

## Testimony of Cyrus C. Taylor, PhD

Before the Senate Workforce and Higher Education Committee

Senator Jerry Cirino, Chair

April 18, 2023

Chairman Cirino, Vice Chairman Rulli, Ranking Member Ingram, and Members of the Workforce and Higher Education Committee:

My name is Cyrus Taylor, and I am the Albert A. Michelson Professor in Physics at Case Western Reserve University. I founded our Science and Technology Entrepreneurship Program nearly two decades ago and served as Dean of CWRU's College of Arts and Sciences from 2006 through 2018. Since then, I have focused on issues related to climate change. I created our introductory course on climate change, PHYS/EEPS 260 "Introduction to Climate Change: Physics, Forecasts, and Strategies." I do not represent Case Western Reserve University but rather am submitting testimony as a private citizen in opposition to Senate Bill 83.

I would like to focus my remarks today on the implications of Sec. 3345.0127(A)(1) arising from its inclusion of "climate change" as an example of a "controversial belief or policy".

As with many aspects of Senate Bill 83, the scope of the alleged controversy is unclear as the term "climate change" is not defined in the Bill. The term "climate change" was not mentioned by Chairman Cirino in his sponsor testimony at the Committee's March 22, 2023 hearing, nor is mentioned in any of the testimony presented by proponents of the Bill at the Committee's March 29, 2023 hearing.

Chairman Cirino has been quoted in an article by Kathiann Kowalski in the Energy News Network as saying that "it was his idea to include climate change as a "controversial" belief or policy, and that he "didn't actually consult with climate people... What I think is controversial is

different views that exist out there about the extent of the climate change and the solutions to try to alter climate change.”

Different views certainly exist – I am reminded of some of the citizens testifying at the March 10, 2023 meeting of the Northeast Ohio Areawide Coordinating Agency who appeared to passionately believe in the chemtrails conspiracy theory. Such beliefs are dangerous to the extent that they impact public policy, but they do not mean that the science is controversial, any more than flat-earthers or moon-landing deniers are a reason to label gravity as controversial.

The science is clear. The Intergovernmental Panel on Climate Change recently summarized the findings of its Sixth Assessment report, representing the work of thousands of scientists and approved by all 195 member nations, as follows (in part):

- Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020...
- Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe...
- Continued greenhouse gas emissions will lead to increasing global warming, with the best estimate of reaching 1.5°C in the near ... Every increment of global warming will intensify multiple and concurrent hazards...
- Some future changes are unavoidable and/or irreversible but can be limited by deep, rapid and sustained global greenhouse gas emissions reduction. The likelihood of abrupt and/or irreversible changes increases with higher global warming levels...
- Limiting human-caused global warming requires net zero CO<sub>2</sub> emissions... the level of greenhouse gas emission reductions this decade largely determine whether warming can be limited to 1.5°C or 2°C...

It is also worth remembering that Syukuro Manabe won the 2021 Nobel Prize in Physics ““for the physical modelling of Earth’s climate, quantifying variability and reliably predicting global warming” – work Manabe did in the

1960s and 1970s. This knowledge was not confined to the academic sector: by the early 1980s fossil fuel companies such as Exxon had correctly and independently forecasted the trend we are now on. The science of climate change is not controversial.

There is, however, another dimension to the so-called controversy: manufactured controversy. The underlying strategy was perhaps most succinctly captured in the 1998 American Petroleum Institute “Global Science Communication Team Action Plan.” The essence of the strategy was a survey finding that “When informed that ‘some scientists’ believe there is not enough evidence to suggest that [what is called global climate change] is a long term change due to human behavior and activities,” 58% of those surveyed said they were more likely to oppose the Kyoto treaty.” A particular thrust of the long-term strategy was “informing teachers/students about uncertainties in climate science will begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.

Such efforts continue to this day, and it is in this context that the designation of “climate change” as “controversial” in Senate Bill 83 should be understood. Whatever Chairman Cirino’s intent, it will have the effect of promoting the false talking points of the fossil fuel industry.

There is no doubt that we are in the early stages of a transition to a green, low carbon economy. This will be every bit as transformative as the earlier transitions launched by John D. Rockefeller in 1870 when he founded Standard Oil here in Cleveland, and by Charles Brush when he first demonstrated electric street lighting in Cleveland’s public square in 1879.

Just as those earlier transformations were driven by economics – Brush’s electric lights were cheaper than gas lighting, and Standard Oil’s kerosene was cheaper than whale oil – the transformation to a Green economy will also be driven by economics.

I’m sure, however, that you will recall Larry Householder’s recent conviction for his role in the HB6 bribery scandal. At the heart of the scandal is the fact that the old technologies for producing power are and will increasingly be economically uncompetitive. HB6 thus provided the subsidies for coal burning power plants and gutted Ohio’s clean energy and energy efficiency standards – all in the interests of protecting the

existing uneconomic infrastructure in the face of the coming green transition. Ohio has since doubled down, passing new legislation designed to hinder this transition, culminating in December's law that ludicrously defined natural gas as a "green energy."

The proponents of that bill knew that words matter. They also matter in the context of Senate Bill 83: inclusion of the words "climate change" as a "controversial belief or policy" will send a powerful signal that we as a state do not accept, much less intend to lead, the coming transition. And at a time when our governor is trying to encourage people to move to Ohio, SB 83 will work to the opposite effect: it will make it harder to recruit talented people to move to Ohio, and it will make it easier to lure talented Ohio residents to other regions of the nation.

Our state, which is well poised to be in the vanguard of the new economy – as it was in the 19th century – will instead be left in the dust as the rest of the world laughs at our willful self-destruction.

I thus urge you to remove the words "climate change" from Senate Bill 83.