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OK, I'd like now to introduce our keynote speech, which is from Doctor Ken Henry. Doctor Henry served as secretary to the Treasury from 2001 to 2011. He chaired the Howard government's Tax Review Task Force in 1997 to 98. He's done a whole lot of things. I actually have a page. Yeah, by the way. So I could probably go longer than your speech talking about it. I won't, but. Which bits will I talk about? He's done so many things. Doctor Henry is the recipient of the Centenary Medal and was made a Companion of the Order of Australia in 2007. He's a fellow of the Academy of Social Sciences Australia. The Australian Institute of International Affairs and the Australian New Zealand School of Government. He's here today in his role as chair of the Nature Finance Council and his for his work with Nature Limited and Digital Finance CRC, and will be talking about the role of nature positive in securing the wellbeing of future generations. Thank you very much.

Ken Henry

Well, thank you and it's good to be here and I'd like to begin by acknowledging the traditional custodians of the land that we meet on this morning the Ngunnawal and Ngambri peoples and I pay my respects to their elders, past and present and to their emerging leaders. So my topic, there it is. Is the role of nature positive in securing the wellbeing of future generations. 30 years ago, the executive leadership team in the Treasury decided that the department's mission statement should commence with the words, and I'll quote "to improve the wellbeing of the Australian people". That's 30 years ago, that decision was not taken lightly. It's quite a bit of internal debate about the risks and embracing an abstract concept like wellbeing. Surely this would mean venturing well beyond well-defined measurable indeed measured concepts like real gross domestic product and GDP per capita, employment, unemployment, productivity, and real wages and quantifiable dead weight losses in taxation and regulatory systems. On one side of the debate, with those who considered that the Treasury should not venture beyond the Ivory tower of logical positivism. We should avoid the fuzzy stuff that people in other departments didn't appear to be able to communicate without a fair bit of hand waving and implicit theorising. On the other side of the debate were those who considered that the Treasury's proper role as that of a central policy agency. Playing that role necessarily meant being able to put ourselves in others shoes. Only by demonstrating a commitment to something as audacious, yet inclusive as to improve the wellbeing of the Australian people would the Treasury be authorised to play such a role. And for these sceptics, for the logical positivists, there was also this to consider. If they had the courage to venture beyond the ivory tower and engage with the concerns of colleagues in other policy agencies. They might find that some of the fuzzy stuff could in fact be described in unambiguous language. That it might be amenable to measurable targets and measured outcomes. But I've been reflecting on this bit of ancient history quite a bit recently as I found myself immersed in discussions about something called nature positive. The term has been around for a few years but it really came to the attention of Australia's political and business leaders when it was endorsed by Environment Minister Tanya Plibersek, following her return from the Montreal leg of negotiations on the Kunming Montreal Protocol late in 2022. And as you would all know, Minister Plibersek will be hosting a global nature positive summit in Sydney in October this year. Frequently over the past 18 months, I have heard people in Australia saying things like, well, nobody knows what nature positive means and nobody knows how to measure nature anyway. Well, those things probably were true 30 years ago, and if you had been imprisoned in an ivory tower these past 30 years, you might be excused for believing these statements still to be true, but they are not.

The measurement of nature is a discipline well worth talking about, and I spend a lot of my time, particularly in my being my role as a board member of accounting for Nature Limited, but also as chair of the Australian Climate and Biodiversity Foundation, and also as chair of the Nature Finance Council. In talking about measurement issues. But that's not what I'm going to talk about this morning. This address has a more philosophical bent, so please indulge me. I want to explain why nature matters to humans. And especially why nature matters to the wellbeing of future generations, and why we in this generation should consider that we have a moral obligation to commit to nature repair. Human progress has relied upon modes of industrial production, including modern agricultural practises, based on firstly the extraction of non-renewable raw materials like iron ore and the fossil fuels and secondly upon the absorption of a stream of ecosystem services derived from things like pollinating birds and insects, sources of fresh water from our forests, what's left of them, marine life, arable soils and various natural waste absorbers and of course, there's many more. Now, remarkably, none of those dependencies, not one of them, features in classical economic theories of value and distribution, nor do they feature in neoclassical models of economic growth that I was taught in university and then went on to teach myself. For the most part, mainstream economics are simply assumed that our dependence upon nature can safely be ignored. Both non-renewable raw materials and ecosystem services are of course gifted by nature. They're generated from a stock of natural capital that exhibits an extraordinary degree of geological, hydrological, and biological diversity. Unlike physical capital, things like machinery and equipment and buildings and so on, both physical capital used in production, that part of the stock of natural capital from which ecosystem services emerge has a regenerative quality. It is renewable and it is renewed, though in a manner and at a rate determined not by us, but by nature itself, as well as supplying inorganic raw materials and ecosystem services to industrial production. The stock of natural capital affords humans the opportunity to enjoy environmental amenity directly. And for the indigenous peoples of Australia, the natural environment in all its diversity is an indispensable source of cultural integrity. Reflecting the importance of this close relationship between humans and the natural world in which they live in the middle of 2022, the United Nations General Assembly declared that every citizen on Earth has a right, a human right to a clean, healthy and sustainable environment now. The General Assembly of the United Nations would not have seen the case for making such a declaration had it not considered this human right to be facing extreme threat. And indeed, humanity itself is facing an existential crisis. The Brundtland report that you'd be familiar with, I'm sure, published in 1987 quite properly framed, sustainable development in intergenerational equity terms. It noted that development that deprives future generations of the ability to meet their needs cannot be considered sustainable. The concept of human needs, though, is not capacious. Human needs could probably be met in an air conditioned shopping mall. Perhaps one day, perhaps even quite soon, they will be. And thinking about sustainability, most economists would prefer Robert Solow's perspective, delivered in a lecture in 1991, that this generation has, and I'll quote "a moral obligation to conduct ourselves so that we leave to the future the option or the capacity to be as well off as we are". Solow's definition goes beyond a continuing ability to meet human needs, as he makes clear in that address, it includes the capacity to appreciate or to enjoy environmental amenity. According to Solow, development that denies future generations the option or the capacity to be as well off as us cannot be regarded as sustainable. Indeed, it should not be labelled development at all.

Solow's framing of sustainable development brings together notions of a level of wellbeing that is as well off as we are, and the capacity to achieve this level or any level of wellbeing. Because

the capacity to achieve a level of wellbeing is itself a constitutive component of wellbeing. The distinction between these two concepts is not at all straightforward. For example, it is not as straightforward as separating human desires from the market economy's capacity to satisfy those desires. With respect to both the level of wellbeing and the capacity to meet a level of wellbeing, neoclassical economics emphasises the importance of substitutability and the gains that come from making trade-offs. Neoclassical economics also emphasises the importance of constraints, indeed, the standard framing of a piece of neoclassical economic analysis is as a constrained optimization problem. Remarkably, though, for quite a long time the principal contribution of the economics profession to thinking about sustainable development was to argue that environmental constraints do not really exist, and indeed it wasn't until 15 years ago that Robert Solow eventually conceded that we, I guess he meant he, needed to think more deeply about the connection between economic growth and environmental degradation.

At the level of the individual or her family or her community, the determinants of the level of wellbeing include a practically infinite set of goods and services. Some of these, most of these are material, others are quite intangible. Solo emphasises that in considering what it means to say that an individual or her family or her community enjoys a particular level of wellbeing. We should recognise that the elements of this set of things are to some extent substitutable. That is, they may be traded off one against another in a way that does not affect the overall level of wellbeing. Similarly, when it comes to the capacity to achieve a particular level of wellbeing. That is, for an individual, a family, or a community, there is a degree of substitutability between natural capital as an input. And agricultural and industrial outputs, and among the various means or factors of production. For example, industrial processes may be more capital intensive or they might be less dependent upon raw materials derived from nature. In the language of neoclassical economics, both consumption possibilities and production possibilities feature substitutability, allowing for the possibility of level preserving or compensating trade-offs. And thinking about consumption possibilities, we might be guided by Thomas Hobb's observation that human desires are plausibly infinite, they know no bounds. But the same cannot be said of production possibilities. The extraction from the geosphere of non-renewable natural resources for industry has of course depleted the stock of natural capital directly, but it's also had an indirect impact most obviously, the burning of fossil fuels has damaged the atmosphere. It's damaged the hydrosphere, and it has damaged the biosphere in a set of complex processes that we refer to these days as climate change. But those are not the only contributors to the degradation of natural capital. Because the industrial rate of absorption of ecosystem services has exceeded the regenerative capacities of nature, at least for several centuries now. Now the stock of natural capital has been depleted by industrial activity, just as machines used in production depreciate more rapidly if they worked harder if they're not properly maintained. The depletion of natural capital implies a diminishing capacity over time to supply ecosystem services critical to production. For example, soil fertility, the availability of well hydrated farming land and the waste absorption capacity of the atmosphere and the biosphere, and the hydrosphere for that matter, all of these have fallen overtime. A degraded biosphere affords less protection from fire, from droughts, from floods and storms, and all of these are growing in incidence and severity because of human induced atmospheric change.

The depletion of natural capital also of course reduces environmental amenity and it imposes adverse cultural impacts on indigenous peoples. In addition to natural capital, the production of goods and services consumed by humans utilises means of production sourced from humans. This is the great human success story. These include primary factor inputs in the form of labour services and perhaps more particularly, services derived from physical capital accumulation.

Unlike natural capital, physical capital is also produced by industrial activity. It's simply that part of past production that we have not consumed, the way that primary inputs are combined with intermediate inputs in production, including ecosystem services and how much is produced from those various inputs depends of course, upon that other great driver of economic growth technology. And it is conceivable that as the stock of natural capital is depleted the production of goods and services might continue to expand for a time because of new technologies invented by humans and because of increases in the means of production, both capital and labour effort sourced from humans. But none of this human ingenuity nor capital accumulation, nor increasing work effort has thus far done anything to halt the rate at which the stock of natural capital is being depleted. To the contrary, new technologies and more capital intensive modes of production and extraction have accelerated its rate of depletion. And they've done little to reduce the dependence of industry upon the stock of natural capital. For several decades now, going at least as far back as the limits to growth thesis of the Club of Rome, published in 1972. Serious people have been challenging the notion that the transformation of non renewable resource stocks and flows of ecosystem services into products for human consumption can continue indefinitely generation upon generation surely at some point the stock of natural capital must become so diminished as to be incapable of permitting humans to meet even their most basic needs. And even if needs could continue to be met in an air conditioned shopping mall, for example, what are the consequences for human wellbeing of the loss of environmental amenity? As already noted in respect to production possibilities, there are limits on substitutability. Perhaps most importantly, and it's blatantly obvious, environmental amenity can be derived only from nature. It cannot be produced by industrial processes. Second, mind you, we seem to try. Secondly, some amount of natural capital is indispensable to production and thus, neither environmental amenity nor the production of goods and services to satisfy human material desires can be sustained indefinitely by the means of production sourced from humans.

In emphasising the role played by substitutability in satisfying human desires, we've been underplaying these biophysical constraints more accurately. We have simply been choosing to ignore them. 20 years ago, in articulating the meaning of its mission to improve the well-being of the Australian people, the Treasury borrowed heavily from Amartya Sen's Conceptualisation of development as freedom. I used to describe the treasury's mission in those days in these terms; that all Australians have the capabilities to choose a life that they have reason to value. And that future generations of Australians enjoy an even richer set of capabilities. The policy landscape of relevance to such a mission is vast in those days, and I know it's slightly somewhat different now. The Treasury emphasised the importance of focusing on 4 broad areas of that landscape, firstly contributors to the generation of national income, wealth and consumption possibilities, but importantly including environmental amenity. Secondly. The distribution of those capabilities, including in social, regional and importantly, in intergenerational dimensions. 3rd complexity. And 4th, risk. The loss of natural capital due to generations of human activity has degraded its capacity to support environmental amenity. But it's now also undermining productive capacity. It's denying opportunity for Indigenous Australians. And it is significantly accelerating a risk of the loss of wealth, of livelihood and even human life, especially in regional communities across Australia. Most importantly, it is undermining any claims this generation might have had to a commitment to intergenerational equity, the historical loss of natural capital. Denies us reason to believe that future generations will have the capacity to achieve our level of wellbeing. To put that another way, it would be irrational of us to suppose that we in this generation are custodians of sustainable development.

33 years ago, Robert Solow argued that because different amenities really are to some extent substitutable for one another, sustainability does not require that any species of ale or any species of fish or any particular tract of forest be preserved. And Amartya Sen found that unconvincing, observing that in the loss of a species, there's a loss of opportunity to appreciate its existence. And in that loss of opportunity, there's a loss of freedom to have or to safeguard what we value and to which we have reason to attach importance. Sen's perspective, which I find compelling references the irreversibility of species extinction. Others have argued that irreversibility provides a reason for exercising extreme caution in pursuing a course that might reasonably be expected to pose an extinction risk to any part of the biosphere, we simply cannot know the consequences of species extinction or ecosystem collapse, and this provides a basis of support for the precautionary principle. And behavioural economists have observed. That we should not assume that the choices that we and our ancestors have been making have been reasonable choices. There's an abundance of evidence that our human minds are wired in such a manner that we are bound to make trade-offs, including those involving nature, that are simply irrational.

And then consider the interests of First Nations peoples for the indigenous peoples of Australia every element of the biosphere has cultural meaning and significance. Trading any of those off in the pursuit of material progress. Especially to the extent of tolerating the extinction, the extinction of species is culturally offensive. On these considerations, I would argue that a commitment to 0 extinctions, bold as it is, is a necessary component of any claims to sustainability and is a minimum precondition for nature positive. And that perspective appears to be shared by the authors of the Kunming Montreal Protocol. Which I referred earlier. So how would I frame the general sustainability challenge then? I've observed that coincident with centuries of rising material, living standards based on capital accumulation and technological innovation, our human activities have degraded the stock of natural capital, and that rate of degradation is not slowing its accelerating. The sustainability challenge may be framed with two questions. The first question is this, How confident can we be that our industrial and ingenuity, including the ability to find trade-offs among the various natural and human source means of production, that that ingenuity will more than compensate for diminishing stocks of non-renewable resources and a diminishing flow of ecosystem services sufficient to permit continuing gains in the material determinants of wellbeing? That's the first question. And the second question is this, even if we are confident of humanity's ability to continue to secure material gains generation after generation in their air conditioned shopping malls, are we confident that those gains will more than compensate for the continuing loss of environmental amenity? The second question is imponderable, of course, but that doesn't mean that we should choose to ignore it.

On the first question though, a consensus is emerging. That past generations of industrialists and economic policymakers have been overly optimistic or shortsighted, paying insufficient attention to biophysical constraints, past patterns of degradation may have set up long running dynamic adjustments with complex and powerful feedback loops that will take many generations to settle down, as this generation's experience of the climate impacts of past fossil fuel combustion demonstrate, it's even possible that those dynamic processes and initiated by past events will never settle down, that they are explosive. The emerging consensus is summarised in this statement from the British economist Pather Dasgupta, no amount of technological progress can make economic growth as conventionally measured and indefinite possibility ours is inevitably a finite economy, as is the biosphere of which we are part. The earth that we inhabit presents us with a set of immutable biophysical constraints, sometimes in fact,

quite often referred to as planetary boundaries. Unless our industrial processes demand less from the stock of natural capital than its replenishment, there must come a time when production collapses. With growing evidence of proximity to ecological tipping points, we should have been allowing for the possibility that the fall in production could be both imminent and catastrophic.

Nature positive then, if you can appreciate the distinction between an objective function and the constraints against which it must be optimised, then you will appreciate that the 1992 Rio Earth Summit's framing of ecologically sustainable development as a balancing act among economic, social and environmental concerns. That framing is deeply flawed. The Rio framing is probably influenced by Solow's address actually. The Rio framing is particularly unsuited to matters affecting intergenerational equity. Which within an anthropocentric framing, is the only legitimate test of sustainability of course. This generation and our predecessors have been the principal beneficiaries of the economic and social gains extracted from nature. Whereas those who will bear most of the costs of the loss of environmental amenity belong to future generations. Had those future generations been sitting at the table and we were pretending or playing our balancing act games between economic, social and environmental concerns, I would be less critical. We should be more honest with ourselves, humans, our species, specialists that plunder. Wherever we can push the costs onto others, we will grab trade-offs that provide immediate gratification. For hundreds of years, perhaps thousands of years, we've been pushing the costs of our plunder onto people not yet born, but no longer. Gradually, it has dawned on us that we are going to have to pay something, some part of that cost for our nature, negative history and that realisation promises to be transformative.

So much has been lost and with such serious consequences that a consensus has emerged that we must now commit to nature repair, to nature positive future. Nature positive argues that for some time, perhaps for generations, we must seek to restore environmental condition. Understanding that without doing so, we cannot be confident that future generations will have the capacity to be as well off as we are. The dependence of production upon a diminishing stock of natural capital would provide a sufficient motivation for nature positive. From this instrumental perspective, nature positive simply means that the economic and social practises of humans should now support some increase in the stock of natural capital turning around many generations of depletion or degradation. That would imply reshaping human systems in human process to economise on the demand for ecosystem services so that industrial absorption falls below regeneration. It would mean halting other processes that degrade the stock of natural capital from which those services were drawn, and it would mean beginning the rebuilding of at least some of what has been lost.

Humans have spent thousands of years extracting prosperity from nature. And indeed, seeking security against nature. That our future prosperity and security must be found in nature. But nature positive is not merely of instrumental significance, because environmental amenity has value to humans for its own sake. Nature positive should also be seen as an outcome, even as a constituent component of our wellbeing. And of course, of the capacity of future generations to enjoy our level of wellbeing. Nature positive is a stronger moral statement than any previous concept of sustainability. Even if we could be confident that past generations only ever engaged in activities of environmental degradation for which their loss of environmental amenity due to their plunder of natural capital was more than compensated by their material gains. They were not looking after the interests of the future. Nature positive as an attempt to restate the moral obligation that each generation owes its successors, and it's considerably less ambiguous than

Robert Solow's statement. I see it being expressed in two parts. The first concerns accountability. This part attests that this generation of humans that we accept, that because of the degradation of natural capital due to the past and present practises of humans there's a strongly growing risk that future generations have been denied the opportunity to be as well off as we are. The second part is an affirmation that the economic and social practises of humans will be transformed to repair nature, increasing the stock of natural capital that is the source of environmental amenity and of ecosystem services so that we can have reason to believe that future generations will have the option or the capacity to be as well off as we are.

Let me conclude this is going to take a lot. Obviously, we need more public funds going into the repair of nature. But I'd say that makes little sense when governments continue to tolerate, even subsidise, the destruction of nature. Thus, nature destroying policies and institutional arrangements they have to be tackled first. And then even with a substantial increase in public funds a very large funding gap is going to remain. So, the major task is to transform this capitalist economy of ours so that it becomes a source of nature repair as an ordinary consequence of business activity, just as capital accumulation due to saving and investment is an ordinary consequence of the operation of the capitalist economic system. This is no small thing, this will not be easy. But that's not an excuse likely to satisfy future generations. Generations who have a right to expect that we will do whatever it takes to ensure that they have the option they have the capacity to enjoy a level of wellbeing at least as rewarding as what has been available to us. Thank you.