

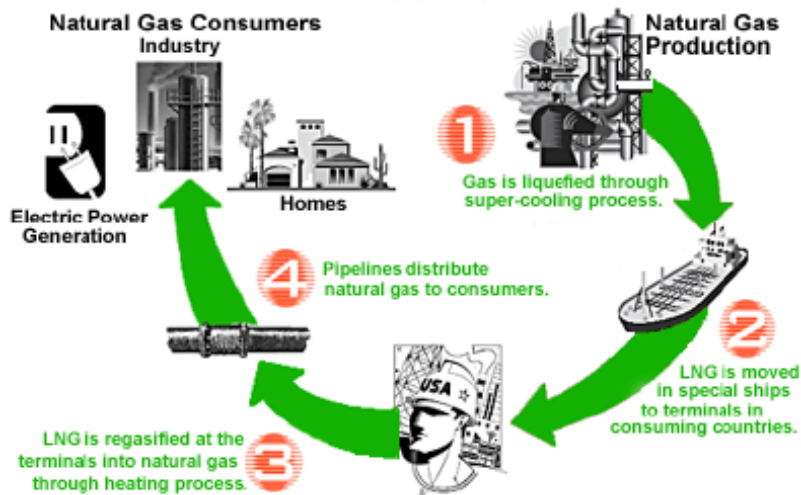
Exporting Liquefied Natural Gas (LNG) Is Bad For The Climate

By **Joe Romm** on Jun 18, 2012 at 12:27 pm

<http://thinkprogress.org/climate/2012/06/18/500954/exporting-liquefied-natural-gas-lng-is-bad-for-the-climate/>

The surge in U.S. production of shale gas is creating a surge in permit requests to build liquefied natural gas (LNG) terminals. That's because the glut of U.S. gas has dropped domestic prices sharply below global price levels.

How LNG Reaches Consumers



But if avoiding catastrophic climate change is your goal, then spending huge sums on even conventional natural gas infrastructure is not the answer, as a recent International Energy Agency report made clear:

The specific emissions from a gas-fired power plant will be higher than average global CO2 intensity in electricity generation by 2025, raising questions around the long-term viability of some gas infrastructure investment if climate change objectives are to be met.

And liquefying natural gas is an energy intensive and leaky process. When you factor in shipping overseas, you get an energy penalty of 20% or more. The extra greenhouse gas emissions can equal 30% or more of combustion emissions, according to a 2009 Reference Report by the Joint Research Centre of the European Commission, *Liquefied Natural Gas for Europe – Some Important Issues for Consideration*.

Such extra emissions all but eliminate whatever small, short-term benefit there might be of building billion-dollar export terminals and other LNG infrastructure, which in any case will last many decades, long after the electric grid will not benefit from replacing coal with gas.

Furthermore, the U.S. Energy Information Administration concluded in [a 2012 report](#) on natural gas exports done for DOE's Office of Fossil Energy that such exports would also increase **domestic** greenhouse gas emissions:

[W]hen also accounting for emissions related to natural gas used in the liquefaction process, additional exports increase CO2 levels under all cases and export scenarios, particularly in the earlier years of the projection period.

Asserting any net benefit for the importer requires assuming the new gas replaces only coal — and isn't used for, say, natural gas vehicles, which are [worse for the climate](#) or that it doesn't replace new renewables. If even a modest fraction of the imported LNG displaces renewables, it renders the entire expenditure for LNG counterproductive from day one.

Remember, a major new 2012 *Proceedings of the National Academy of Sciences* study on "technology warming potentials" (TWPs) found that a big switch from coal to gas would only reduce TWP by about 25% over the first three decades (see "[Natural Gas Is A Bridge To Nowhere Absent A Carbon Price AND Strong Standards To Reduce Methane Leakage](#)"). And that is based on "EPA's latest estimate of the amount of CH4 released because of leaks and venting in the natural gas network between production wells and the local distribution network" of 2.4%. Many experts believe the leakage rate is higher than 2.4%, particularly for shale gas. Also, recent [air sampling by NOAA over Colorado](#) found 4% methane leakage, more than double industry claims.

A different 2012 study by climatologist Ken Caldeira and tech guru Nathan Myhrvold finds basically no benefit in the switch whatsoever — see [You Can't Slow Projected Warming With Gas, You Need 'Rapid and Massive Deployment' of Zero-Carbon Power](#).

So spending vast sums of money to export natural gas from this country is a bad idea for the climate. A new paper published last week by Brookings's Hamilton Project, "[A Strategy for U.S. Natural Gas Exports](#)," asserts a different conclusion, primarily because it ignores all of the issues discussed above. Indeed, the paper rather amazingly asserts "Natural gas, though, has the same climate consequences whether it is burned in the United States, Europe, or Asia," which would be true for exported U.S. gas only if we could use magic to take the U.S. shale gas and put it into European or Asian gas-fired power plants. In the

real world, it takes a massive amount of energy and greenhouse gas emissions to get gas from here to those markets, as is well known in the climate policy arena.

BOTTOM LINE: Investing billions of dollars in new shale gas infrastructure for domestic use is, at best, of limited value for a short period of time **if** we put in place both a CO2 price and regulations to minimize methane leakage. Exporting gas vitiates even that limited value and so investing billions in LNG infrastructure is, at best, a waste of resources better utilized for deploying truly low-carbon energy. At worst, it helps accelerate the world past the 2°C warming threshold into *Terra incognita* — a planet of amplifying feedbacks and multiple simultaneous catastrophic impacts.

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