

Big Media

Scientific and realistic views on climate policy – a lesson from Scott Tinker

By

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We are constantly bombarded with contradictory views not only on the magnitude and effects of future climate changes, but on the best ways to address the issues. It is very difficult for even the best-read layperson to make sense of the widely disparate and often hostile viewpoints.

To start out, it is important to distinguish between the scientific investigations addressing climate, and the actions we undertake to deal with climate-related problems. Scientific study has demonstrated that climate is changing, and that humanity has influenced those changes through our many different and environmentally impactful activities. The conclusion that excess emissions of greenhouse gases (GHGs) including carbon dioxide are cause for concern is well founded, and the need for action is generally accepted.

The actions taken to address these concerns are a completely separate issue. While GHG emissions are important, our actions cannot focus entirely on their reduction. Everything we do has other drivers and consequences – environmental, societal, and financial. Planning balanced and measured actions is not “ignoring the science” as some would have it, but is essential to maximizing benefits for people and for the environment.

Recent testimony (February 3, 2021) by Dr. Scott Tinker to the U.S. Senate Committee on Energy and Natural Resources is an excellent viewpoint on supporting development of policies and actions that will be of maximum benefit all around, and which will minimize the infamous “unintended consequences”. [1]

Dr. Tinker is director of the Bureau of Economic Geology in Texas, the state geologist of Texas, and holds an endowed chair at the University of Texas at Austin. He is a highly accomplished scientist and acknowledged leader in the American petroleum geoscience community. Equally important, he is very familiar with policy development and the development of working projects from wells to pipelines. In other words, he understands science, economics, operations, and policy. When he speaks, we should listen.

In reading his testimony, I took away several critically important points that are often overlooked when different factions debate actions around GHG emissions reduction.

The Levelized Cost of Energy (LCOE) measurement,[2] which compares the cost to produce a unit of electrical energy from various sources, is not an adequate indicator of the total cost of electricity to the consumer. Unpredictable, intermittent sources, such as solar and wind, require backup generation and storage capacity that must be included in the overall cost of an energy grid that can deliver power on demand at all times. Tinker distinguishes being “factually complete” versus being “completely factual”. It is “completely factual” that LCOE values for wind and solar power are in some cases equal to or lower than values for gas, coal, hydro, or nuclear. But that observation alone is not “factually complete” because it does not tell the whole story about the costs of reliable power delivery – including backup and storage – which is the primary issue at hand.

China leads the world in developing solar, wind, and electric vehicle (EV) capacity, a fact that is often invoked to imply China is quickly converting to renewables. However, China also leads the world in developing coal-fired generation, nuclear, and will soon be the world’s largest importer of liquefied natural gas (LNG). China seems to do everything it can to develop energy resources; environmental concerns are demonstrably less important.

Every energy source has benefits and negative impacts. Tinker urges us to use factual language such as “lower emissions” or “reduced water impact” instead of “green” and “clean” to reflect such observation accurately. For example, the environmental impacts of the proposed build-out of solar and wind power will be huge in terms of mining, the entire production value chain, and landfill disposal. They are (perhaps) low-emission energy sources once built, but their construction has a large impact on the environment.

The UN goal of reducing GHG emissions by 45% by 2030 (compared to 2010) on the way to net-zero by 2050 will not happen – for a range of reasons including arithmetic, economics, infrastructure, population, per-capita consumption, and extensive benefits of secure energy. I would add to this daunting list bureaucracy, politics, and deal brokering that accompany any actions involving government.

The best action we can take to avoid negative environmental effects is efficiency – simply using less. Countries in which citizens earn comparatively high income have shown no appetite for that, and it is difficult to see that changing.

Actions we take in the high-income world to reduce GHG emissions often result in off-shoring high-emission activities. This translates to no net decrease (often an increase) in global emissions. And global is the critical category, of course.

Dr. Tinker closed his testimony with a number of suggestions for the most effective actions to minimize emissions growth while maximizing benefits to humanity and the environment overall. He sees actions as being more important than pledges or commitments – because making pledges is simply “good business” for government and industry alike. Directing and initiating effective actions are far more difficult tasks.

Here is a snapshot from the end of the Tinker testimony transcript:

“Let’s converge on a plan that provides equitable energy access globally, and addresses not only emissions, but all environmental impacts. That plan should focus on some key CO2 solutions and do several things:

- Reduce actual CO2 emissions into our single global atmosphere
- Protect the rest of the environment
- Be affordable, dispatchable, and scalable
- Be deployed, or deployable, in the next two decades
- Protect U.S. security and the U.S. economy
- And lift the world from energy and economic poverty

Fortunately, solutions exist. Options you have heard from other witnesses are remarkably consistent:

- Switching from coal to natural gas, especially in Asia. If Asia doesn’t act, it won’t matter.
- Preserve the nuclear fleet in the U.S. and support nuclear globally, especially small modular reactors, and streamline deep borehole disposal.
- Accelerate efficiency across all U.S. and global sectors.

Natural gas, nuclear efficiency, in partnership and supplemented by solar and wind, CCUS (carbon capture, utilization, and storage), hydro, geothermal, hydrogen and others provide dispatchable, reliable, affordable energy today, and preserve industry and grow higher-wage jobs.

The U.S. can lead through investment in technology, federal and state incentives, and efforts to find scalable, affordable, timely solutions. Although tempting, we must resist well-intended efforts to restrict market optionality, which often result in unintended consequences.”