Linking Science, Policy and Stakeholders for a Sustainable Ocean, Institut de Ciènces del Mar, Barcelona, 11.30am 9 April 2024 – opening remarks by Ambassador Peter Thomson, UNSG's Special Envoy for the Ocean

Excellencies
Ladies and Gentlemen

So great to be with you all at this much anticipated week of assessment of how we're going in our global quest for the science we need for the ocean we want. Here we are in Barcelona, three years after the start of the UN Decade of Ocean Science for Sustainable Development, readying ourselves to set priorities for the remaining years of the Decade.

May I give my thanks to the organisers of this event for the invitation to make these opening remarks to you all. They've asked me to be provocative, so I will be.

Science and policy: it's a deeply aggravating subject. I use those words deliberately, because while I'm given the privilege of speaking to you today in my capacity as the UN Secretary-General's Special Envoy for the Ocean, in truth my words are actually those of a grandfather deeply disturbed about the future security of his four granddaughters. The world is still on course towards global warming this century of somewhere close to three degrees and the Secretary-General of the United Nations has described that as an "unliveable world".

Around the planet, we see glimpses of that unliveable world today in the form of desperate climate refugees, the devastation of droughts, storms and floods, rampant wildfires, and ecologically destructive marine heatwaves. Science had warned us of the impending trend, but now we see it actually underway whenever we turn on the world news.

On behalf of my grandchildren, I refuse that as a predetermined future. I refuse to stand by while their lives are consigned to the horror of an unliveable world. With the great majority of us now accepting the science, surely we see the monstrous moral malaise implicit in doing nothing about it.

And so we turn to the aggravating relationship between science and policy. One must ask, how robust is the relationship between the two? To what extent are policy-makers, caught up as ever in their hopefully enlightened worlds of self-interest, operating on the basis of the best science available? And if they do have access to the best science, what are the forces compelling them to better policy?

On the other side of the coin, to what extent are scientists, immersed in their laboratories and field experiments, tailoring their work to inform the policies required to prevent the unliveable world? Do the disciplines of science demand they stand aloof from the general fray, that they stand aside from the crush of people of goodwill fumbling forward in pursuit of the common good?

If you're a policy-maker, I think it's fair to say you can legitimately demand of the scientists who've erected the signposts to a 3 degree world, that they show you reliable roadmaps to a different destination, roadmaps taking us to a liveable world of 1.5 degrees? And to put

our feet to the fire, I also think it fair to ask whether science has done enough to persuade the world's policymakers of the folly of our current path, whether scientists have done enough to present the science-based transitions required to avoid otherwise tragic times?

In answer to that barrage of questions, here in Barcelona on the threshold of the Ocean Decade Conference, I find my feet to be somewhat in water, when I couple the great changes observably underway in the ocean, with the stark insufficiency of scientific knowledge required to address them. Aggravating my uncertainties, the State of the Ocean Report issued by the Intergovernmental Oceanographic Commission in 2022 said that, "Currently the quantitative description of the ocean is *drastically incomplete*, and as a result, current knowledge is *insufficient* to effectively inform solutions to the ocean that humanity is facing."

At a time when solutions are so desperately needed, we find our knowledge is *insufficient*. And so, in the face of the hugely important scientific challenges and responsibilities confronting us, the question to ocean scientists today is, "*Quo vadis*? Based on sound scientific principles, which directions must we take? What should we be doing better to protect future generations? And here at the Ocean Decade Conference, and in your work hereafter, what will your role be in drawing up the urgently needed roadmap?

The answers spread in dimensions as broad as the ocean itself: from setting scientifically established limits of biologically sustainable fisheries, to accurate predictions of ocean acidification effects; from melting poles to slowing thermohaline circulations; from the emerging wonders of deep-sea life, to under-siege coral reef bunkers of biodiversity; from marine solutions for CO2 removal, to eutrophicated dead zones; from the identification of climate-smart, biodiversity-relevant marine protected areas, to the measurement and effects of anthropogenic pollution of the ocean; the pressing demands on ocean science are legion. They swell with every crossing of planetary boundaries, with every discharge of human detritus into the ocean, with every marine species pushed to the brink of extinction.

Where was science when the blight of plastic pollution along our foreshores proliferated into the microplastic plague now evident in every corner of the ocean? It was of course there from the onset, from the first discovery of polymers to every unregulated introduction of a new plastic variant. It was there for the invention and incorporation of toxic BPAs and BPSs, there for the introduction of still widely used phthalates and perfluorinated compounds, both notoriously hazardous. Science now warns us that their ongoing presence in the environment is just the tip of a toxic iceberg.

The release last month of the Norwegian Research Council funded report on the "State of Science of Plastic Chemicals", found that more than 4200 plastic chemicals are of concern, because they are persistent, bio-accumulative, mobile, and/or toxic. This is one more echoing trumpet call up valleys of indifference, warning again that if ever science and policy have needed to converge, it is to combat the plastics plague. Before we and the planet are permanently poisoned by plastic's "forever chemicals", adequate funding is required for immediate, comprehensive scientific research resulting in peer-reviewed findings translating into robust regulations with international application. The Plastics Treaty is currently under multilateral negotiation, so this is our chance, a once in a generation chance to deal with it.

Diligent scientists around the world should be shaping policies of national delegations negotiating the treaty, so that finally we bring plastic chemicals to heel.

While plastic pollution is now receiving a wider degree of overdue human attention around the world, it is chemical pollution, the so-called invisible wave of pervasive poisoning, that is of even deeper concern. The Economist's Back to Blue Impact Report calls for the term 'zero pollution' to become an essential ambition of ocean action, and for a goal of raising chemical pollution as a top priority for ocean health by reframing the discourse around ocean pollution to include both plastics and chemicals. It is hardly necessary to add that when we refer to ocean health, we are also referring to human health, for everything is inseparably connected.

The High-Level Panel for a Sustainable Ocean Economy concluded that Sustainable Ocean Plans are the basis of a healthier relationship with the ocean, with plans anchored in science-based management, integrative and interwoven with the source-to-sea ethos, inclusive of local and indigenous knowledge, and politically endorsed by national governments at the highest levels. From rural and city councils to national and regional institutions, chemical and plastic pollution will be controlled by plans and rules covering seminal elements like product design enabling circular economies, banning of single use plastics and toxic chemicals, and better waste and sewage management. In making these great adjustments to our production/ consumption/disposal processes, it is the steady blast of the best of science that will shape our course.

I've been focussing on science and policy to combat ocean pollution, because the first of SDG14's targets calls upon us to do so. But let's remember that all of SDG14's targets are underlaid by the need for sound ocean science. I uttered the words "adequate funding" two minutes ago, and yes, therein lies the nub of it. For the science we need, for the ocean we want, there is a stark requirement for a massive increase in *funding* for ocean science.

Of all the Sustainable Development Goals, SDG14 is by far the least funded. The Economist reported that SDG14 funding represented a minuscule 0.01% of all SDG funding from development finance up to 2019, and only 0.56% of all philanthropic funding since 2016. They found that even the crucial link between ocean and climate is massively undervalued, judging by the allocation of international climate finance. To quote the Economist, "the gap between ocean conservation requirements and funding available—around US$149 billion—is equivalent to just 3% of the estimated US$5 trillion spent globally on fossil-fuel subsidies every year."

As I've said this is the nub of it. How are we going to adequately fund ocean science for the great tasks at hand? In answer to that one must ask why it is that the ocean hasn't charged us for its services? Marine creatures and the ocean itself may not have the vote, seaweeds aren't accountants, fishes aren't lawyers, and dolphins are certainly not bankers; but the ocean has immense power. That prolific ocean denizen, prochlorococcus, the tiniest photosynthetic creature on the planet, produces 20% of the biosphere's oxygen. The dynamics of thermohaline circulation in the Southern Ocean driving the ocean's currents, has flow-on consequences for the Atlantic Meridional Overturning Circulation that takes warm waters from the Tropics to the North Atlantic. The ocean gives us so much, but it can

take it all away; and taking away can already be observed in the spread of marine dead zones and great changes underway around the planet in marine ecologies.

Happily, the long-standing quandary of under-funding is starting to produce some solid solutions. The question has been asked and pursued as to why container ships are able to cross the high seas without paying a toll, when it is standard practice for tolls to be paid for mass transport of goods on land? Why are undersea cables able to be laid across the ocean floor without some form of compensation? Having spoken in private to the major companies involved, my answer to the question is they don't pay a toll because we haven't asked them to. The general view I've encountered, is that they would have no problem paying it, as long as their competitors were all subject to the same toll.

No longer a shock-horror proposal, the idea of High Seas users paying for the ocean's services provided has now got following winds in its sails, with various models of collection and spending now being advanced in international settings. These models will develop between now and the third UN Ocean Conference in Nice, 9-13 June next year, by which stage the fittest will have emerged. One thing that is clear is that ocean science must be a major beneficiary of the perpetual funds being raised, for whether it is the mechanics of 30% of the ocean being protected in marine protected areas, or the development of truly sustainable global aquaculture, our future relationship with the ocean must be based upon the best of scientific principles, findings and scientific management methods.

In the context of funding ocean science, I've mentioned the UN Ocean Conference next year, so I'll close by pointing you in the direction of the Blue Economy and Finance Forum, and the One Ocean Science Congress. These are special events of the UN Ocean Conference occurring during the preceding week, with the Finance Forum being held in Monaco 7 to 8 June and the Science Congress being held in Nice 4 to 6 June. Judging by the thorough expert preparations being carried out for both special events, I foresee them being game-changing moments for the well-being of the ocean.

To conclude, you'll have heard the aphorism that knowledge without action is wastefulness, and action without knowledge is foolishness. And so, in these fateful days of the triple planetary crisis, now more than ever, ocean science and ocean policy must work hand in glove.

I thank you for your attention.
