NW, Suite 600  
Washington, DC 20006  
202.292.4509 (o) | 202.957.3554 (c)  
jstody@aopl.org

March 1, 2021

Dear Energy Policymaker:

Our nation is in the midst of two very important debates: 1) How do we help those struggling during the current COVID and economic hardships? and 2) What should our energy and how it is delivered to us look like in coming years and decades? In many ways, those two policy issues you must consider are linked. We offer the following materials showing how pipelines need to be part of an energy future built on affordability, opportunity, and access.

Energy delivered by pipeline is crucial to every aspect of our daily lives. We cannot drive to work in the morning, run errands during the day, or travel on planes without the energy delivered by pipeline. Raw materials from energy are in products everywhere around us from the fibers in our clothes, to the cosmetics and medicines in our cabinets, to the computers on our desks. In delivering this energy and raw materials, pipelines emit the lowest amount of greenhouse gas emissions.

Affordable energy is vital now more than ever. For some families, staying warm in the winter, getting to work, or running the air conditioning in the summer are a struggle. Tight family budgets spread across rent or a mortgage, medical expenses and food also need to pay for energy. Abundant U.S. produced energy delivered by pipeline has helped America save billions and households thousands each year.

Opportunity flows from pipelines in the form of good-paying jobs. Building and operating our pipeline network allows thousands of union and non-union trades workers to support their family and get through hard times. Alternative jobs in other sectors often do not pay as much and are fewer in number. Our entire oil and gas sector of more than 10 million jobs with billions of dollars pumped into the economy depends on pipelines delivering that energy.

Access to energy is important to all people and communities. America is a big place. Most of us live far away from where energy is produced and turned into useful products. Pipelines deliver that energy across America to us where we need it and when we need it. From otherwise underserved neighborhoods through the suburbs to rural areas our pipeline energy network is so extensive everyone has access to energy virtually anywhere at any time.

These themes of affordability, opportunity and access are explored throughout the following materials. We also show how using pipelines to deliver energy results in the lowest greenhouse gas emissions and least environmental impact compared to other transportation alternatives. Please don't hesitate to reach out to us with any questions or to discuss these issues further.

Sincerely,

A handwritten signature in black ink, appearing to read "John Stoody", is written over a horizontal line.

John Stoody

# WE NEED PIPELINES

## ACCESS, AFFORDABILITY & OPPORTUNITY

**America is a big country, and we have places we need to go.** We need to get to work, visit our friends, family and favorite places, travel and live our lives. **All of this takes energy and a lot of it.** The energy we put into our cars, fuel our trucks or fly our planes doesn't just appear at the gas station. Most of us live far from where energy is produced, and not near where it is refined into gasoline, diesel or jet fuel. **We need pipelines to get energy from where it is produced, to where it is turned into useful products, and then on to us in our local regions.** Because energy is so important, we need it to be affordable and we need it where and when we want to use it. This creates opportunity for good jobs and better lives. All of this delivered by pipelines.



### Access

Pipelines give us access to energy wherever we are whenever we need

Every day, Americans make nearly 20 million visits to 115,000 gas stations. We never have to go far to get gas for our car or truck because 200,000 miles of pipelines supply this network. Every neighborhood of every town across America has access to energy because of pipelines.

Electric vehicles numbers are growing, but they need charging stations. One prominent company has placed 2,000 charging stations around the country, but they usually require 30 minutes of charging and are located primarily in urban areas.



### Affordability

Pipelines deliver affordable fuels for affordable vehicles

Gasoline prices in 2020 were about 39% lower than in 2011. Abundant domestic energy has helped lower energy costs for American households, providing \$203 billion in annual savings – about \$2,500 a year for a family of four. We need pipelines to help deliver these energy savings to us.

Nearly 90% of the new vehicles bought by Americans in a year run on gasoline or diesel. Cost is a big reason with conventional cars and trucks costing \$5,000 to \$10,000 less than similar electric or hybrid vehicles.



### Opportunity

Pipelines provide the energy and raw materials for millions of good-paying jobs

The oil and gas industry supports more than 10 million jobs with billions of dollars pumped into the economy. These are good-paying jobs for union and non-union tradespeople. Pipelines are what connects those workers and the energy they produce to American families and consumers.

All new jobs can be good jobs for the worker, but it doesn't make sense to kill good-paying existing energy jobs.

# OPPORTUNITY FOR GOOD JOBS

## PIPELINES JOBS PROVIDE BETTER PAY

**Building and operating our pipeline network provides thousands of good-paying jobs. Alternative jobs in other sectors often do not pay as much and are fewer in number. Our entire oil and gas sector of more than 10 million jobs with billions of dollars pumped into the economy depends on pipelines delivering that energy.**

### Pipelines Offer Better Pay

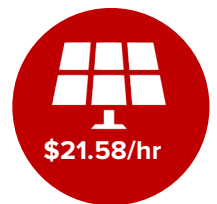
#### Pipeline Workers Earn More

Pipeline projects offer good-paying jobs that can support a family. According to the U.S. Dept. of Labor (DOL), the median hourly wage for a pipeline construction trades worker is \$30.03 per hour. Pipelayers specifically make on average \$30.51 an hour. Pipeline operators in engineering, computer technology and business operations average between \$40 and \$50 an hour.



#### Solar and Wind Workers Earn Less

The government reports median pay in solar installation is \$21.58 per hour or 28% less than a pipeline worker. Over the course of a year, a pipeline worker would lose \$17,850 in wages if forced to transition to a solar installation job. Wind turbine service technician median pay is \$24.41 an hour or nearly 20% lower and nearly \$12,000 in lost wages compared to a pipeline worker.



### Green Technologies Often Need Fewer Workers at Lower Pay

#### Lower Pay for Battery Makers

The shift from conventional jobs to new green jobs can often mean fewer jobs at lower pay. An auto assembly worker can make as much as \$32 an hour building conventional cars and trucks running on gasoline or diesel. However, battery workers for electric vehicles are paid at the lower wage rate of \$15 to \$17 an hour. Even union employed automakers paying their assembly workers full pay are only paying their battery workers the lower pay of a parts maker.



#### Fewer Jobs for Electric Vehicles

Electric vehicles are less complex and need fewer parts. That means EVs need fewer workers to build. A study by the United Auto Workers stated, "EV powertrains are simpler and require less labor than [internal combustion engine] powertrains, which could have a negative impact on auto employment levels." A former GM sedan assembly plant in Lordstown, OH with 4,500 workers will be replaced with an EV pickup assembly plant with only 1,570 jobs. Volkswagen's CEO confirmed, "The reality is that building an electric car involves some 30% less effort than one powered by an [internal combustion engine]. That means we will need to make job cuts."



## PIPELINES PROVIDE GOOD-PAYING JOBS

Pipeline construction trade workers earn over \$30 an hour while solar panel installers earn 25% less at only \$22 an hour

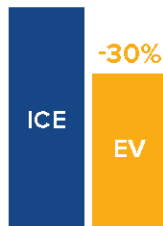
**PIPELINE WORKER**  
**\$30/HR**

## ALTERNATIVE GREEN JOBS OFTEN PAY FEWER PEOPLE LESS MONEY

The 12,000 workers now installing solar panels will need to quadruple in number to replace the current 50,000 pipeline operators

**SOLAR PANEL INSTALLER**  
**\$22/HR**

# OF WORKERS



Electric vehicles (EV) with fewer moving parts need fewer workers to assemble than internal combustion engine (ICE) vehicles.

PAY/HR



**BATTERY COMPONENT WORKER**  
**\$15-17/HR**

## AUTO WORKERS LOSE

if forced to take a green job at 50% pay with battery component workers making only \$15 to \$17 an hour compared to \$32 for auto assembly workers

**AUTO ASSEMBLY WORKER**  
**\$32/HR**



# ACCESS TO ENERGY

PIPELINES GIVE US ACCESS TO ENERGY WHEREVER AND WHENEVER WE NEED

**America is a big place. Most of us live far away from where energy is produced and turned into useful products. Pipelines deliver that energy across America to us where we need it and when we need it.**

## Access for Everyone

Access to energy is important for everyone. A good-paying job often means driving from where living is affordable across town to that job. Local neighborhoods or rural regions may be underserved by grocery or retail stores and require driving for basic necessities. Our 150,000-mile crude oil and products pipeline network feeds gas stations across America regardless of zip code or income level. Electric vehicle (EV) charging stations are getting built, but they are going first to where folks can afford EVs and only later will reach more rural or underserved areas in sufficient numbers.

## Access Anywhere

When we are driving, we need to fill up our tanks near us or on the way. But most of us live far away from where energy is produced or turned into useful products like gasoline or diesel fuel. We need pipelines to deliver that energy to us or where we want to go. 84,000 miles of pipelines deliver crude oil from major U.S production areas to 135 refineries. 63,000 miles of pipelines deliver gasoline and diesel from refineries to every region of the country. That national pipeline network feeds over 100,000 gas stations. That means access to energy is never far away.

## Access Anytime

Short of time on the way to work, late at night, or while traveling makes getting gas more than just convenience, it's a necessity. Our nation's pipeline network is so large it gives us access to gasoline and diesel anytime we need. Pipelines also deliver propane and heating fuel to keep rural and Northeastern homes warm. Staying warm in the middle of the night may not be an option if the power goes out and heat is electric-powered. Having ready access to pipeline-delivered energy means not having to only recharge over night or not missing out on energy if the sun isn't shining or the wind isn't blowing.

### Did You Know?



Over 100,000 gas stations supplied by our pipeline network mean access to energy for conventional cars & trucks in every neighborhood and region



Our 200,000-mile pipeline network delivers energy to every region of the country

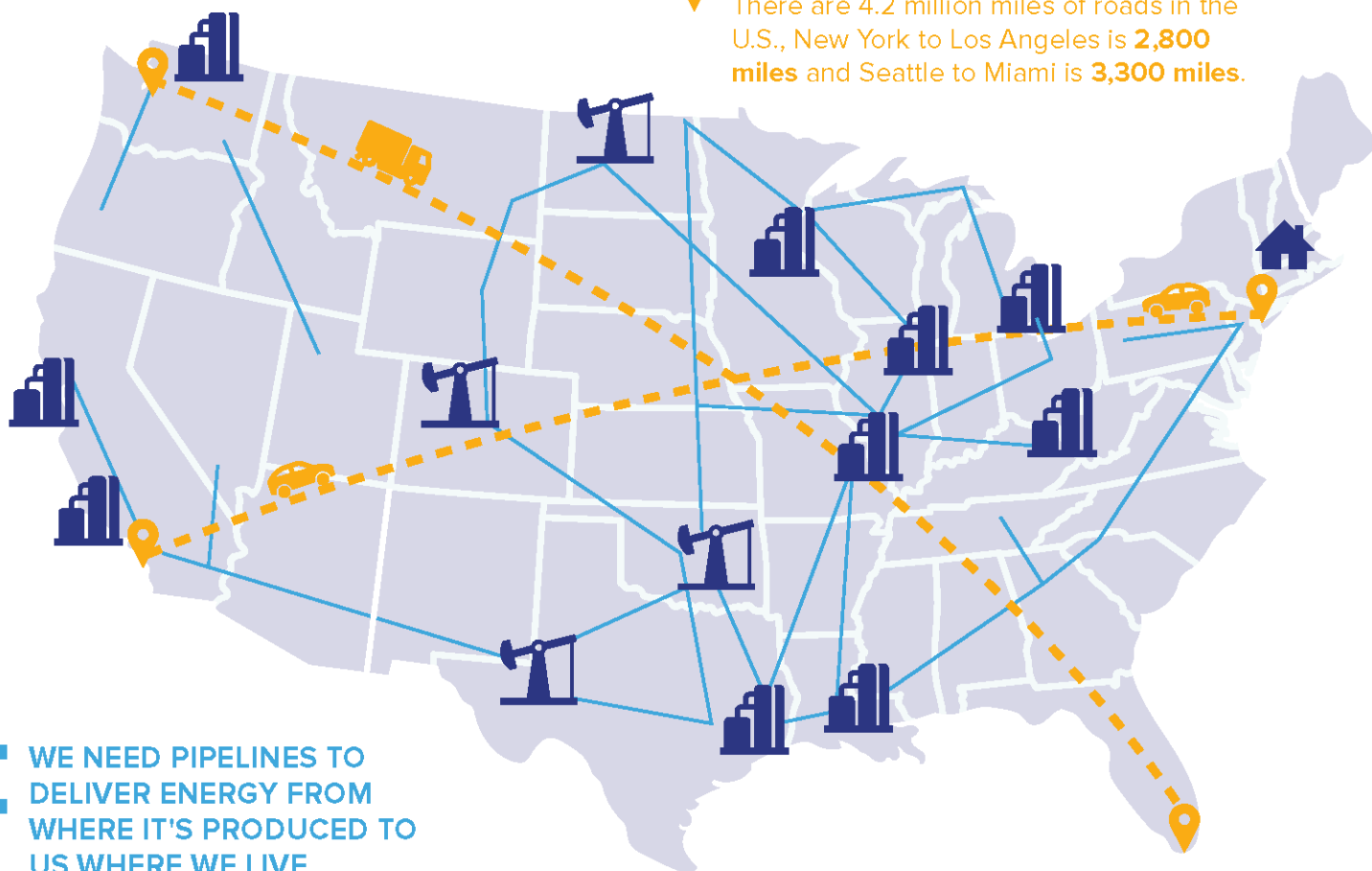


Americans consume over 140 billion gallons of gasoline in a single year. Only pipelines are large enough to deliver all that energy across America



## AMERICA IS A BIG PLACE

There are 4.2 million miles of roads in the U.S., New York to Los Angeles is **2,800 miles** and Seattle to Miami is **3,300 miles**.



## WE NEED PIPELINES TO DELIVER ENERGY FROM WHERE IT'S PRODUCED TO US WHERE WE LIVE

**84,000 miles of pipelines** deliver crude oil from major U.S. production areas to 135 refineries. **63,000 miles of pipelines** deliver gasoline, diesel and jet fuel from America's refineries to our local regions.



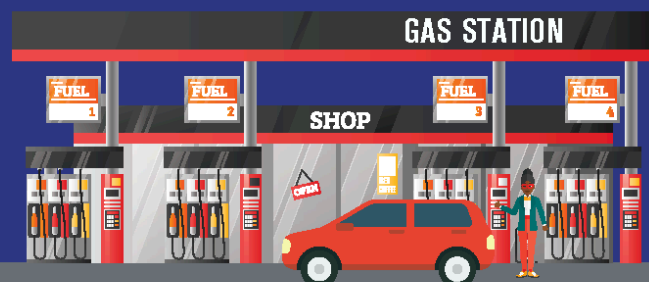
## WE LIVE FAR AWAY FROM WHERE OUR ENERGY IS PRODUCED

The 50 million people in the Northeast corridor from Boston to DC live nearly 2,000 miles from oil producing regions in west Texas and 1,700 miles from major refineries in the Gulf Coast. Pipelines deliver our energy to us.

## OUR LOCAL GAS STATIONS ARE THE LAST LINK IN AN ENERGY CHAIN CONNECTED BY PIPELINES

Americans consumed 142 billion gallons of gasoline in 2019. That's nearly 20 million visits to a gas station per day.

**20 MILLION VISITS PER DAY**



# AFFORDABLE ENERGY

PIPELINE-DELIVERED ENERGY SAVES AMERICA BILLIONS AND FAMILIES THOUSANDS

For some families, staying warm in the winter, getting to work, or running the air conditioning in the summer is a struggle. Tight family budgets spread across rent or a mortgage, medical expenses and food also need to pay for energy. Pipeline-delivered energy has helped America save billions and households thousands each year.

## Delivering Energy Savings

- American technology and ingenuity have unlocked huge new sources of oil and gas from New Mexico and Texas to North Dakota and Pennsylvania. Oil and gas supplies are so great they have pushed prices down or insulated us from foreign price increases.

**\$200  
BILLION**  
Annual Savings

**\$2,500**  
Per Family

- The government estimates American families are saving over \$200 billion annually thanks to increased natural gas and oil production.
- On average, American families save \$2,500 per year because of new oil and gas production.
- Americans are able to receive these energy savings because pipelines have the capacity to carry large amounts of energy long distances from where it is produced to where Americans need it.
- Pipelines can also deliver energy at 50% or lower cost than alternative transportation modes like trains, and much lower in cost than trucks.

## Preventing Energy Insecurity

- Affordable energy is vital to how we live our lives and provide for our families. We use oil and gas to heat our homes in the winter, drive to work, cook our food, and heat our water.
- Higher energy prices strain limited family budgets. When energy prices go up, families are forced to decide between basic essentials like food, medicine, clothing and paying bills.
- According to the government, a 10% increase in household energy costs leads to over 800,000 people across the U.S. being pushed into poverty.
- Minority households at twice the national average are forced to choose between reducing or forgoing food or medicine to pay higher energy costs.

**800,000**  
People pushed into  
poverty with a 10%  
increase in energy  
costs

### Families Depend on Affordable Energy



Hot Water



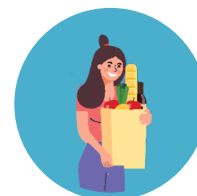
Home Heating



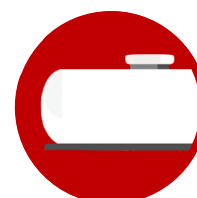
Getting to Work



Cooking



Energy Intensive Products



Rural Living



# AMERICANS FAMILIES ARE SAVING OVER \$200 BILLION ANNUALLY IN ENERGY COSTS THANKS TO INCREASED NATURAL GAS AND OIL PRODUCTION DELIVERED BY PIPELINES



Transporting energy by rail can cost over double the cost of delivering by pipeline

## APPROXIMATELY \$2,500 PER FAMILY EACH YEAR

saved on energy because of new oil and gas production delivered by pipelines

## PUSHED INTO POVERTY

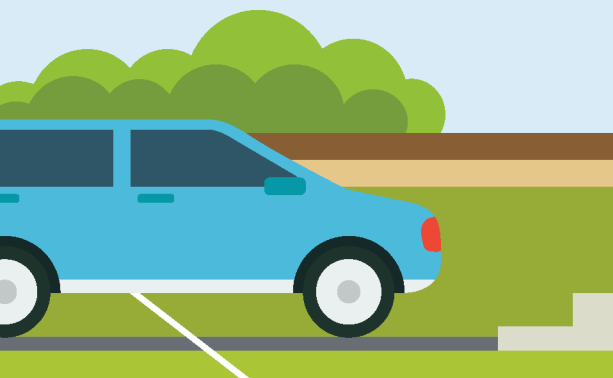
A 10% increase in household energy costs leads to approximately 840,000 people across the U.S. being pushed into poverty

## MINORITY HOUSEHOLDS

at twice the national average are forced to choose between reducing or forgoing food or medicine to pay higher energy costs

## ENERGY SAVINGS

Insulation, roofing and siding that helps save energy costs are made from raw materials delivered by pipeline

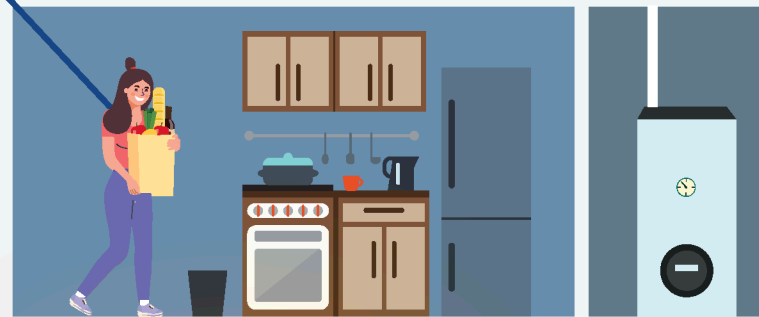
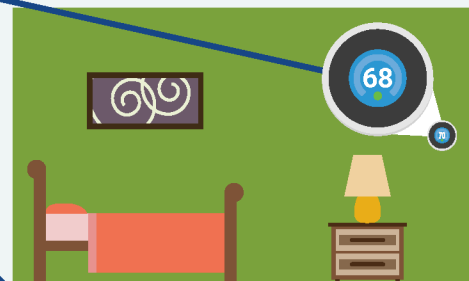


## TRANSPORTATION

We need affordable gas prices to get where we need to go

## COLD WEATHER HOUSEHOLDS

depend on pipeline-delivered heating fuel to fuel furnaces



## RURAL HOUSEHOLDS

Depend on pipeline-delivered propane to fuel their stoves, water heaters and furnaces

# LOWER EMISSIONS

PIPELINES EMIT LOWER GHG EMISSIONS THAN OTHER WAYS TO DELIVER ENERGY

**We need to deliver energy from where it is produced to where it is turned into useful products and then on to us in our local regions. Pipelines are the cleanest and safest way to deliver that energy.**

## Pipelines Emit Fewer GHGs

Liquids pipelines are powered primarily by electric pumps with no GHG emissions of their own. That also means neither the pipeline itself nor the pump station pushing the product through the line emit air pollution to the surrounding area or nearby communities. However, both trains and trucks with conventional diesel engines emit GHG emissions and air pollutants as they travel from community to community. Pipelines can also travel a shorter, more direct route, while train deliveries must follow existing rail lines that can result in longer trips. Government reviews, like the Obama administration Environmental Impact Statement for the Keystone XL pipeline, quantify how pipelines result in fewer GHGs when delivering the same amount of energy.

**-42%**

**Fewer GHG Emissions**

## Pipelines Cause Fewer Incidents, Release Fewer Barrels

In addition to releasing fewer emissions, pipelines also cause fewer incidents and release less of their product into the environment than their main transportation alternative. Government review of the Keystone XL pipeline found the probability of an incident was 800 times greater by rail than pipeline.

This shouldn't be surprising since it would take over a dozen mile-long trains with 100 rail cars each to carry the same amount of product

delivered by a pipeline of that size. In addition to a greater likelihood of incident, the government review also found transporting the same amount of product by rail would result in 2.6 times more crude oil released into the environment.

**-62%**

**Fewer Barrels Released**

## Data Source

Final Supplemental Environmental Impact Statement for the Keystone XL Project, U.S. Department of State, 2014, pp. 5.3-5 to -8.

### Obama Administration Review of Pipeline Impacts

The Obama administration under the National Environmental Policy Act conducted a multi-year review totaling several thousand pages to analyze the environmental impacts of the Keystone XL pipeline. The review included a direct comparison of pipeline and the alternative of transporting the crude by rail. It provides a good measure of the impacts of a major pipeline project.

### Emissions Impacts

#### Pipelines



The Obama administration found a pipeline emits 42% less GHGs than transporting the same amount of energy by rail.

#### Rail

Rejecting a major pipeline and shipping the same energy by rail increases GHG emissions by 1.2 million metric tons of CO<sub>2</sub> equivalent per year.

### Environmental Impacts

#### Pipelines



The Obama administration found a pipeline has 0.1% of the incidents and 62% fewer barrels released compared to shipping by rail

#### Rail


Rejecting a major pipeline and shipping the same energy by rail increases the risk of oil release by over 800 times and barrels released by 2.6 times




# CANCELING PIPELINES HURTS THE ENVIRONMENT BECAUSE THAT SAME ENERGY WILL TRAVEL ON DIRTIER TRAINS OR TRUCKS

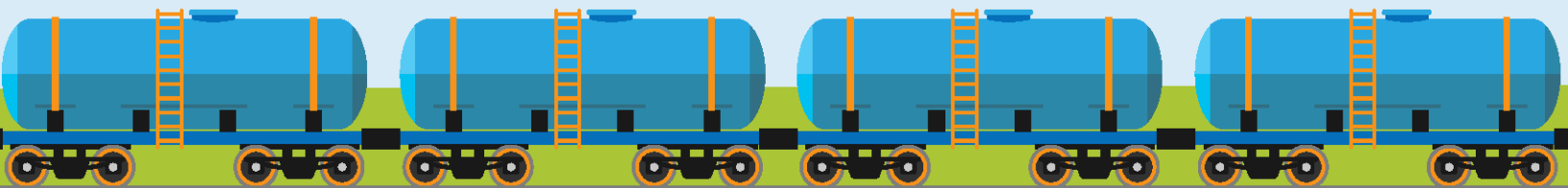
Liquids pipelines run on electric powered pumps that emit no GHGs or local air pollution

**PIPELINE**  
  
**GHGs**

**RAIL**  
  
**+42%**  
**GHGs**

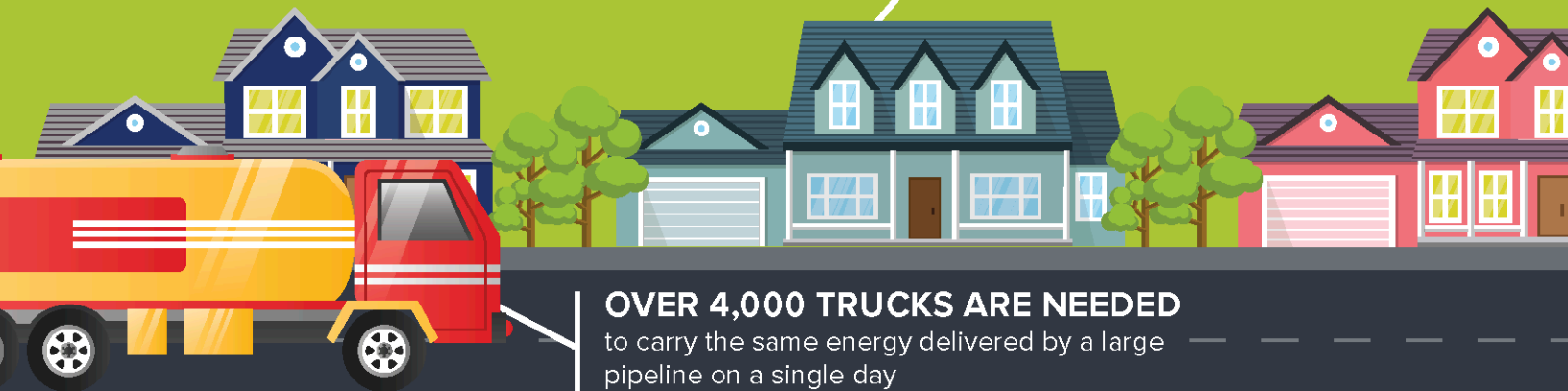
**TRUCKS**  
  
**+467%**  
**GHGs**

Trains and Trucks Both Emit More GHGs than Pipelines



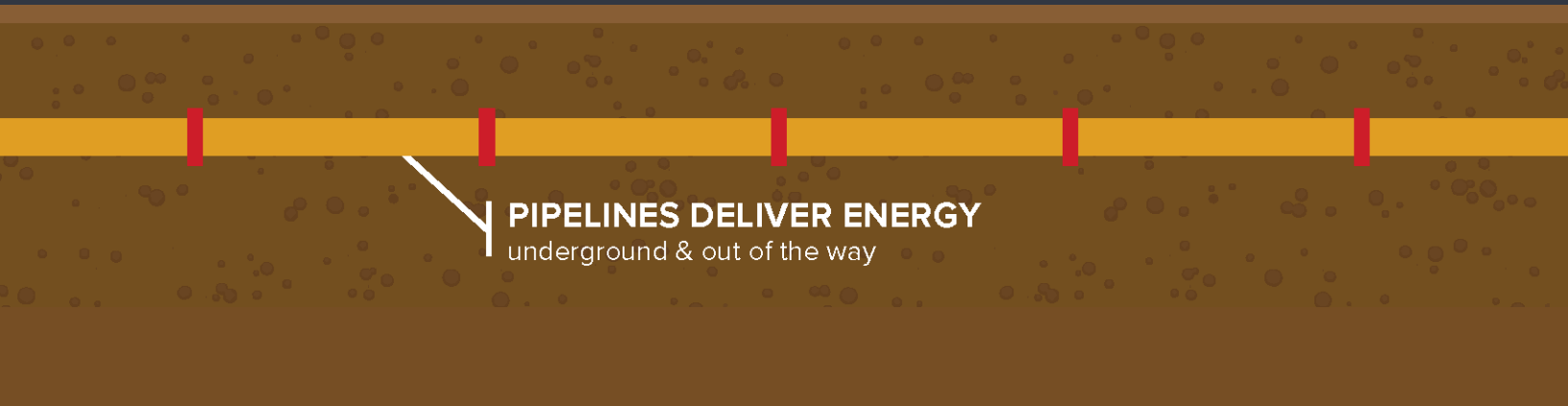
**OVER 13 TRAINS EACH A MILE LONG**  
with 100 rail cars are needed to carry the same energy delivered by a large pipeline on a single day

**MORE TRUCKS & TRAINS**  
Means more neighborhood congestion



**OVER 4,000 TRUCKS ARE NEEDED**  
to carry the same energy delivered by a large pipeline on a single day

**PIPELINES DELIVER ENERGY**  
underground & out of the way



# We Need Pipelines

Access, Affordability, Opportunity & Lower Emissions