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Texas State Geologist Scott Tinker on Solving Climate Change and Energy Poverty David Middleton / November 9, 2019

Guest geology by David Middleton

I spent the past couple of days in Austin, Texas attending the annual meeting of the Applied Geodynamics Laboratory (AGL). The AGL is part of the Bureau of Economic Geology (BEG) in the Jackson School of Geosciences at the University of Texas at Austin. The AGL was established to study salt tectonics. Salt tectonics (AKA halokinesis) is particularly relevant to oil & gas exploration because many of the most prolific hydrocarbon basins also happen to be salt basins. The AGL is sponsored by numerous oil companies and geophysical contractors, including my employer. I've previously written about one of AGL's founders, the late Martin Jackson.

The first session yesterday was kicked off by Dr. Scott Tinker, Texas State Geologist and Director of the BEG, whose presentation centered on climate change. Since UT and Austin are deep in the heart of the Peoples Republic on Travis County, this wasn't surprising. What many people may find surprising is that Dr. Tinker's position was that energy, economics and environment were inextricably linked. Without energy, a society cannot have the means to protect the environment. I wish I had a transcript of his talk or had thought to record it. Dr. Tinker is undoubtedly a "lukewarmer" (as am I)... But he clearly gets the fact that energy poverty is far more dangerous than climate change. He stated that our industry is "getting killed on social media" and that it was our job as geologists to set the record straight. He closed his remarks by saying, "When someone asks you what you do, reply with 'I work in the oil & gas industry, I lift people out of poverty. What do you do?'"

Dr. Tinker is an advocate of N2N (natural gas to nuclear) and chairman of the Switch Energy Alliance. He recently authored an OpEd on carbon pricing in UT News...

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Aug 23, 2019 Carbon Pricing Is Not a Fix for Climate Change

By: Scott Tinker

There is much talk today about carbon pricing to reduce CO2 emissions and address climate change. Unlike many environmental pollutants that have a local or regional impact, carbon dioxide (CO2) is global — there is only one atmosphere. If actions taken to reduce atmospheric emissions in one region result in increased emissions elsewhere, then the one atmosphere suffers.

Some form of carbon pricing — carbon tax, carbon trading, carbon credits — is favored by many politicians, NGOs, academics and even some in industry. But the reality is that a price on carbon will not be imposed by developing and emerging economies because it makes their energy more expensive, and they are too busy trying to build their economies and lift themselves from poverty.

In the developed world, carbon pricing increases the cost of manufacturing and products, which in turn drives manufacturing to developing nations where it is more affordable because of lower labor costs and less stringent environmental regulations and emissions standards. Global emissions rise in the one atmosphere.

Said differently, the good intentions of carbon pricing have an unintended negative impact on climate change. This is not hypothetical. It is happening.

If carbon pricing won't work, what will? Energy science tells us how to actually lower CO2 emissions into the one atmosphere in the time frame needed. Unfortunately, those who are the most passionate about addressing climate change seem to not like the answers from the energy experts.

[...]

So what options does energy science suggest will have a major impact on climate change?

Natural gas and nuclear replacing coal for power generation in major developing nations such as India, China and Vietnam would have a major impact. Carbon capture, utilization and storage; direct carbon capture from the atmosphere; and perhaps nature-based solutions such as increasing the size of forests would help, especially in fossil fuel producing regions such as the U.S., Russia, China and the Middle East.

[...]

These scientifically sound and economically underpinned energy solutions present a problem. Many are not favored by people who are the most concerned about climate change. Thus, politicians seeking climate votes continue to passionately promote programs and policies that won't actually address climate change.

But we have a remarkable opportunity. The right can acknowledge the need to tackle climate change. The left can acknowledge the energy science needed to accomplish real global emissions reductions into the one atmosphere. And developing and emerging nations can continue to climb out of energy poverty.

Unfortunately, this appears to be far from happening. Climate politics seems to trump energy solutions in Europe and the U.S., and the developing world continues to burn coal.

Scott Tinker is the Allday Endowed Chair of Subsurface Geology and director of the Bureau of Economic Geology at The University of Texas at Austin.

— UT News

While the "need to tackle climate change" is debatable, the only effective methods of reducing carbon emissions, while maintaining our liberty and prosperity, while also lifting about 3 billion people out of energy poverty are:

- Natural Gas
- Nuclear Power
- Carbon Capture Utilization and Storage (CCUS)

This is a far bigger problem than climate change will ever be...

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 billion people live in the world without access to electricity.
 billion people have inadequate, unreliable electricity
 billion people live without access to modern cooking energy.
 million people die annually due to cooking over wood, charcoal, or dung.

Scientific American

And this is the most cost-effective solution to both the real problem of energy poverty and the potential mild annoyance of climate change...

Natural gas benefits

- Cook stoves improve indoor air quality
- Lower emissions than coal for electricity generation
- Economic building blocks in petrochemical
- Improved agriculture potential with fertilizers
- Improved emissions over gasoline and diesel in transportation

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It is also undeniable that "those who are the most passionate about addressing climate change seem to not like the answers" and "politicians seeking climate votes continue to passionately promote programs and policies that won't actually address climate change."

It truly is a Bizarro World... Those who consider climate change to be an existential threat are least likely to support natural gas, nuclear power and CCUS. Instead they support Green New Deals that would destroy our economy and have no affect at all on the weather. Through increased use of natural gas, nuclear power and CCUS, we could actually make a serious dent in carbon emissions and help lift billions of people out of poverty without any self-inflicted economic damage.

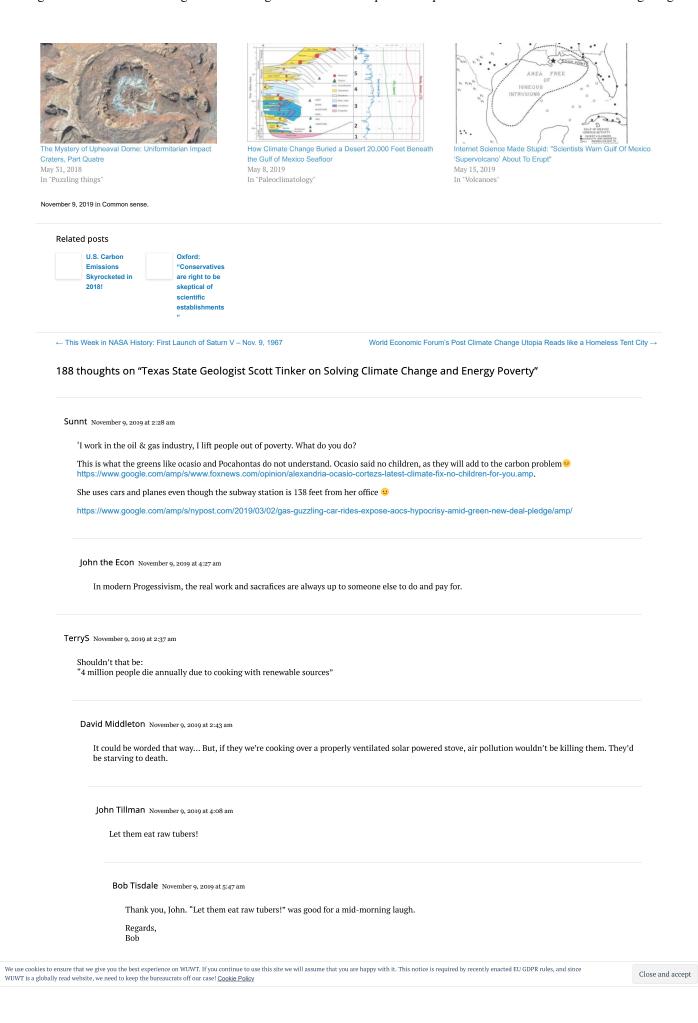
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Scientific American



Sci3301 November 9, 2019 at 5.50 am	Scissor	November 9, 2019 at 5:56 am
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Those people have big lunches because breakfast and dinner are cold. Also, they tend to burn things on one side, e.g. top of pizza, and just when you would like to have a hot bowl of soup on a gloomy day, it's back to burning dung.

Greg November 9, 2019 at 8:09 am

" and the potential mild annoyance of climate change...

I nice concise statement of the lukewarmist view. I'l buy that.

Richard Greene November 9, 2019 at 1:32 pm

I normally have no respect for "luke warmers" because they always seem to be compromising, and trying to please everybody, while actually pleasing no one.

But that general opinion changed today.

The article is well written and makes very important points.

If Scott Tinker, the Allday Endowed Chair of Subsurface Geology and director of the Bureau of Economic Geology at The University of Texas at Austin, is a luke warmer, then is is one smart luke warmer, and must have a huge business card too.

Geologists are real scientists.

Most "climate scientists" are politicians.

How many geologists does it take to screw in a light bulb? Answer: One

How many "climate scientists" does it take to screw in a light bulb? Answer: Eight One to supervise (a union man)

One to climb up the ladder with a light bulb (a union man)

Four to lift the ladder, and turn it in circles (all union men)

One activist, lecturing office workers in the area who are watching, about climate change and LED light bulbs

One politician, giving a speech to CNN reporters, who just happened to be there, about his leadership in replacing a regular old incandescent light bulb, with a "green" LED bulb

David Middleton November 9, 2019 at 3:59 pm

Some geologists are politicians... And some climate scientists are scientists.

One of the things I noticed at the AGL was the fact that the academic geologists with industry experience seemed to be more focused on results... But the pure academics certainly had informative presentations... Of course, apart from Dr. Tinker's introductory remarks, all of the presentations dealt with salt tectonics, including a really cool presentation on the pre-salt paleogeography and paleoclimatology of the Gulf of Mexico.

beng135 November 10, 2019 at 8:08 am

I dunno, Richard. I'm an engineer & kinda choked on his "direct carbon capture from the atmosphere...." Might as well burn money.

David Middleton November 10, 2019 at 9:41 am

DAC can actually be used for EOR or to generate synthetic fuels... Although the economics suck at current oil price levels.

CCS and DAC, without utilizing the CO₂, don't make economic sense under any conditions... unless government imposes massive carbon taxes.

Erny72 November 10, 2019 at 12:02 pm

Beng135; "...Might as well burn money..." David; "...CCS and DAC, without utilizing the CO2, don't make economic sense under any conditions... unless government imposes massive carbon taxes." Both of which accurately describe the CCS 'value chain' envisaged in Europe.

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12/12/2019, 2:34 PM

dodgey CO2 trading scheme (and one has to permanently remove CO2 from circulation to obtain the corresponding tax credits). Even with recent efforts to recucsitate the flacid CO2 trading scheme in Europe, in their occassionalmoments of honesty, champions of the CCS 'value chain' will admit that the carbon (dioxide) price would have to at least triple for anyone to 'create' a business out of injecting thin air underground, literally out of thin air. 'Tis why EU towers in Brussels is crawling with big oil lobbyists and other related green gobshites begging for a higher 'price on carbon' and for the donation of sums of other people's money to pay the intial cost of establishing a new, lucrative (if the price is right) parasite business of collecting thin air from industry and sweeping it under the rug. For the politicaians, the benefit appears to be in convincing the more gullible voters that they're all bravely saving the planet and are creating some of these mythical 'green jobs', presumably there are also some new committees to chair or oversight departments to manage.

An idea of the imagined opportunity can be gleaned here:

https://blog.sintef.com/sintefenergy/ccs/industrial-opportunities-and-employment-prospects-in-large-scale-co2-management-in-norway/ which seems to avoid the obvious question; faced with the needless expense of a CO2 'value chain' (in addition to already being foisted with an uncompetative workforce, excessive rates of taxation and onerous red and green tape) won't what's left of European industry either die or simply relocate to China, India or Africa?

As for CCUS (CO² based IOR), well what remains of the oil industry in Europe isn't about to spend money buying expensive liquified thin air for IOR, quite aside from the inability to dodge some carbon (dioxide) tax, you can obtain seawater for free or use some cheap associated gas to inject into your offshore oil reservoir for pressure recovery. And in any case, the European oil industry faces an uncertain future once the school strike generation and their immediate elders become 'representatives' of their electorates. As for pipe-dreams of direct carbon (dioxide) capture from atmosphere; would that not be most cost effectively achieved by simply planting some fricken trees? (yes, I know, there isn't much grant money or gandiose virtue signalling value in something as simple as planting a tree or two).

beng135 November 11, 2019 at 5:50 am

I'm sure both responses noted I commented on direct capture.

As I recall, the CO2 in coal flue-gas was something like 12 -14%. Compare that to .04% for air. I won't bother to calculate, but safe to say orders of magnitude difference. CCS on coal plants is a very big parasitic load as it is, but I still see David's point from previous posts that it can be useful in certain circumstances. But DAC? Not even considering the infrastructure, the amount of electricity (where's THAT going to come from?) required to extract & process any significant amount would be astonishing.

David Middleton November 11, 2019 at 7:46 am

I recently did the math on a process currently being shopped to investors. IIRC, it might make sense if oil was \$250/bbl.

DAC really requires a value for simply removing CO₂ from the air. I don't think the 45Q tax credit gets it there.

It all depends on ho stupid our government gets on this issue... And it appears to me that over time, it will get increasingly stupid.

Bob Shapiro November 12, 2019 at 7:23 am

Some power plants are starting to use O2 concentration units, with the 'pure' O2 used to burn natural gas (or coal) at a much higher and more efficient temperature. The exhaust from burning gas in O2 is CO2 and water, both of which can be recovered relatively easily.

CCUS in this kind of power plant can make sense, since the capture portion is not prohibitively expensive.

Johann Wundersamer November 21, 2019 at 5:39 am

The collusion does it:

"4 million people "cooking over a properly ventilated solar powered stove, air pollution wouldn't be killing them" die annually due to cooking with renewable sources".

Hallelujah collusion.

ghalfrunt November 9, 2019 at 2:53 am

you need to address poverty before suggesting using electricity or gas for cooking.

Who is going to pay for the gas pipeline to those using dung for cooking? Who is going to pay for the electricity grid to isolated communities? Who is to pay for the policing of the gas/electricity grid (unsafe tapping of oil pipelines occurs NOW?

Where is the water to come from if localised generation?

How are the end users going to pay for the energy they use?

Unfortunately localised solar generation will probably not be able to support electric cookers but of course would easily provide lighting and power for computers/phones

David Middleton November 9, 2019 at 3:06 am

In many of these nations_natural case won't be the immediate answer. Coal-fired thermal plants will be the answer.
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UWT is a globally read website. These nations will need to crean up corruption and begin to responsibly develop their resources. Resource development or mass

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