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DR. CARLOS DREW: Executive Vice-President for Conservation, Ocean Wise, Canada.

CARLOS DREW: OCCEAN-POSITIVE SOLUTIONS TO CLIMATE CHANGE AND THE BIODIVERSITY CRISIS

Oluwatomi Abraham: Leadership Development Manager, Teach For Nigeria, Nigeria.

Abraham: Nice to have you here. So, I will just briefly introduce you and then you would go on with your presentation and then you would ask questions afterwards, Dr. Carlos Drew is the Executive Vice President for conservation at Ocean Wise, a conservation organization, headquartered, in Vancouver, Canada. He's responsible for the design and execution of its global ocean conservation strategy, overseeing a portfolio spanning conservation, science, marine mammals, plastics and other pollution, ocean noise, blue carbon, sustainable seafood, the Arctic, marine biodiversity monitoring, as well as citizen action initiatives including shoreline cleanups. Before that, he served as the executive director of the Jane Goodall Institute USA from 2017 to 2019, a community conservation organization that advances the global vision of Dr. Jane Goodall by improving the lives of people, animals and the environment. Dr. Drew, you have the floor for the next 10 minutes. We want to hear from you.

Dr. Drew: Thank you very much indeed. Then I am speaking to you from Vancouver, Canada. Actually, I'm speaking from the unseeded territories of the Musqueam, Squamish, and Tsleil-Waututh Nation and this includes both the land and also the water and I will be focusing today on the ocean. So why talk about the oceans? The oceans makeup, you know, 71 percent of the planet's surface but it makes up also 99% of the life area and volume available for life on Earth. So if you ended up living on planet Earth, it is very likely that your life and prosperity is closely linked to the health of the oceans. In fact, every second breath we take all of us around here, United around World Environment Day comes from the oceans, but the oceans are also these formidable climate buffer. They have already absorbed 30%, or so of the CO₂ emissions after the Industrial Revolution and they have taken on about 90% of the excess heat that we have generated as a result of those emissions.

If you take an economic lens, then the market value of marine and coastal resource industries is estimated at three trillion US Dollars, which is about five percent of the global GDP. So, it is quite significant and then, when you take a bit of a livelihood lens, then 3 billion people not less than 40 percent of humankind, relies on marine and coastal biodiversity for their livelihoods. So, let me share my screen with you and talk you through nature positivity.

Just three weeks, three weeks ago, I was traveling down south to Chile and I looked out of the plane and I looked at the engine and I wondered, okay, how is actually this fuel taking me to Chile? What's that's the fuel consist of, and it turns out that the answer of the little bit of research is simple. I was flying on Plankton, marine Plankton, because marine Plankton is at the foundation of the creation of oil. And here you are on your left, you will see 200 million years ago, 300 million years ago lots of planktons in the oceans. This is called a marine carbon when it dies it, settles in the sediments and then gradually it travels to the sediments into the soil, deposits that by compaction, by the pressure of the sediment become oil. And then many, many years later, we harvested, we take it out and then we ignite it and then it releases energy, which is this powerful energy, we use to propel the engine of my aircraft down to Chile, to look at one of our projects and now this drawdown of carbon that has been turned into oil was a contributor for temperatures on planet earth gradually sinking from what used to be in the order of 10 to 14 degrees much warmer than today a 100 million years ago, to what is a very comfortable and pleasant temperature zone today. So a great contributor was there in Plankton removing carbon turning it into life and then cooling the atmosphere. But now we are challenged again with climate change because of our emissions and we are asking the oceans again, help us draw down carbon, help us sequester that CO₂, that causes the greenhouse gas effect and so that we can stabilize the planet and that's really the journey I am on. And when I asked, what is the meaning of nature positive, or ocean positive, really coming

from a place of challenging the sustainability paradigm of the blue economy, which says, we will maximize the economic benefits from harvesting the oceans in a way that does not harm the oceans. But really, do no harm is just not good enough. You have a patient here in the emergency room. Oceans are in dire straits and we are pretending just to keep them alive by doing no harm that just doesn't work. So nature positive is really the call to bring this patient back into good health, so that we can maximize all of those environmental services on which humankind depends. And the oceans are indeed in dire straits. If we look at fisheries 1/3 or a little bit more of fish, stocks are being harvested in ways that are not sustainable. So, overfishing continues and the trend is not reducing at all. We have lost more than 50% of the coral reefs since the Industrial Revolution, just in the last decade 14% of coral, reefs one lost to warming events. So it's a quite staggering and then, you can also look at what is called, Blue Zone, dead zones. And dead zones are areas of the oceans where oxygen is lacking essentially due to processes like the composition of lots of algal blooms and they sink and then bacteria the start working on them and deplete the remaining oxygen and you get these dead zones mostly caused by agricultural runoffs. And what, in the 70s was the hunt three or four dead zones, have now rocketed above 400 dead zones around the planet. Some of the noticeable ones are in the Gulf of Mexico in the Baltic Sea, Chesapeake Bay. So, it's all quite alarming. And this is really the Doom and Gloom scenario that I know has to be there, but I want you to turn into more of the good news about it and the good news is that the scientists have gathered around this publication led by Carlos Duarte and had concluded that we can rebuild marine life and we can restore those ecosystems services in the next 30 Years. And there is a road map here in this nature publication. There are pointers as to which ecosystems, we need to work on in particular and it also speaks to how rebuilding fisheries for example will produce 80% higher profits by 2030. If we do that, they don't do that right with coral reefs. Well, we cannot probably rebuild them all, but at least we can stop the decline in certain places and we can certainly rebuild the top marine predators like whales and sharks that are responsible to maintain the health of the traffic web that they rely on. So, this is doable, this is a grand challenge for humankind, both from an ethical obligation point of view. But also, it is a smart economic objective, and let me tell you a little bit about why that is so. Well, if you and your industry relies on the oceans, you rely on good yields and yields are important. So you want to have long-term availability of those years. So there's no point in overexploiting up to the point where you exhaust your marine resources, right? So, I think there is a middle and a long-term thinking here that is important to prevail. The short-sighted approach is economic suicide essentially. When we think about resilience, it is key for your industry and if you rely on the health of oyster reefs, or a kelp bed, where their habitat is offering leaves for herring and herring to reproduce itself and put their eggs, then you want to protect it by, you want to make it resilient so that it doesn't is not lost with the next impact of climate change. So, resilience is rebuilding its strength to withstand the impacts that are upcoming and that are inevitable in current climate scenarios. Also want to look at the values. Your values are aligned with your customers. If you are an ocean industry and certainly, some of the customers are demanding that value alignment. Take, for example, people who are interested in buying clothes and that clothes retail store would like to see that the shipping company that transports the clothes it's absolutely on net zero terms. That is happening already, so, shipping companies are responding by introducing the right carbon offsets. So that the goods arrive at the other end on a net zero journey and the consumers are more and more demanding cradle to gravel net zero practices. So, there is a market that advantage, there is a brand resilience associated to these alignment of values. And also I would argue, it is just the right thing to do and doing the right thing is prime motivator for some of the business leaders that I have been talking to, as of recently, that motivation is just to do good. There is also a new business ethic emerging and I was privileged enough to participate in a high performance leadership training at IMD which is a renowned business school in Lausanne in Switzerland. And it was very impressive to see that the curriculum includes strong elements of not just sustainability but also being a socially responsible and that becomes just the way business is done. And again, it speaks to these new business ethic to the alignment between your business consumers, producers, employee and employer relationships on the right values as well. And last but not least, your own values with that business. If you take the definition of corporate social responsibility and one definition is that a business has a responsibility to do good. Then, you can already see, it's not to do no harm, it is to do good. Actually, it's a subtle difference but an important because that's what takes us to net positive.

So, let's move now to the question of what can organizations industry, and you do to move to a net positive. I will just walk you through a simple example. This is seaweed farming of course seaweeds are super nutritious food but they are also the origin of alginates which are found in the pharmaceutical industry, in the food industry. They are just essential for many of our products today and will become increasingly a solution to plastics as well as we develop biopolymers from kelp. So what can I say farmers do to stay nature positive that means leaving the oceans in a better place than you find them when you start your industry. So, the pledge is not

one of 'do no harm', is a pledge of restoring and rebuilding marine life. You are creating habitat, you will pick the species that are native to the ocean where you operate, you are creating habitat, you may decide not to harvest the whole thing at the end of the year and to leave ten percent behind as habitat for spawning of fish, also for invertebrates that will feed on the kelp that falls onto the sediment, so that is really your way of doing business. You may set aside a portion of the harvest as well for carbon sequestration and measure it. So, that you are contributing also to offset your carbon footprint. So there are all these different ways of doing business that you can also actually document and measure how much better are the oceans after you leave. And if you all for example, one of these farms close to an area where the water quality has been degraded, kelp will purify it, Kelp will clean it up. I would also argue that if you are not anywhere close to any of these areas, if you are a landlocked industry, you can still invest in these kind of projects in anything to do with ocean restoration, with rebuilding marine life, so that you can contribute to the health of the oceans in landlocked places as well because we all in the landlocked places as I said before, depend on the health of the oceans. So, I will walk you quickly through the trip that I did three weeks ago. This is Chile, is a prime habitat for kelp. It hosts a third of the giant kelp of the planet and some of the indigenous communities are committed to restore the ocean health to give back. And that takes us to the possibility to restore kelp in large quantities and restoring kelp is because it has been lost up to sixty percent of kelp on the planet has been lost. It's a formidable carbon sink. It turns CO₂ into tissue and then eventually a proportion of that tissue gets sequestered in the deep, a basis for perpetuity. So, the more there is kelp, the more carbon will be drawn down but it's also an amazing habitat for so much money in life. Including the sea urchins on which some of these economies depend in southern Chile. So, many good reasons there to restore kelp. If you are an industry and you're far away from the ocean you can invest in projects like this one and that will take you to a ocean positive approach.

But there are more things that you can do as an individual. And this is Kate Morrissey nine-year-old who inmate when they decided to auction her paintings and raise their \$1400 for an ocean conservation group. She's an example of something that you can do from a very far away located city away from the oceans. But feeling that sentiment of interconnectedness, and contributing. Now, anybody really can do an ocean positive pledge with your lifestyle, with your daily choices.

And here are just some examples of that to finish up. If you want to be plastic wise, you can go on www.ocean.org, you can sign your pledge and we will walk you through step-by-step what you can do to reduce your plastic consumption to avoid single-use plastics, minimize the use of single-use plastics and prevent Plastics from entering the oceans. If you are a seafood lover, of course, you can go for only an sustainably sourced fish or shrimp oyster, that of course, requires that there are adequate labels on your seafood. I am totally aware that, that knows is not entirely the case around the planet, in some countries, in Europe, in North America, those labels have taken a great traction but Latin America, Africa, and Southeast Asia are examples of where these labels are not so easy to find money in the marketplace. So but that is one alternative, be prudent with the way you consume your Seafood, be critical. You can also engage in shoreline cleanup, some organization are organizing them or you can organize it yourself, nothing to stop you from collecting debris from the shorelines. This is to be true, not an attempt to clean the oceans. This is more to obtain information about who are the biggest perpetrators and Ocean Wise, produces, a yearly report called The Dirty Dozen. And in that Dirty Dozen, you get the perpetrators that allow you to influence land policy to go upstream and talk to the industry. So numerous ways where you can engage, this is really a fantastic journey. I have to say and one that I am super excited about to deliver ocean conservation at a planetary scale. It cannot be done by a single individual and neither by a single organization. This has to be the collective of humankind, recognizing our interdependency on the health of the oceans and living in a way that allows the oceans to come back and offer us all of these incredible ecosystem services on which we all rely. Thank you, I will stop that.