10 September 2021

Before the Oregon Public Utilities Commission

UM 2187 Natural Gas Fact Finding Per EO 20-04 PUC Year One Work Plan

A Little Cooperation from Public Utilities

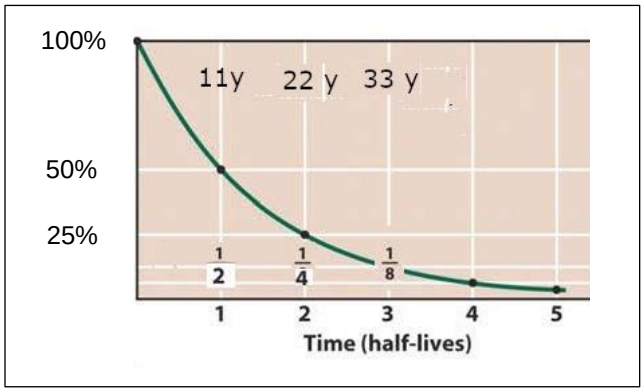
In Oregon our legislators just passed 2021 HB 2021 which calls for steady growth in clean energy from regulated public utilities. Perhaps it is not widely recognized that the basic commitments in this bill were decided and released by an energy utility 3 months before the 2021 session even opened in Salem. This could indicate the onset of an encouraging trend toward self-regulation for the common good, assuring long term investment commitments for investor-owned utilities: zero greenhouse gas (GHG) emissions by 2040. [1]

Natural gas utilities have a similar opportunity if they follow the current business and science trends. The motivation to curtail pervasive methane releases is increasing every day. There are several reasons for this:

1. Methane chemical properties.
2. Methane handling infrastructure.
3. Public health awareness.

Methane Properties

In addition to being a convenient source of energy methane (CH4) dissipates relatively rapidly when released to atmosphere. In 11 years its concentration declines 50%, and another 50% in another 11 years. This happens with no industrial effort because it is a basic chemical property of the material. Termed "half-life," this characteristic is depicted in the following graphic.



Another characteristic is important. As a GHG, methane's heat-forcing property is generally accepted to be more than 80x that of CO2. The half-life of CO2 is 300-1000 years (NASA). If carbon emissions are excessive, which carbon emissions would need first attention?

1 **Portland General Electric Clean Energy, 2020,** https://portlandgeneral.com/news/2020-11-18-portland-general-electric-aims-for-companywide-net-zero

Methane Infrastructure.

Prospecting for, locating, extracting, conditioning, compressing, storing, compressing and metering of methane is not new. Costs for supplying methane for grid generation, industrial processes and to home appliances must include maintenance of safe methane handling infrastructure, noting of course that leaks pose health and environmental risks. This recent report from the California Energy Commission expresses concerns about infrastructure maintenance cost penalties.[2]

Public Health

Regardless of one's age a foremost life-lessons today is the demographic loss of life seen from the COVID pandemic. Economic impacts have been unavoidable, whether from precautionary government directives or the relentless costs of emergency medical relief. Not just logistics at scale but the excessively debilitating demands taken on by medical staff whose professional commitments obligate them to service beyond that required of any other profession.

A recent medical journal now recognizes that the public heath demands from climate degradation will exceed that of the 2020 pandemic experience. Climate change is 'greatest threat' to global public health, impossible to reverse say 200 medical journals.[3]

What Natural Gas Utilities Can Do

Acknowledge even more than medical science that it is the same physical science that made natural gas a marketable commodity (geophysics, geology, acoustics, metallurgy, organic chemistry, data mining, instrumentation, compressor/turbine engineering, market modeling) now repeatedly cautioning about the emissions of excess greenhouse gases.[4]

Rather than resist accepted fact, there is an opportunity to transition to technology and services that obviate the need for methane extraction and risky consumption. Barriers can be overcome to develop abundant green hydrogen sources and gas storage that can fuel hydrogen grid generation. Electrolytic hydrogen generation and transport require no new science. Neighborhood ground-source heat pump networks are extremely efficient. Natural gas utilities can be recognized for restoring nature, not claiming it as a justification for pollution.

Embracing the need for an early transition to clean technologies and zero-carbon business models will credit the gas utilities with offering the first and best climate solution: large scale methane decline.

---

2 **The Challenge of Retail Gas in California's Low-Carbon Future, 2020,** https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf

3 **Market Watch – Public Health Threat, 2021**, https://www.marketwatch.com/story/climate-change-is-the-greatest-threat-to-global-public-health-and-will-be-impossible-to-reverse-say-200-medical-journals-11631050865

4 **IPCC Climate Report 'Code Red for Humanity,' 2021,** https://www.un.org/press/en/2021/sgsm20847.doc.htm

Natural Gas Offers a Natural Solution

What GHG gas reduction can be achieved by methane abatement? In the first 22 years, the average CH4 natural decline is 100 – 25 = 75%. This is the same as a GHG reduction of …

75%/22 = 3.4% per year. A natural climate solution, letting nature do the work.

Controlling methane is hardly a new solution to intercept the root cause of threats to climate.[5]

If financial incentives are found to be necessary, those offered during the COVID crisis to medical professionals are a good precedent.

Tracy Farwell, Sustainability Desk

Ed Averill, Science Desk,

Better Energy LLC

5 **Control methane to slow global warming — fast, 2021**, https://www.nature.com/articles/d41586-021-02287-y