

Shall we emerge any wiser from the pandemic regarding our Oceans?

by Christiana Prekezes

MA in Energy & Environment, Boston University Treasurer, WISTA Hellas BoD



The world around us, our daily routines, professional and personal lives have all drastically changed this past year due to the pandemic and the ensuing restrictions. Staying mostly home, adopting distance working and learning, abandoning traveling and social mingling, we thought over our lives' reversals. Inescapably, we reconsidered priorities and values on a personal, professional and social level.

Owing to vaccination efforts, we can gradually look with some degree of optimism to the future and start planning again for a new, almost "normal" way of doing business and conducting our lives. We are presented, however, with both a challenge and an opportunity: to come out of this crisis wiser, to make a RESET on an individual and collective level in regard to the natural environment and especially the ocean.

If the ocean were an economy, it would be the 7th largest in the world. But instead of protecting it as a valuable resource, we are jeopardizing its future - that is our future - using it as a garbage dump and fishing it dry.

The fact that humans have been abusing seas and oceans for a long time is well known and proven beyond any doubt. Pollution from industrial plants, oil spills, agricultural runoff, plastics; overfishing causing commercial fish populations to plummet; coastal ecosystems being degraded by unregu-

lated development; seawater heating up and acidifying due to greenhouse gases, disintegrating coral reefs and impacting mollusks are the main testimonies.

But why should the oceans' health be of our concern today amidst the global health crisis and subsequent economic challenges, one might ask? Why should we care when we also have climate crisis to worry about with its own global economic and security repercussions?

For the simple reason, is the answer, that we are all dependent on and interlinked with the oceans of our Blue Planet! The air we breathe, the water we drink, the food we eat, the climate we enjoy, are all closely connected to the oceans, where life began 3 billion years ago.

Oceans provide 50% of the oxygen, are the main source of protein for over 2 billion people, offer valuable substances for medicines and cosmetics, regulate global climate through the currents and seawater evaporation and give us salt and minerals. Furthermore, the seas offer a much desired way of unwinding as well as practicing sports while they are the means of transport of around 80% of the volume of goods in international trade.

But now, oceans can also offer us a way forward regarding climate change and food security. They offer major opportunities for renewable energy sources, sequester large volumes of carbon and create a sustainable food system. It is estimated that so far, oceans have absorbed around 30% to 40% of the carbon dioxide humans have emitted by burning fossil fuels. Without this, global temperature rise would have been much higher!



The ocean environment can be a source of carbon-free energy as the global community aims at zero carbon emissions of industrial sectors and societies at large. Renewable offshore energy can be generated by wind, waves or tides but there is also the potential of algae biofuel. Biofuels produced on land, mostly ethanol from corn and sugar, use large amounts of water, fertilizers and pesticides, and require so much fossil fuel to produce that they can barely be considered "green". This is not the case with algae grown along the coasts, although further R&D is needed in order to produce algae biofuel at scale. Seaweeds have also the advantage of absorbing tons of carbon dioxide as they grow, being more efficient with photosynthesis than plants on land.

It is well known that coastal ecosystems are ideal environments for aquaculture but experts say there is huge potential of a "regenerative renaissance" in ocean farming, focused on seaweeds and filter-feeding shellfish (i.e. oysters, mussels, clams), which live simply off sunlight and nutrients already in seawater. This type of ocean farming reduces pollution, i.e. local acidification, and even improves water quality. On top, these "sea vegetables" have high nutritional value and when fed to cows can reduce their methane emissions by up to 67%.

As the economy struggles to recover from the pandemic-triggered recession, it is worth taking into account that implementing ocean-climate solutions can create a considerable number of jobs. We must place oceans to the center of our attention if we are to address the climate crisis and foster a sustainable economy at the order of magnitude required.

My humble opinion is that after the pandemic we should not go back to normal and "business as usual" because it is simply not to our advantage. On the contrary, it's an opportunity to recharge nature, turn it to our benefit and reap the gains of sustainable use of the ocean's resources and prospects. Anyways, there is nothing normal with pouring 11 million tons of plastic litter in the seas every year thus having created five floating islands of garbage in the oceans, at least the size of Texas each one of them! By some calculations, the amount of plastic litter dumped in the sea equals one truckload per minute. Not to mention that microplastics are slowly reaching our seafood plate, threatening our health in unknown ways.

Nor is it normal 90% of commercial fish like tuna to have decreased their stock at an unsustainable level. By no means is normal either to find a plastic bag in the deepest part of the oceans at 11,000 meters depth at the Mariana Trench of the Pacific Ocean, which is what recently happened.

Consumers in the developed world today can find at the supermarket shelves fruits like bananas individually wrapped in plastic, or peeled fresh tangerine in plastic packaging. Do we really need this?

Adding to this senseless consumerism is the fact that we are dumping on land about 30 million tons of E-waste per year, mainly computers and cell phones. No wonder the Blue Planet is suffocating.

Several well-regarded personalities around the world are voicing their concern on the fate of nature and oceans specifi-

cally, ringing the alarm on the urgency of the matter. Among them, American oceanographer and explorer Dr. Sylvia Earle, who has witnessed the degradation of seabed through diving missions since the 50's and Sir David Attenborough with his amazing, inciting documentaries. If one prefers Hollywood personas, there is Leonardo Di Caprio and Robert Redford, environmental activists for climate change and wildlife protection.

But can we, on a personal level, have an impact on such a big issue? "Yes, we can!" to quote Mr. Obama's slogan. Small steps on our daily lives, like adopting new habits with smaller ecological footprint. Remember: numbers make the difference. On a company level, much more can be done in the framework of sustainability. And most important on a State level, incentives should be given to start ups that bring solutions for the protection of the marine environment as well as methods to utilize sustainably the abundant resources of the seas.

Scientists constantly discover amazing new facts about plants and animals both on shore and at sea. Dolphins and whales have highly developed ways of communication, considerable memory, they can feel emotional pain, empathize even with other species and mourn the loss of one of their own. Penguins, sandhill cranes, swans and seahorses "fall in love" and mate for life and some can grieve to death when losing their partner. Other species have obviously the right to co-exist with us.

It's a wonderful world that doesn't cease to surprise us. Sea stars are able to regrow body parts such as a limb or, even more bizarre, from one detached arm to grow an entirely new body! So this incredible ability of the humble sea star is studied in regenerative medicine today, in conjunction with stem cell therapies. Octapuses have 3 hearts, increased vision and complex neurological system so as to be currently used as models in biomimicry and robotics.

Recently, an underwater expedition in Aldabra, the so-called "Galapagos of the Indian Ocean", discovered tens of new species of fish, corals and other organisms! We have still so much to learn and use to our advantage!!! Let's not turn our back on the oceans. They may abound with solutions.

All scientific facts show that we, the generations that are now in control, are the ones to seal the fate of the oceans. Ten years later, it might be too late. So what is it that we are going to decide? Will we sign their death sentence or make the pledge to save them? I sincerely wish that we'd demonstrate our individual and collective wisdom to this urgent and vital matter.

