OUR OCEAN BACKYARD

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GARY GRIGGS

Our Energy Future

There is one issue that affects virtually every person on the planet, no matter their race, religion, age, income or where they live – climate. Whether it’s droughts, fires, water shortages, hurricanes and floods, loss of crops, melting ice and rising sea levels, a warming and more acidic ocean, or any of a number of other environmental impacts related to climate change, every person on the planet is already or soon will be affected by one or several of these global changes.

There is no longer any question that these changes are being generated mainly by human activities, primarily the burning of fossil fuels - coal, oil and gas - which has gone on at an increasing rate for over 150 years. In the hour you may spend (?) reading the Sunday paper, the world will have burned an additional 620,000 tons of coal, 275,000 barrels of oil, and in the process, emitted about 500,000 more tons of carbon dioxide into the atmosphere. And all carbon dioxide molecules trap heat, they don’t have political affiliations, and you can’t pump 500,000 more tons of carbon dioxide into the atmosphere every hour and not expect some impacts.

While it is tempting to blame all of this energy use on everyone else, other countries, other people, or your neighbor, Americans have been a major the major contributor for decades. While China surpassed us in annual carbon dioxide emissions about 15 years ago, we are still no. 2 in the world, followed by India. Combined, these three countries generate 50% of all of the carbon dioxide released by humans.

We can’t halt or fix any of these climate changes any time soon, but the sooner we reduce our carbon dioxide emissions by converting to renewable energy sources, the quicker we can begin to slow down this giant chemistry experiment and the effects it is having on all of us.

There is no shortage of articles, books, opinion pieces or interviews focused on these issues, often from the perspective or with the conclusion that we can’t possibly move to sustainable/renewable energy sources fast enough to make a difference or to reach the targets that both California and the federal government have set. There are some reasons for this, one being the well-funded campaigns of denial, deception, delay and distraction carried out by the fossil fuel industries and their supporters for years. Another factor is the pessimism of many regarding renewable energy, part of human nature.

John Carey, a highly respected science journalist, recently published an excellent article in the Journal of the Atomic Scientists, which offers a refreshing and forward-looking view of the entire issue of renewable energy and progress in recent years, as well as a comparison with some other historic technological achievements, despite a widespread pessimism.

In 1943, Thomas Watson, the chairman of IBM, stated that there might be a total global market for “maybe five computers”. Lord Kelvin predicted nearly 50 years earlier that “radio has no future”. Most humans have never been very good at foreseeing or even understanding the rate of technological or social change and what might emerge from those advances. Did anyone dream that we’d all now be carrying the power of a 1990s supercomputer in our pockets, enabling us to buy virtually anything online, binge watch TV programs, or share videos of our grandchildren or puppies.

John Carey points out that John Kerry, President Biden’s climate envoy, is wrong when he says that half of future emission cuts will have to come from technologies not yet invented. We already have the basic technologies to deal with climate change and they are also becoming more and more affordable and at an increasing pace. While there are the occasional major breakthroughs, we have also become more and more innovative with incremental improvements in materials, designs, manufacturing and installation processes. We may well look back in 25 years and wonder why we thought it would be so difficult and expensive to move to renewables.

The International Energy Agency( IEA) in 2010 predicted that the world’s total capacity for solar photovoltaic would hit 410 gigawatts by 2035. By 2020, 15 years ahead of their prediction, the number had already reached 707 gigawatts (Hoover Dam generates just 2 gigawatts).

Because of continuing developments, onshore wind power and new solar photovoltaic cost less than keeping many existing coal-fired plants in operation. Between 2019 and 2020, the electrical generating capacity of renewable energy increased by 50%. Denmark generated over 50% of their electricity in 2020 from wind and solar. These have not depended on major technological breakthroughs, but rather the continuing improvement in materials and designs, economies of scale, interest by industry, and political will. We can do this to make our own lives better and to preserve the health of the only planet we have if we start aggressively now.