

8 June 2020

TO: Kristen Sheeran, Energy and Climate Change Policy Advisor to Governor Kate Brown
Janine Benner, Director, Oregon Department of Energy
Members, Oregon Global Warming Commission

FROM: Ernie Niemi and John Talberth

SUBJECT: SOCIAL COST OF CARBON DIOXIDE FOR EO 20-04

We are writing to you today to do two things. One, we compliment you for your efforts to ensure that state agencies incorporate the social cost of carbon dioxide (SCCO₂) into their responses to Governor Brown's EO 20-04. Without this information, they can't describe and measure the economic benefits of emissions reductions. The [Primer on the Social Cost of Carbon](#) the Department of Energy recently prepared and delivered to the Global Warming Commission lays a good foundation. But it does not go far enough. So, two, we encourage you to take the next step: ensure agencies use estimates of the SCCO₂ that reflect the best available science.

The [Primer](#) contains important, but out-of-date, estimates developed in 2013 by the Obama Administration.¹ The actual SCCO₂ is much higher. The [Primer](#) shows the core estimate for emissions in the near future of about \$50 per tCO₂. The most recent peer-reviewed analysis shows a value of \$417 per tCO₂ and cites research that has produced estimates as high as \$1,000.² Forthcoming estimates likely will show even higher values, as the costs of GHG emissions are growing faster than previously expected.³ Hence, if state agencies use the estimates from the [Primer](#), they will seriously understate the potential benefits from reductions in Oregon's emissions and undermine the Governor's goals for EO 20-04.

Recent research drives home another important message: climate risks are high and rising. To assess the risk-related benefits of emissions reductions, i.e., benefits of reducing risks of catastrophic outcomes, agencies must use even higher estimates of the SCCO₂. Several researchers have concluded that the risk-related value is 2X - 6X the expected value of the SCCO₂. Researchers who looked explicitly at the risks associated with ecosystem tipping points concluded the risk-related value is 8X the expected value.⁴

Based on these findings, we recommend you take appropriate actions to ensure that each agency uses estimates of the SCCO₂ that reflect the best available science, even as the science produces new, updated estimates. Moreover, we urge you to recommend to Governor Brown that she direct each agency to account not just for the expected economic benefits of emission reductions but also for the benefits that come from reducing risks of catastrophic climate outcomes. In other words, direct them to do more, not less, to reduce emissions.

Again, we compliment you on the initial steps you've already taken to ensure that agencies describe the economic benefits of emissions reductions.

If you have any questions about how to build on these initial steps, please let us know.

Sincerely,

Ernie Niemi
President, Natural Resource Economics

John Talberth
President, Center for Sustainable Economy

¹ For example, they do not anticipate costs from climate-related infectious diseases as severe as COVID-19, or from changes in the chemistry and biota of the oceans. *See*, for example, Howard, P. 2014. [Omitted damages: what's missing from the social cost of carbon.](#); and Revesz, R.L. 2014. [Global warming: improve economic models of climate change.](#)

² Ricke, K., et al. 2018. [Country-level social cost of carbon.](#)

³ *See*, for example, Ripple, W.J., et al. 2019. [World scientists' warning of a climate emergency](#); Lenton, T.M., et al. 2019. [Climate tipping points – too risky to bet against](#); Beals, R.K. 2019. [Global GDP will suffer at least a 3% hit by 2050 from unchecked climate change, say economists](#); Hibbert, F., and K. Grant. 2019. [Sea levels are rising more than expected, according to scientists](#); Ibbetson, R. 2019. [UN chief warns the climate change 'point of no return is hurtling toward us' and the current response has been utterly inadequate.](#); Irfan, U. 2019. [UN: the world has backed itself into a treacherous corner on climate change.](#)

⁴ Cai, Y., T.M. Lenton, and T.S. Lontzek. 2016. [Risk of multiple interacting tipping points should encourage rapid CO₂ emission reduction.](#)