



Established 1771

CHATHAM COUNTY COMMISSIONERS

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COUNTY MANAGER

Renee Paschal

P. O. Box 1809, Pittsboro, NC 27312-1809 • Phone: (919) 542-8200

Resolution of the Chatham County Board of Commissioners

RESOLUTION TO SLOW THE CLIMATE CRISIS BY REDUCING METHANE EMISSIONS FROM NATURAL GAS SYSTEMS

WHEREAS, an unprecedented, three-year global heat wave,ⁱ ongoing sea level rise and increasingly intense weather extremes are adversely affecting communities, wildlife and property in North Carolina and around the world;ⁱⁱ

WHEREAS, we are quickly running out of time to slow this enormous challenge before it accelerates under its own momentum beyond our control;

WHEREAS, methane has a significantly greater global warming potential than carbon dioxide,ⁱⁱⁱ and in the opinion of some leading researchers, has become the driving force behind the rapid heating of the planet;^{iv}

WHEREAS, large amounts of natural gas – which is mostly methane – are being vented and leaked directly into the air from various gas equipment, with emissions measured at rates of up to 12% of the total gas produced by wells using fracking technology;^v

WHEREAS, some researchers believe that methane emissions are increasing rapidly and the increases are largely due to US fracking^{vi} and utilities' expanded use of gas to generate electricity;^{vii}

WHEREAS, methane emissions and leaks from oil and gas extraction are largely unregulated at the Federal level and the US EPA has announced an intention to delay regulation further;^{viii}

WHEREAS, reducing methane emissions can be achieved quickly and cost-effectively while creating thousands of jobs;^{ix}

WHEREAS North Carolina has been a leader in pursuing renewable and carbon-free energy;^x and

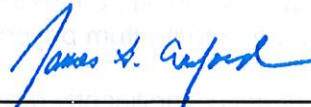
WHEREAS, immediately reducing methane emissions from US natural gas systems can help slow global warming, and provide time to replace fossil fuels with cheaper clean energy such as solar, wind, biofuel, and storage technologies;^{xi} now therefore be it

RESOLVED that the Chatham County Board of Commissioners recommends that North Carolina Governor Roy Cooper appoint a panel of experts to consider and report on measures to reduce methane emissions and move North Carolina towards carbon-free and renewable energy, including the following actions:

1. Analysis and findings, delivered by December 31, 2017, identifying the sources of natural gas used in North Carolina and the quantities of natural gas originating from fracking operations that are used in or transported through North Carolina, and the regulations that apply in the States of origin;
2. Recommended policies, delivered by December 31, 2018 to ensure that natural gas used in or transported through North Carolina is produced in a manner that minimizes and controls methane emissions associated with its production, transportation, and end use; and
3. Findings and recommendations by December 31, 2018, as to whether there is a need for new natural gas-fired power plants or pipelines to be constructed in North Carolina, given the availability of carbon-free and renewable energy in the State, and impacts a moratorium on new gas power plants and pipelines in North Carolina would cause.

This resolution is effective upon adoption.

Adopted, this the 18 day of September, 2017.



James G. Crawford, Chairman
Chatham County Board of Commissioners

ATTEST:



Lindsay K. Ray, NCCCC, Clerk to the Board
Chatham County Board of Commissioners



ⁱ NOAA and NASA reported that 2016 was the hottest year on record for the global average, the third consecutive record-setting year. "Earth sets heat record for third straight year," Associated Press, January 19, 2017.

ⁱⁱ "Global warming's fingerprints seen in 24 weird weather cases," Associated Press, December 15, 2016.

ⁱⁱⁱ US Environmental Protection Agency, in discussing the Intergovernmental Panel on Climate Change Global Warming Potential estimates notes, "*Because all GWPs are calculated relative to CO₂, GWPs based on a shorter timeframe will be larger for gases with lifetimes shorter than that of CO₂, and smaller for gases with lifetimes longer than CO₂. For example, for CH₄, which has a short lifetime, the 100-year GWP of 28–36 is much less than the 20-year GWP of 84–87*". See <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials#Learn why>.

^{iv} Dr. Robert Howarth from Cornell University stated at a December 13, 2016 press conference, "So the take-home message is that shale gas and shale oil development in the United States is having a demonstrable effect on atmospheric methane and that is causing the increased rate of global warming we're seeing." Leading climatologist James Hansen has said. The growth rate of climate forcing due to human-caused greenhouse gases (GHGs) increased over 20% in the past decade mainly due to resurging growth of atmospheric CH₄, thus making it increasingly difficult to achieve targets such as limiting global warming to 1.5°C or reducing atmospheric CO₂ below 350 ppm". James Hansen, et al., "Young People's Burden: Requirement of Negative CO₂ Emissions,"

Earth System Dynamics, October 4, 2016.

^v Fracking for natural gas leads to an average of 5.8% of natural gas produced leaking into the atmosphere over the lifetime of the well. Dr. Drew T. Shindell, Duke University, "The social cost of atmospheric release," *Climatic Change*, May 2015. However, methane emissions rates have been observed to be as high as 12% over the supply chain from well head to power plant. Dr. Robert W. Howarth, Cornell University, "Methane emissions: The greenhouse gas footprint of natural gas," September 2016.

^{vi} See reference to Dr. Howarth in #4 above. Over two-thirds of all natural gas produced in the US now comes from wells that have been fracked (drilled using hydraulic fracturing). US Energy Information Administration, "Hydraulically fractured wells provide two-thirds of US natural gas production," May 5, 2016.

^{vii} The electric power industry accounted for 35% of US natural gas consumption in 2015. US Energy Information Administration, "Natural gas explained: Use of natural gas," October 18, 2016.

^{viii} EPA has proposed to stay Oil and Gas Standards for two years, 82 FR 27645, June 16, 2017. However some States are moving forward with regulations. Ziogiannis, Nikolaos, et al. "State regulation of unconventional gas development in the US: An empirical evaluation." *Energy Research & Social Science* 11 (2016): 142-154.

^{ix} A 2014 study prepared for the Environmental Defense Fund found that over 76 firms in the US – most of them small businesses – provide methane mitigation technologies and services. Datu Research, *The Emerging US Methane Mitigation Industry*, October 2014. Another 2014 Environmental Defense Fund study found that a 40% reduction of onshore US methane emissions is achievable with existing technologies and techniques and would save the US economy and consumers \$100 million per year. ICF International, *Economic Analysis of Methane Emission Reduction Opportunities in the US Onshore Oil and Natural Gas Industries*, March 2014.

^{x x} North Carolina State Profile and Energy Estimates, U.S. Energy Information Agency, <https://www.eia.gov/state/?sid=NC>.

^x North Carolina ranks third among States in potential to create biogas. Biogas Potential in the United States, National Renewable Energy Laboratory, US Department of Energy, <http://www.nrel.gov/docs/fy14osti/60178.pdf>.

^{xi} Cornell University's Dr. Howarth has repeatedly said that, "The climate responds very quickly to methane, so if we reduce our methane emissions from shale gas now, we will slow the rate of global warming, in fact, that is the only way to avoid irreversible harm to the climate." Dr. Robert W. Howarth, Cornell University, "Methane emissions: The greenhouse gas footprint of natural gas," September 2016.