PAGE PARTNERSHIP TO ADDRESS GLOBAL EMISSIONS

UNLEASH U.S. LNG

KEY TAKEAWAYS

- Global emissions targets cannot be reached by the U.S. Alone, international solutions are needed
- International coal use is a key obstacle to reaching emission targets
- Renewable energy sources are only part of the solution, not the entire solution
- U.S. Natural gas provides low-emission and low-cost energy, but is limited by lack of infrastructure
- Concentration of ~2/3rds of the world's natural gas in four countries – russia, iran, qatar and the U.S. – Requires that we act
- U.S. LNG offers energy security to the world and plays a meaningful role in reaching global climate goals
- Launched partnership to address global emissions to advance needed policy

GLOBAL EMISSIONS ARE RISING, DESPITE US LEADERSHIP



EMISSIONS CHANGE BY COUNTRY FROM 2005 TO 2019

<image><section-header>

THE PROBLEM:

THE REST OF THE WORLD IS LAGGING IN EMISSIONS REDUCTIONS

Over the last 15 years, the United States led the world in reducing greenhouse gas emissions (GHG) and **61% of those reductions were driven by a switch from coal to American natural gas.**

Use of foreign coal is on the rise and represents half of all international greenhouse emissions worldwide.

The Russian invasion of Ukraine cut off a key energy supply to Europe and made clear that American allies do not have access to reliable, affordable, and clean energy sources, and are reverting to coal-powered energy.

In just the last twelve months, the growth in international coal surpassed 15 years' worth of emissions reductions from solar and wind in the United States.



GLOBAL EMISSIONS ARE RISING

THE ELEPHANT IN THE ROOM: INTERNATIONAL COAL

climate priority 13.7 **Coal CO₂ Emissions** (Billion metric tons CO_2 / year) 9.3 2.1 1.1

2005

International

2019

2005

2019

United States

For the next 20 years, reducing

international coal should be our top

Current International Energy Emissions Sources¹



1--Calculated as total global emissions by energy source minus emissions by energy source for U.S. for 2019 Source: IEA data and statistics



"HOPING" UNDEVELOPED COUNTRIES CAN AFFORD A RENEWABLES-ONLY TRANSITION

Eliminating Coal Requires Unsustainable Investment



Scenario Assumptions

+ \$5-11 Trillion

Additional investments¹ to achieve Net Zero

At Risk: 7 Billion Metric Tons Per Year

Emissions at risk if assumptions do not materialize

Current Pace ~\$5 Trillion

Investments² into renewables at current rates

~2 GTCO2e/year³ GHG reduction at 2030 The substantial majority of the \$16 Trillion needed would have to be borne by undeveloped and underdeveloped countries

\$64k



Per Capita GDP⁴

1. The high end is based on green scenario from BloombergNEF, investment profile for IEA case is calculated by splitting total investment through 2030 with assuming a smoothed growth rate // Investment profile for BNEF case is calculated by splitting total investment of BNEF's 22-25' and 26-30' with consistent growth rates in each period in-line with BNEF's total investment for each period. 2. Assumes investment growth at current rates: 8% annual growth. 3. Based on WEO 2021 Net zero scenario, -13 TWh additional power from renewables by 2030; ~6 TWh of that will replace coal and rest will cover additional demand. The 6 TWh coal-to-renewables will reduce emissions by ~7 GtCO2e. For the current-trend scenario, the GHG reduction from renewables is calculated using the same % split between coal replacement and meeting new demand. 4. World Bank 2020.

Source: BloombergNEF, World Energy Outlook 2021, World Bank for Per Capita GDP, IEA for Global Coal Use, EQT analysis to smooth out investment profiles

RENEWABLE ENERGY SOURCES NOT KEEPING UP WITH DEMAND

Emissions from International Coal Consumption Up and On Pace to Continue Growing





More Coal Plants are Being Constructed

- 176 GW of coal plants being constructed right now (China has been adding one coal plant per week)
- Nearly 2x the coal capacity retired by the U.S. since 2005 (~93 GW)



of international emissions come from coal



- IEA 2022 report: https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2;
- 2. Data obtained from EIA's U.S. Energy-Related Carbon Dioxide Emissions, 2019 report

NATURAL GAS IS THE TESLA OF POWER GENERATION

Coal-to-Gas Switching and Vehicle Electrification Deliver the Same Percentage Emissions Reduction



THE U.S. EMISSIONS REDUCTION MODEL: AN UNTOLD SUCCESS STORY

U.S. Emissions Decreased by ~1 Billion Metric Tons of CO₂ in 15 Years, Led by Natural Gas Replacing Coal

- The U.S. leads all countries (and the entire EU) in emissions reduction since 2005
- The leading contributor to reducing emissions was coal-to-gas switching, accounting for 61% of all emissions reduction within the U.S.
- This effort came at zero cost to U.S. taxpayers, and was the single largest emissions reduction effort in the world



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U.S. CO₂ Emissions Reduction by Solution¹



2005 – 2019 CO₂ Reduction²

(Million Metric Tons of CO₂)

| Country | CO ₂ Reduction |
|----------------|---------------------------|
| United States | -959 |
| United Kingdom | -188 |
| Italy | -147 |
| Germany | -144 |
| Japan | -122 |
| Ukraine | -120 |
| Spain | -104 |
| France | -77 |
| Venezuela | -51 |
| Greece | -39 |

1. Data obtained from EIA's U.S. Energy-Related Carbon Dioxide Emissions, 2019 report, splitting wind and solar proportionally to their increased in power generation from 2005 to 2019 per EIA's renewable generation data; 2. Data obtained from IEA. Source: IEA World Energy outlook 2021; EIA emissions data; EIA form 80 retired plant data, EQT analysis

WHY HAVEN'T OTHERS FOLLOWED OUR LEAD?

They Don't Have Access to the Necessary Natural Gas Resources

- ~2/3rds of the world's natural gas is concentrated in four countries: United States, Russia, Iran and Qatar
- Coal-reliant countries do not have the natural gas resources to facilitate coal-to-gas switching absent imports
- And they are trying... China is the world's #1 importer of LNG, and growing



1. As used in this presentation, U.S. values are ~460 TCF of proven reserves plus >2,000 TCF of gas resources economical at ~\$3.75/mcf; for the rest of the countries values are limited to proven gas reserves per OPEC data due to not having economically viable unconventional production today; Source: Reserves per country form OPEC Annual Statistical Bulletin 2021; U.S. Resources obtained from EIA

Natural Gas Economic Resources by Country¹, TCF

>2,500

China





UNLEASHING U.S. LNG: ONE OF THE LARGEST CLIMATE INITIATIVES ON THE PLANET

Equal to the Combined Impact of Every Domestic Mainstream Green Solution

The Demand

 There is currently 175 Bcfd of coal-to-gas switching demand in the world

The Plan

- Quadruple U.S. LNG capacity to 55 Bcfd¹ by 2030 to replace international coal at an unprecedented pace
- Fully funded by the natural gas industry. Ready to deploy today.

Targeting International Coal Emissions with U.S. LNG



The Result

- By 2030, an unleashed U.S. LNG scenario would reduce international CO₂ emissions by an incremental -1.1 billion metric tons² per year
- U.S. citizens will be paid for this initiative (tax revenues and an additional \$75Bn in royalties³), as opposed to paying for it

The emissions reduction impact of an unleashed U.S. LNG scenario is equal to:



Electrifying every U.S. passenger vehicle



Powering every home in America with rooftop solar and backup battery packs



Adding 54,000 industrial scale windmills, doubling U.S. wind capacity

Combined

1. Including current capacity, capacity under construction, and future new capacity 2. Assuming 3 bcfd under construction, and 40 bcfd additional capacity by 2030 3. Incremental cumulative royalties above 2021 levels from 2022-2030 assuming 20% of revenue @ \$3.75 / mcf

Source: ICCT, IEA statistics, ICF Update to the life-cycle analysis of GHG emissions for U.S. LNG exports analysis

THE ONLY BLOCKADE TO UNLOCKING NATURAL GAS

A Misguided Opposition to Infrastructure

| Pillars for U.S. LNG Expansion | |
|-----------------------------------|--|
| Natural Gas Production | The U.S. natural gas industry is ready to ramp production now, but we cannot increase production without associated pipelines to LNG export facilities on the coasts because existing pipelines are largely full. |
| Infrastructure | Over the last 5 years, pipelines and LNG facilities have been cancelled or considerably delayed. |
| Ч <u>Ъ</u> | Pipeline and LNG facility buildouts are currently being constructed at a pace 1/4 th that of the level at which industry can provide the natural gas. |
| | Cancellation/Delays of natural gas infrastructure has resulted in hundreds of millions of metric tons of unnecessary CO ₂ emissions at a time when rapid action is needed while also contributing |

to elevated regional and global inflation.

Example:

Locations of Blocked / Cancelled Natural Gas Pipelines



| Project | Status | Gas Volumes (Bcfd) |
|------------------|-----------|--------------------|
| Constitution | Cancelled | 0.7 |
| Penn East | Cancelled | 1.1 |
| Northern Access | Opposed | 0.5 |
| MVP | Opposed | 2.0 |
| Atlantic Coast | Cancelled | 1.5 |
| Northeast Direct | Cancelled | 1.2 |
| Total | | 7.0 Bcfd |

ENERGY INFRASTRUCTURE AND ENERGY PRICES

Our Ability to Safely Build Pipelines Led to Energy Independence, Low Prices and World-Leading Emissions Reductions



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 1. Source: EIA U.S. Natural Gas Pipeline Projects (Release Date: 7/29/2022)

 2. Source: EIA U.S. Natural Gas Projects (https://www.eia.gov/naturalgas/data.cfm#pipelines)

CONNECT SUPPLY TO DEMAND WITH INFRASTRUCTURE



Pipelines

Need multiple, large diameter pipelines heading to both the East Coast and Gulf Coast

- Appalachia alone has the ability to reduce international emissions by ~750 million metric tons CO₂/year (approximately 600 million metric tons CO₂/year attributable to Pennsylvania)
 - 3x Germany's Energiewende project
- Pennsylvania pipelines are operating at capacity due to opposition and cancellation of proposed midstream projects
- Previously cancelled pipelines should be reconsidered, completed and deployed

LNG Facilities

Both the East Coast and Gulf Coast need to be major LNG export hubs

- East Coast
 - Current LNG Export Capacity²: 1 Bcfd
 - 2030 Needs: 31 Bcfd (+30 Bcfd)
 - Global CO₂ Reductions From East Coast LNG³: -775 Million Metric Tons CO₂/Year
- Gulf Coast
 - Current LNG Export Capacity²: 12 Bcfd
 - 2030 Needs: 27 Bcfd (+15 Bcfd)
 - Global CO₂ Reductions From Gulf Coast LNG³: -725 Million Metric Tons CO₂/Year

I. Internal analysis assume a 140–170 U.S rigs /year drill schedule // Based on internal study, 70% of total U.S. resource comes from near East coast and 30% from near the gulf coast, and the future additional capacity is allocated using a similar ratio. 2. Based on Jan / Feb 2022 data. 3. Electricity generated from LNG can be calculated using gas production multiplied bylbcf = 136.3GWh conversion factor, CO2 emission saving from coal-to-LNG is 0.56 MtCO2e/TWh, and total emission saving can be derived from multiplying electricity generated by CO2 saving factor; includes emissions reduction due to LNG Export Facilities under construction.

Source: EIA Natural Gas Consumption by End-Use Sector and Census Division for local consumption, Enverus for gas production potential in U.S., EQT analysis.

THE INDUSTRY IS READY TO EXECUTE TODAY

Unleashing LNG Requires No Taxpayer Funding, With Activity Levels In-Line With Historic Pace



Upstream

Add Just 50 Rigs

> \$500bn in well development, funded by industry



6,500 mi¹

> \$75bn of pipeline infrastructure, funded by industry



LNG Terminals

Export Capacity +40 Bcfd

> \$245bn of LNG facilities, funded by industry

- The U.S. natural gas industry stands ready to execute on this project today
- We have the resources, labor, capital, materials, and funding
- We need the green light: a prioritization of pipeline and LNG infrastructure

1. Based on capacity of the 42-inch pipe, a total of ~20 pipelines are needed, and the length of each pipe varies from 250-350 mi based on map distance estimation. The summation of all pipeline length is 6,500 mi

Point forward the total capex investment required is \$800+bn by 2030.

Source: Government of Canada (Canadian LNG project), EPI, Cleveland State University Shale investment in Ohio, ICF North America Midstream Infrastructure through 2035, team analysis, economy policy institute.

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THE COALITION:

INFLUENCE DOMESTIC POLICY TO DRIVE GLOBAL CLIMATE SOLUTIONS

Responsible energy companies, climate advocates, labor unions and American consumers are working together to promote U.S. policies that reduce global greenhouse gas emissions by developing the infrastructure needed to increase production and support the export of clean natural gas

The principles of the coalition are four-fold:

- 1. REPLACE INTERNATIONAL COAL with a reliable, abundant supply of U.S. natural gas
- 2. INCREASE THE SUPPLY OF ENERGY to reduce inflationary costs that drive up energy prices and hold back the transition to renewables
- 3. HELP COUNTRIES MEET THEIR EMISSIONS REDUCTION TARGETS set out in the Paris Climate Accords
- 4. ADDRESS THE NEEDS OF OUR ALLIES in the European Union in the wake of the Russian invasion of Ukraine by providing new, cleaner energy sources



NATURAL GAS CAN HELP REDUCE EMISSIONS

65% 64% Of all respondents Of Democrats

67%

Believe increased production of natural gas can help the world address climate change by reducing emissions

AMERICANS FAVOR A STEADY ENERGY TRANSITION

65%

60%

Of Democrats

Of Younger Democrats

Of Independents

Favor a steady transition to cleaner energy sources using any option currently available to keep energy affordable and reliable, even if they aren't completely renewable

MOST AMERICANS SEE THE NEED FOR INCREASED INFRASTRUCTURE

Understanding the lack of pipelines is an obstacle to increasing natural gas production, 73% of respondents including: 70% 67% Of Independents Of Democrats

Support building new pipelines

INCREASED NATURAL GAS PRODUCTION IS POPULAR AMONG ALL GROUPS

Nearly 70% of all respondents support increasing natural gas production, including:

65% 67% Of Democrats

Independents

AMERICANS ARE ALREADY ON BOARD

A strong majority (61%) of voters see increasing natural gas production as better for the environment, as it will reduce reliance on coal and oil

65% of Americans favor a steady transition to cleaner energy sources using any option currently available to keep energy affordable and reliable, even if they aren't completely renewable

64% of voters want to see natural gas used more often as a source of energy, ranking slightly behind only renewables, like solar and wind

Understanding that a lack of pipelines is an obstacle to increasing natural gas production, 73% of respondents support building new pipelines

By double-digit margins, voters across party lines say they'd be more likely to vote for a candidate who supports an increase in natural gas production

FOUNDING MEMBERS



SUPPORTING MEMBERS



ADVISORY COUNCIL



Naomi L. Boness, Ph.D.

Executive Director of the Energy

Program, Bipartisan Policy Center

Richard L. Morningstar

Managing Director, Stanford Natural Gas Initiative and Stanford Hydrogen Initiative Stanford University





Founding Chairman, Global Energy

Sasha Mackler

Center, Atlantic Council and former U.S. Ambassador to the European Union

Paul Bledsoe

Strategic Advisor: Climate, Energy, Economics, Progressive Policy Institute



Alex Herrgott

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Mark McManus

General President, United Association

James T. Callahan

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