

Not Relevant

610 ECOLOGICAL FOOTPRINT - NOTED

Not Relevant

TO: THE PREMIER FOR CABINET TO NOTE

RE: ECOLOGICAL FOOTPRINT

1. PROPOSAL

That Cabinet note:

- 1.1. that South Australia's first Ecological Footprint account has been calculated and independently verified.
- 1.2. that work is underway to develop an Ecological Footprint Reduction Strategy in liaison with the Premier's Round Table on Sustainability.

2. BACKGROUND

- 2.1. South Australia's Strategic Plan Target 3.10 under Objective 3 *Attaining Sustainability* commits the Government to 'Reduce our footprint to reduce the impact of human settlements and activities within 10 years'. The priority action listed against this target is to 'Determine South Australia's ecological footprint and to develop a strategy aimed at reducing the number of hectares occupied per person, to reduce the impact of human activities and settlements within ten years'.
- 2.2. The Office of Sustainability, Department of Environment and Heritage (DEH) was assigned the task to calculate South Australia's Ecological Footprint.
- 2.3. The Ecological Footprint is accepted internationally as a method of measuring human use of the environment. The Ecological Footprint measures the amount of productive land and water that is required to produce the goods and services we consume and to absorb the wastes we produce in a given year, and compares these to the amount of productive land and water that is actually available.
- 2.4. Essentially the Ecological Footprint is an expression of our consumption of renewable resources versus their availability. It is possible to use more renewable resources than we have available to us in a given year. For example, we can cut down trees faster than their ability to regrow, or to catch fish at a rate greater than a fishery can support.
- 2.5. The international standard for calculating the Ecological Footprint (EF) includes the Ecological Footprint of goods imported into a jurisdiction and excludes exported goods i.e:

South Australia's EF = Production EF – Export EF + Import EF.

- 2.6. As a first step in calculating South Australia's Ecological Footprint, the Office of Sustainability became a partner in the Global Footprint Network, an international organisation established with the aim of improving the Ecological Footprint methodology and ensuring consistent and accurate communication of the Ecological Footprint concept.
- 2.7. The Office of Sustainability, DEH engaged the University of South Australia's Centre for Industrial and Applied Mathematics as a partner in February 2005 to calculate South Australia's Ecological Footprint. This work was completed in June 2005.
- 2.8. The Office of Sustainability then sought two separate independent peer reviews of the calculation. These were conducted by Manfred Lenzen, an Ecological Footprint expert from the University of Sydney, and the Global Footprint Network. Both reviews concluded that the data and processes used in the calculation were valid and that the results appeared reasonable.

3. DISCUSSION

- 3.1. South Australia's Ecological Footprint stands at 7.0 Global Hectares¹ (Gha) per capita. There are 1.8 Gha available per capita world-wide (see Figure 1 in Appendix). This means that, if the global population consumed resources at the same rate as South Australians, we would need nearly four times current availability of renewable resources to support ourselves.
- 3.2. South Australia's Ecological Footprint of 7.0 Gha per capita compares favourably to the Australian average of 7.7, and the Victorian Ecological Footprint of 8.1 Gha per capita. The principal reason for the difference between South Australia and Victoria's Ecological Footprint is the way in which we produce our energy, as the black coal and natural gas predominantly used in South Australia emit less greenhouse gases than Victoria's brown coal.
- 3.3. The largest contributor to South Australia's Ecological Footprint by consumption category is food (see Figure 2 in Appendix), followed by goods, housing, services and mobility. Impacts on a range of renewable resources are incorporated in the calculation of the Footprint of these consumption categories. For example, in the food consumption category, the use of agricultural land (for crops etc.), the use of pastoral land for animal products, forest (for wood in packaging etc.), built area (required for infrastructure, manufacturing plants etc.), fisheries and the use of energy (for transport, manufacturing etc.) are all included.

¹ A Global Hectare is the common unit of measurement used in Ecological Footprint accounting. The Global, National and State accounts were prepared in 2004 and largely use 2001 data.

- 3.4. Across these five consumption categories, the largest single contributor is the emission of greenhouse gases, 58% of our Ecological Footprint is attributed to the use of energy.
- 3.5. Strong links are therefore necessary between the Ecological Footprint project and any initiatives aimed at reducing South Australia's greenhouse emissions. This is being considered in the drafting of South Australia's Greenhouse Strategy and will be considered in the development of Ecological Footprint reduction strategies.
- 3.6. The global average Ecological Footprint is 2.2 Gha per capita. This means that globally, the human population's use of renewable resources exceeds the capacity of the environment by some 20%.
- 3.7. Footprint accounting demonstrates that it is possible to have a very high quality of life with a much lower Footprint than Australia's (see Figure 3 in Appendix). For example, Italy has a Footprint of 3.8 Gha per capita, less than half that of Australia. Yet Italy has a very similar human development index² rating to that of Australia. Hence, we can seek to learn from the practices of nations with a high standard of living, and a much lower Footprint than our own.
- 3.8. A Steering Committee with representation from Primary Industries and Resources SA, Department of Trade and Economic Development, Planning SA, Environment Protection Authority, Department of the Premier and Cabinet, Department for Environment and Heritage, Department of Treasury and Finance, Department of Transport Energy and Infrastructure, Department for Water Land and Biodiversity Conservation has overseen the calculation of South Australia's Ecological Footprint. A new Steering Committee will shortly be formed to oversee the communication and development of reduction strategies.
- 3.9. The Office of Sustainability, DEH has briefed the Premier's Roundtable on Sustainability on the results of the Ecological Footprint calculation for South Australia and the limitations and potential uses for the information gained. The Premier's Roundtable on Sustainability has agreed to assist the Ecological Footprint Steering Committee to develop an appropriate framework for Ecological Footprint reduction strategies and to assist in the communication of the key messages to the South Australian public.

² A United Nations measure of quality of life.

4. **SUMMARY**

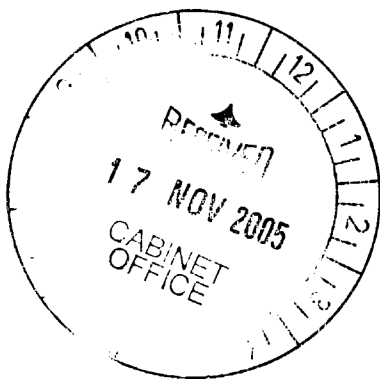
4.1. For Cabinet to note:

4.2.1. that the **Ecological Footprint** for **South Australia** has been calculated and independently verified;

4.2.2. that the Premier's **Roundtable on Sustainability** will be involved in drafting a framework for **Ecological Footprint** reduction strategies and in communicating the key concepts.

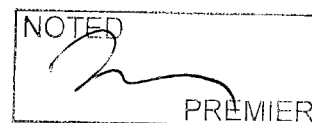

JOHN HILL
MINISTER FOR ENVIRONMENT AND CONSERVATION

Date: 15.11.05



In Cabinet

21 NOV 2005



Appendix

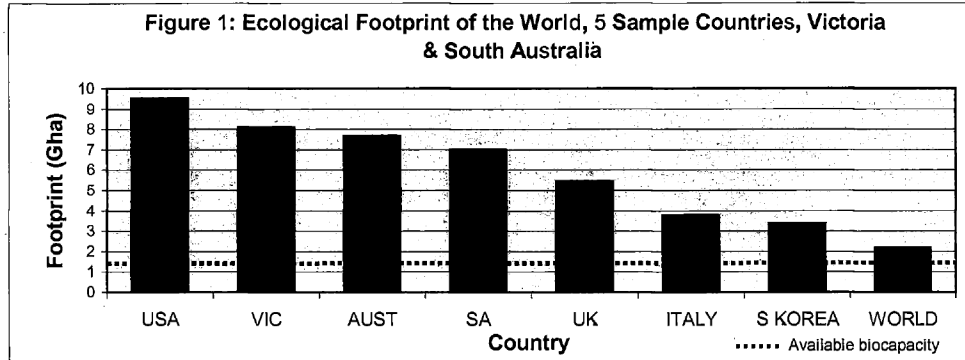


Figure 1 depicts the Ecological Footprint (what we use, per capita) of the world, five sample countries, Victoria and South Australia. The dotted line represents biocapacity (what is available per capita worldwide).

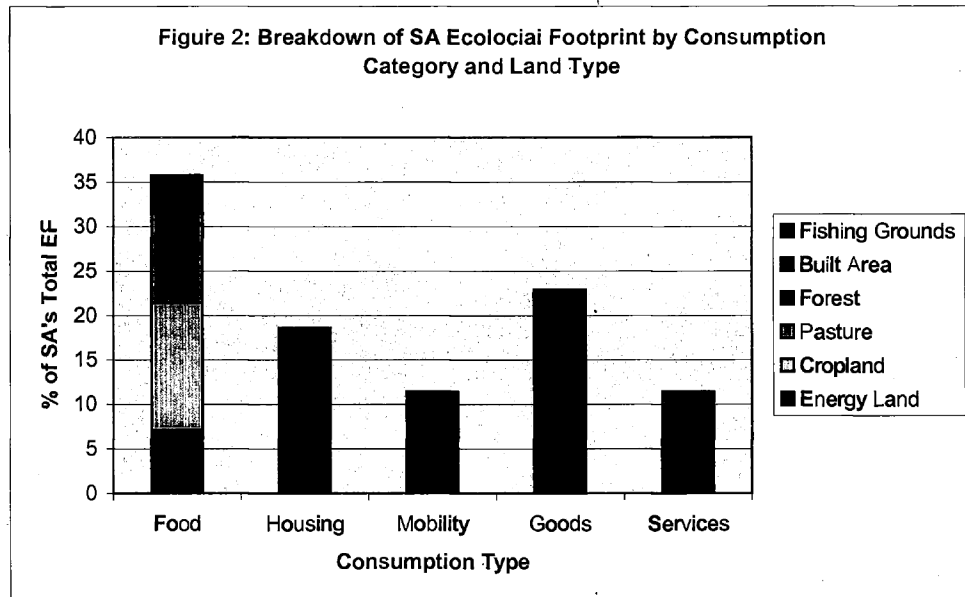


Figure 2 shows a breakdown of South Australia's Ecological Footprint results. The largest contributor to South Australia's Footprint by consumption category is food. Across these five consumption categories, the largest single contributor is the emission of greenhouse gases; 58% of our Footprint is attributed to the emission of greenhouse gases in the production and use of energy.

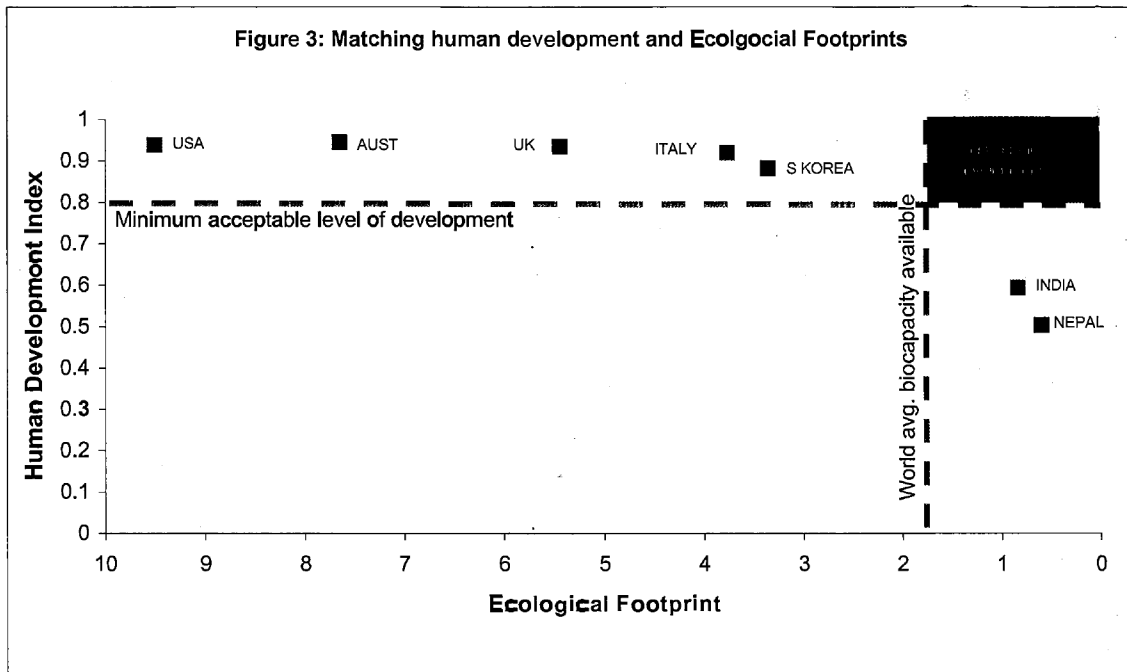


Figure 3 indicates that there can be vast differences between the Ecological Footprints of nations with very similar standards of living. For example, Italy has a similar Human Development Index (United Nations measure of development) rating to Australia and the USA, but with less than half the Footprint of Australia, and around one-third that of the USA.