

Carter: In era of cheap oil, our choices are clear: consume more or spark change

By Emily Carter

January 19, 2016

- Photo: CAROLYN MARY BAUMAN, STF

It's time to break the pattern of oil overconsumption; time to break the pattern of only investing in alternatives only when oil prices spike.

It was as if I was asleep.

For much of my career as a scientist/engineer, I researched problems that intrigued me, such as steel corrosion. But after reading the 2007 Intergovernmental Panel on Climate Change report, I suddenly woke up to the terrible consequences of humanity's use of fossil fuels: rising seas flooding coastlines, extreme heat waves and droughts, and ecosystems collapsing. I became convinced that I should devote my life to finding solutions to climate change.

We've entered a new era of cheap oil. As usual, everyone is thinking just about today - SUVs and trucks are again being bought at a great clip, energy company CEOs who champion sustainable solutions are being fired, energy stocks are tumbling. Houston, with an economy historically built on oil industry profits, is disproportionately affected. With Iran's oil entering the market soon, the glut will continue to grow. With these conditions, we have two choices: consume more oil to drive prices up, or use this moment to think long-term.

I'm here to tell you to wake up. It's time to break the pattern of oil overconsumption; time to break the pattern of only investing in alternatives when oil prices spike. We must recognize humanity has an obligation to preserve the planet and our way of life for future generations. Last month's Paris climate deal points the way: We must eventually replace fossil fuels entirely.

The only way to achieve this is through long-term, patient investing in sustainable energy technologies over the next century: deploying underutilized ones available today, researching and developing promising solutions not yet close to market, and supporting wild ideas whose payoffs are in the far future. We have to do so in spite of cheap oil and, in fact, because

of it.

I'm not asking for sacrifices. Too often the argument is framed as one of personal sacrifice rather than the win-win of energy innovations that can limit environmental harm, provide economic and national security, and allow us to maintain our standard of living.

At a conference convened by The Academy of Medicine, Engineering & Science of Texas this week in Dallas, I will outline an energy technology timeline in a keynote speech, drawing from my research at Princeton University's Andlinger Center for Energy and the Environment, where I am the founding director.

Right now, we should be widely deploying energy-efficient architecture, electric transportation and smart grid technologies, while researching innovations for large-scale deployment in 2030: biofuels from algae or microbes, efficient and cheaper solar panels and wind farms, and CO2 capture and storage for the fossil fuels we will still burn for many decades to come. In the far future, highly experimental technologies will come to fruition. The world will operate smart electricity grids that store energy from renewable but intermittent solar and wind sources. Airplanes will be powered by fuels made by artificial photosynthesis. And nuclear fusion will provide almost limitless clean electricity for all.

America has long starved investment in this arena. We are far behind Europe and China, in terms of long-term planning and sustained investment. Europe has a road map to get to commercial fusion power; the U.S. has none. As of 2014, China leads the world in solar power, with 15.6 percent of the world's share; the U.S. lags at 10.1 percent. Further examples abound.

The nation needs to wake up to the climate change problem, invest in carbon-neutral technologies, and enact a long-term plan to transition to a carbon-neutral world. With other countries pulling ahead while climate change accelerates, our technological competitiveness, our national security and our very survival as a species are at stake.

Carter is founding director of the Andlinger Center for Energy and the Environment at Princeton University.

you must be signed in to comment