

[REDACTED]

August 19, 2015

Ms. Penny Armytage
Ms. Jane Brockington
Ms. Janice van Reyk
Ministerial Advisory Committee (MAC) to EPA inquiry
State of Victoria
Commonwealth of Australia

Dear members of the MAC for public inquiry into the EPA of Victoria,

[REDACTED]
[REDACTED] . I am writing as a concerned member of the public regarding the role and authority of the EPA with respect to public health and environmental protection.

I would like to begin by thanking you for your service in this vitally important matter and I sincerely hope that your efforts are rewarded with both the feeling and reality that the EPA (Vic) is making a difference. I would also like to acknowledge and appreciate the fact that the environmental situation in Victoria is excellent relative to most other areas of the world. A major reason for this is the predominantly *effective* government that currently exists in Victoria and Australia. It surprises me how much the 'government' is maligned in public discourse and in the media when one considers that it is government after all that creates and maintains the institutions that establish and enforce the rules and regulations that make Victoria one of the most desirable regions of the world to live in. I believe it is important to remember that government is not the problem, it is an essential component of the solution, and effective government is perhaps the most critical characteristic of a desirable nation to live in. Public Health and environmental protection are both recognized as two related areas for which an effective government is essential.

I have been an advocate for both public health and the environment for most of my life. Sadly, I must report that our collective efforts regarding these matters are failing dramatically at the global scale. Human health ultimately depends on environmental health and we are currently in the middle of numerous inter-related environmental crises at local, regional, and global scales that are formidable and relentless. For example, we are in the middle of a global extinction of species that is unprecedented; and, this extinction is accelerated by ocean acidification, climate change, and

anthropogenic land use transformations that are driven by a growing and increasingly affluent human population. These crises and others demand sustained and committed action by all of the governments of the world including Australia and the state of Victoria. A key step we need to take is to recognize that environmental protection and economic viability catalyse the creation of good sustainable jobs in Victoria.

The worldview of Economics is failing us

It is false to claim that there is a 'trade-off' between 'The Economy' and 'The Environment'. That claim has historically done inestimable damage to our ability to chart our way to a sustainable and desirable future. First of all, there is no economy if there is no environment to support it. Second of all, activities that support the environment and sustainability are good for the economy rather than bad. Finally, the world view of economics is fundamentally flawed in ways we must recognize, articulate, and address if we are to create a sustainable and desirable future. It is imperative that we abandon magical thinking of the sort that suggests that market forces and 'invisible hands' will avert the inevitable human suffering that will manifest as a result of failing to proactively address these ongoing challenges.

It has taken me years of study and contemplation to wrap my head around many of the flawed ways we collectively think about the economy and the environment. I have a substantial and well-cited academic record in this area and I have gone to some effort to try to communicate this to my students and fellow citizens. One vehicle by which I communicate these ideas is by using the idea of 'ecosystem services' and the economic valuation of ecosystem services. I have a piece in 'The Conversation'¹ on this matter and a radio piece on Robyn Williams' 'Ockham's Razor'² ABC radio program. Key points of these pieces are: 1) The dollar value of ecosystem services both globally and in Australia exceeds the dollar value of the market economy. 2) Avoided costs are real benefits. 3) The commonly used metric of GDP and GDP per capita will both increase if bees go extinct.

Clearly we have a serious problem with GDP as an indicator of progress. It is imperative that we understand how the dominant economic world view has corrupted our ability to see the world from an ecological perspective. *Failure to appreciate and incorporate a scientifically sound*

¹ **The Conversation:**

"If dollars rule the world, why don't the bees get a bailout?"

<http://theconversation.com/if-dollars-rule-the-world-why-dont-the-bees-get-a-bailout-38384>

² **Ockham's Razor: "Kill All The Bees!"**

<http://www.abc.net.au/radio/programitem/pgxM6jI596?play=true>

ecological perspective into our policy making will ultimately cause more human suffering in the long run. For this reason alone I believe that an ecological perspective is morally superior to a monetary economic perspective. The ecological perspective is also superior if we adopt the idea of maximizing human well-being as a metric in lieu of maximizing GDP.

The fundamental role of Natural Capital & Ecosystem Services

The overarching goal of improving the human condition is a laudable and appropriate purpose for government. Historically the prevailing guide for accomplishing this has been to maximize economic growth or GDP. There is increasing recognition that this is a flawed objective function. I am firmly convinced that establishing, implementing, and enforcing policy that alternatively aims to increase aggregate human well-being will prove to be far superior to policy aimed at maximizing economic growth or GDP exclusively. Human well-being results from an interaction of human, social, natural, and built capital (Figure 1). As some snippet of scripture suggests: *'man does not live by bread alone'* it can be analogously stated that *'human well-being does not result from money alone'*. Our well-being results from the interaction of natural, social, human, and built capital and it is really important to realize that they are not infinitely substitutable.

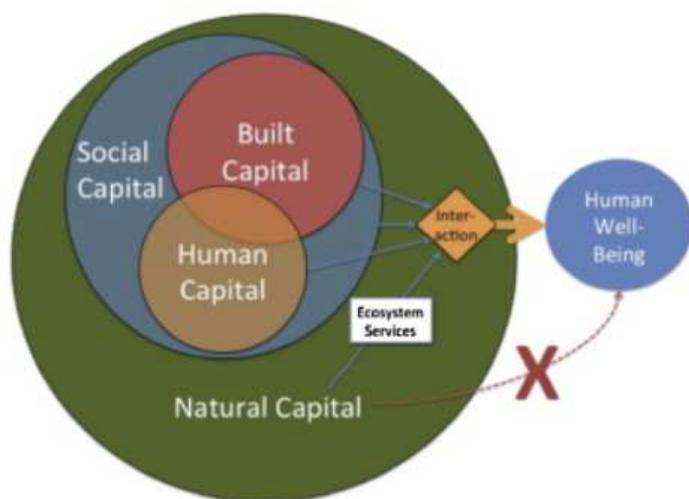


Fig. 1.

Interaction between built, social, human and natural capital required to produce human well-being. Built and human capital (the economy) are embedded in society which is embedded in the rest of nature. Ecosystem services are the relative contribution of natural capital to human well-being, they do not flow directly. It is therefore essential to adopt a broad, transdisciplinary perspective in order to address ecosystem services.

For example, the well-being that results from a tourist enjoying snorkelling along the great barrier reef involves all four capitals: 1) The social capital embedded in the interactions with the guides and travel agents, 2) The human capital embedded in the tourist herself, 3) The built

capital of snorkel, fins, boats, etc., and 4) The natural capital of the reef itself. The economic world view posits that if we 'run out' of one good we can substitute it with another (e.g. tea for coffee, tar sands for crude oil, etc.). The well-being that results from snorkelling along a coral reef can ONLY be achieved if there exist both snorkels AND coral reefs. Coral reefs cannot be substituted with more snorkels to achieve the same well-being. This ridiculously obvious flaw is embedded so deep in economic thought that few of us recognize it for what it is. In myriad cases there are no efficient substitutes for natural capital. This is a fundamental reason why environmental protection is such an important function of government. We treat the 'value' of nature as if it were zero when it is actually more valuable than the entire market economy.

Ecosystem services are the flow of benefits that arise from natural capital. They can be thought of as the interest that accrues from natural capital. It is estimated that the earth provided roughly \$145 Trillion dollars worth of ecosystem services every year in 1997 (Costanza et al. 2014). Sadly, we have so damaged the earth's ecosystems (including roughly a 50% decline in the areal extent of functioning coral reefs) that we currently only receive \$124 Trillion dollars of ecosystem services every year.

Global mismanagement of our natural capital has cost over \$20 Trillion dollars a year in lost ecosystem services. This undoubtedly has multiplying effects with the market economy and is undoubtedly an underestimate. The Australian tourist economy is vitally dependent on healthy functioning ecosystems and the ecosystem services they provide. Yet, natural capital is not merely an asset that benefits tourists. Australians benefit from Australia's natural capital much more than tourists do.

The economic value of Green Infrastructure

Green infrastructure consists of natural areas within urban environments that provide extremely valuable ecosystem services to urban populations. Green infrastructure undoubtedly contributes substantially to human well-being in myriad ways including reducing urban heat islands, providing habitat for wildlife, reducing obesity, increasing non-motorized transport, increasing property values and tax revenues, and so on. One way to estimate the economic or dollar value of green infrastructure is to look at Central Park in New York City. Central Park consists of roughly 850 acres in central Manhattan. This is prime real estate that, if converted to mixed use real estate, would be worth roughly \$500 Billion dollars. That \$500 Billion would likely yield a 5% annual return which amounts to \$25 Billion dollars a year. Why don't the city fathers of New York City sell off central park and bank the money to produce \$25 Billion dollars a year in annual revenue? Because it would be political suicide. What does that mean? Central Park's value as green infrastructure is worth more than \$25 Billion dollars a year

to the people of New York City. Nature's value is being preserved in Central Park but is that true elsewhere? Tony Hall has written extensively on the 'Death of the Australian Backyard'. Private urban green spaces are getting paved over by lot splits and subdivisions for private gain while public costs in terms of storm water runoff, urban heat islands, and numerous other ecological consequences are externalized. Green infrastructure is an incredibly valuable asset that is only beginning to be recognized. How is Green Infrastructure so valuable? It is so valuable because it produces benefits that are a result of the *interaction* of natural, social, human, and built capital which are NOT substitutable.

What are Victoria's greatest assets?

Australia routinely ranks in the top ten nations of the world in terms of desirability as a place to live; nonetheless, Qatar, Brunei, Kuwait, and the UAE all have higher GDP per capita than Australia. Why is this? Clearly, Australia and Victoria have something of value that is not measured by GDP per capita alone. I have no doubt that what Victoria has is a more appropriate balance of natural, social, human, and built capital which creates a highly desirable level of well-being for the average Victorian. This desirability of Victoria and Australia in general as a place to live does have consequences in the market economy that cannot be denied. Consider the value of residential real estate as a fraction of the entire net worth of Australia. According to CoreLogic, Australia's total net worth is roughly \$10 Trillion dollars (Figure 2). Residential real estate consists of a whopping \$5.8 Trillion (58% of the total). Australian superannuation funds come in a distant second at \$1.9 Trillion (19%). The share markets are a close third at \$1.6 Trillion (16%) with commercial real estate at only \$700 Billion (7%).

It is worth noting that an estimate of the annual value of Australia's terrestrial ecosystem services is roughly \$3.2 Trillion dollars. Australia's unmarketed natural capital undoubtedly contributes to the market value of Australia's residential and commercial real estate. Australia's residential real estate is the real gold in the nation's portfolio and it has this value because of a relatively well cared for environment, a functioning government, and a small but industrious population. This portrait of the nation's 'portfolio' raises many interesting and challenging questions about the role of government in general and about the role of the EPA in the state of Victoria.



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Figure 2: Residential Real Estate is 58% of Australia's Wealth

An economist might likely see Victoria as an unusual opportunity for growth and advocate for policies that would grow the human population and economy of Victoria at the expense of the natural environment. This growth is likely to upset the balance of natural, social, human, and built capital that is currently providing Victorians with an enviable level of well-being in the world today. I urge you to reject the 'economic growth at all costs' world view for several reasons:

- 1) Economic Growth cannot continue indefinitely. Why not stop now?
- 2) The Earth is past carrying capacity now but Victoria is not.
- 3) Australians **will not** be the primary beneficiaries of future growth whilst they **will** be the beneficiaries of a sustainable path.
- 4) Future generations of Victorians will experience significantly increased suffering if Victoria exceeds its ecological footprint.

The ideas I have expressed here are simultaneously simple yet challenging and it is often very difficult to get the public to understand them. As Upton Sinclair stated many years ago: *"It is very difficult to get a man to understand something when his salary depends on his not understanding it."* This is a common challenge of government - to serve the public good when small numbers of private interests have a more significant interest in a particular issue. As your committee deliberates on producing recommendations regarding the role and authority of the EPA I beg of you to take a broad, integrative, and holistic perspective that serves the Commonwealth of Australia. For it is the wealth that we hold in common that we urge the EPA to protect regardless of our financial, political, or

social status. I am very grateful for any attention you have paid to this letter and I provide specific comments to the seven dot points of your call for public participation on the following page. I wish all of you the greatest success with this endeavour because human civilization needs you to succeed.

Sincerely,

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