

EPA Victoria

Fostering
innovation
for a
sustainable
future



Dr Mathis Wackemagel and
John Thwaites, Victorian Minister
for the Environment and Water

I am delighted that the first ever gathering of the Global Footprint Network is happening this year in Siena, Italy and pleased that there is an opportunity for Victoria to share some of our 'Footprint experiences'.

The Victorian Government has a strong commitment to creating a sustainable future for our State. Last year I released our Government's vision for that future in a Framework for Environmental Sustainability, *Our Environment, Our Future*. The framework establishes three directions for Victoria to create a sustainable state, and includes a calculation of Victoria's Ecological Footprint. The three directions are:

1. Maintaining and restoring our natural assets
2. Using our resources more efficiently
3. Reducing our everyday environmental impacts

The Victorian Government is pleased to be a partner of the Global Footprint Network, through the activities of our Environment Protection Authority. EPA Victoria's Ecological Footprint Program plays a central role in our focus on working towards a sustainable future through engaging business and the broader Victorian community in environmental sustainability and providing a pathway to identify and address the major issues of concern.

I commend all the partners of the Global Footprint Network for the pioneering work you are doing. Your work is helping to create sustainable and rewarding lives for all members of our global family. On behalf of the Victorian Government, I wish you a fruitful and productive forum.

John Thwaites

THE HON. JOHN THWAITES
Minister for the Environment and Water
State Government of Victoria



because this is our home



Our Ecological Footprint Program

EPA Victoria's Ecological Footprint Program has been successful in using the concept and tools to:

- spark innovation and leadership in sustainable development
- develop partnerships to explore applications of the tools to promote resource efficiency
- develop knowledge within the broader community to help create a sustainable future.

EPA has worked in partnership with a wide range of organisations to use and investigate practical applications of the Ecological Footprint, as a communication, engagement and measurement tool.

Creating tools that empower and spark innovation for sustainability

EPA develops and uses a variety of tools that support innovation within organisations and empower the broader community to take action that contribute towards a sustainable future.

Ecological Footprint calculators

EPA Victoria, in partnership with Centre for Design at RMIT University in Melbourne and Dr Mathis Wackernagel, has developed Ecological Footprint calculators for households, offices, retail tenancies, schools and events (such as conferences or festivals).

The Calculators help users compare the impacts of their everyday decisions and challenge them to think about how they might achieve Footprint savings, both directly through their own behaviour and indirectly through influencing other peoples' or organisations' behaviour.

The Calculators also highlight that, by examining their Ecological Footprint and taking actions to reduce it, users may save money and improve their business profitability.

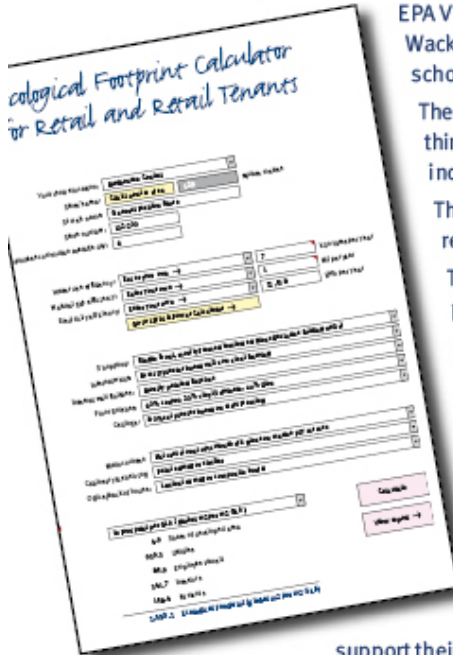
These Calculators have helped a wide range of organisations calculate their Ecological Footprint and prioritise actions for achieving savings.

www.epa.vic.gov.au/eco-footprint

DVD: *Ecological Footprint – Accounting for a small planet*

To introduce the concept of Ecological Footprint to a wider audience, and to enhance the tools available within EPA Victoria to engage the community in sustainable living, EPA Victoria has worked together with Global Footprint Network to develop an Australian version of the DVD *Ecological Footprint: Accounting for a Small Planet*, featuring Dr Wackernagel.

The DVD is being distributed to a wide range of organisations to support their Ecological Footprint initiatives and staff and stakeholder engagement, such as universities, schools, businesses, the Sustainable Schools program, the Western Region Environment Centre, local council initiatives and the Centre for Education and Research in Environmental Strategies (CERES).



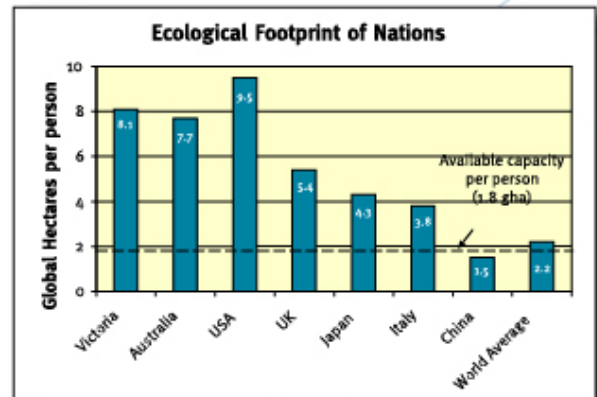
Understanding our ecological assets and our impact: Victoria's Ecological Footprint

The ability to calculate Ecological Footprints at different scales is one of its key attributes. To link on the ground initiatives (for example GPT's Footprint initiatives) with the Government's sustainability commitments, the quality of our environment and the overall capacity of the planet, EPA commissioned the calculation of the Victoria's Ecological Footprint in 2005.

This study had two aims: to calculate Victoria's Footprint in an internationally comparable manner, and to contribute to the methodological discussions by comparing methodologies. Two international Ecological Footprint experts Dr Manfred Lenzen, from Integrated Sustainability Analysis, University of Sydney and Dr Mathis Wackernagel, Global Footprint Network, were engaged to jointly produce a robust assessment of Victoria's Ecological Footprint that was internationally comparable.

The results of the study showed that the average Victorian needs 8.1 gha of land to sustain their lifestyle, with 5.4 gha of biocapacity. The Victorian Footprint is approximately 5 per cent larger than the Australian average Ecological Footprint of 7.7 gha per person.

It is expected that the Victorian Government will be recalculating Victoria's Ecological Footprint for publication in its 2008 State of the Environment report.



Partnerships to explore applications of Ecological Footprint

'Achieving sustainability requires government, industry and the broader community to work together in partnership to integrate environmental considerations into all aspects of public and private decision-making.'

'Ecological Footprint has been a central tool in EPA's efforts to build partnerships with businesses, academia and other government organisations.'

Mick Bourke, EPA Victoria Chairman



Case Study: Aurora residential development – towards 'one planet living'.

VicUrban, the Victorian Government's sustainable land development agency, is currently building Aurora, Melbourne's newest sustainable community in Epping North.

Aurora is a good example of how urban and housing design can have a significant influence on reducing our environmental impact. Over the next 20 years, Aurora will comprise approximately 8,000 homes with an anticipated population of 25,000. Envisioned as one of Australia's most innovative and unique communities, Aurora seeks to achieve a pioneering level of sustainable outcomes.

To see how far this sustainable community goes towards achieving sustainable living, VicUrban partnered with EPA Victoria, the Global Footprint Network and the Centre for Design at RMIT to undertake an assessment comparing Aurora's Ecological Footprint to the Footprint of a conventional 5-star development.

The average Victorian resident's Footprint is now more than four times the amount of biologically productive land available per person worldwide. The Ecological Footprint analysis found that the total Ecological

Footprint of an Aurora resident is 7.03 global hectares, a saving of 9% on a conventional development's Footprint, which is a significant feat, but still three and a half times the biocapacity available per person.

The major Ecological Footprint findings at Aurora are:

- **The total Aurora residents' Footprint is approximately 9% less than for residents of a 5-Star greenfields development, and less than that of the average Victorian. If**

this saving could be replicated globally, humanity would be able to eliminate a substantial amount of its current ecological deficit.

- **The housing Footprint of Aurora achieves a 53% reduction** compared to 5-Star developments now being built in Victoria
- **11% reduction in the mobility Footprint** at Aurora due to the pedestrian and bike friendly design combined with greater housing densities.

The Ecological Footprint study findings demonstrate the value of Aurora's sustainability strategies compared with a conventional Victorian 5-Star greenfields development and confirm the degree of creativity, innovation and commitment required from all sectors of the community to work towards 'one planet living'.

For a copy of the *'Ecological Footprint Analysis of Aurora Residential Development'* report go to www.vicurban.com.



Case Study: The GPT Group applies Ecological Footprint to its retail portfolio

The GPT Group is one of the largest property groups in Australia. Since listing in 1974, GPT has built a quality portfolio of Australian assets across the major markets and sectors including retail, office, industrial/business park and hotel/tourism. The Group also provides investors with exposure to a range of assets in the US and Europe through its Joint Venture with Babcock & Brown.

Committed to understanding how big the retail footprint really is, GPT were inspired by EPA Victoria's Ecological Footprint Calculator for commercial projects. EPA, Global Footprint Network and GPT worked in partnership for 18 months to develop a useable tool that assists retail tenants and owners to identify and understand the environmental impacts of retail design and operational practices. As a vital industry sector, The GPT Group recognize their responsibility to understand the impact of retail but needed a tool to facilitate this in a meaningful way. The result is the Ecological Footprint Calculator (Retail Base and Tenants).

"Through this process GPT found the Footprint concept and calculators helpful in communicating the business and environmental benefits of incorporating sustainable design principles and materials in the redevelopment of its shopping centres, including Melbourne Central."

Mark Fookes – Head of Retail, The GPT Group

Findings from early work are compelling. The impact of standard practice retail development (base building and tenants combined) is approximately 2,800 Global m² of footprint per m² of Gross Leasable Space. The base building accounts for approximately 40% of this total. Redesign work has identified the potential to reduce this impact by up to 40% where owners and tenants work together towards leading sustainable design and operational practice.

"The footprint has also shown that there is nowhere to hide, as it looks at all aspects of our impact. Where we may make tactical gains on water at one-site and energy gains at another, the footprint levels the development playing field and keeps you honest."

Anthony McNulty – General Manager Retail Development

The Ecological Footprint Calculator for Retail and Retail Tenants considers five primary resource elements including loss of bio-productive land; resource and greenhouse intensity of building materials; the energy and water intensity of operation and global impacts of staff and consumer travel patterns. The tool has been designed to be simple and easy to use and provides information about the proposed design relative to best practice performance benchmarks. It also enables GPT and tenants to explore the ecological implications of their design and operations.

GPT has also continued to expand the capability of the Calculator and is using it as a primary reporting tool for their

Retail Ecological Footprint Calculator Results



A\$480 million Rouse Hill Town Centre retail development in New South Wales. The GPT Group are engaging tenants in sustainability by incorporating application of the Calculator into leasing agreements.

A public version of the Ecological Footprint Calculator for Retail and Retail Tenants is available at www.epa.vic.gov.au.

More information about the project can be found at www.gpttreadslightly.com.au.



Voluntary and statutory programs to facilitate resource efficiency

In addition to its Ecological Footprint program, EPA has established a range of both voluntary and statutory programs that focus on increasing resource efficiency and reducing ecological impact, delivering both benefits to industry and the environment.

Life Cycle Program

EPA has expanded its Ecological Footprint Program to include other life cycle tools and approaches to help meet demand from a diverse range of interested organisations.

In 2005, EPA Victoria established a Life Cycle Management Program to extend the application of life cycle thinking in industry, government, and the broader community. Life Cycle Management is an integrated concept to assist businesses in managing the total life cycle of products and services towards more sustainable consumption and production patterns.

Broader life cycle approaches and resources in this program include:

- A Life Cycle Management website, which communicates the business benefits of adopting a life cycle approach to managing a business, and includes tools to assist businesses in integrating life cycle thinking into their business.
- Life Cycle Assessment training, which builds capacity within industry to better understand environmental impact across the life cycle of products and services, and integrate life cycle thinking into core decision making processes.

www.epa.vic.gov.au/lifecycle

Trade Waste Partnerships Program

EPA establishes partnerships with water businesses that sell fresh (potable) water and treat used water (effluent) from domestic, commercial and industrial facilities. Through these partnerships, EPA and the water businesses work with industrial clients to reduce the quantity and improve the quality of trade waste to maximise reuse opportunities.

The overall objectives of the program are to:

- Promote cleaner production approaches as a key strategy for managing trade waste, and where possible implement these approaches across all aspects of a company's environmental impact;
- Achieve reductions in critical parameters in trade waste, such as sodium, to enable effluent and biosolids reuse; and
- Reduce the impact of sewage treatment plant discharge to receiving environments.

Water businesses are enthusiastically participating in the program and have already achieved excellent outcomes such as significant reductions in trade waste discharges and in water use by working in partnership with their clients.

Industry Greenhouse Program

EPA's Industry Greenhouse Program is the first regulatory greenhouse and energy efficiency program for industry in Australia, and one of the first in the world. The Program applies to EPA Victoria licence holders and works approval applicants (approximately 1100 sites). As part of their EPA Licence, these businesses must undertake an audit of their energy use and associated greenhouse gas emissions and implement initiatives that have a less than three-year payback period.

So far, the Program has delivered significant benefits to business, including lower energy bills, increased operating efficiency and profitability, and improved environmental performance (including significant greenhouse gas emission reductions). An independent review of the program has found that the program will deliver:

- greenhouse gas reductions in excess of 1 million tonnes of CO₂-e emissions per year
- energy cost savings of some \$34 million per year, at a total implementation cost of \$49 million, representing a simple payback period of 17 months on average.

The Program's statutory requirements are enacted through the State Environment Protection Policy (Air Quality Management), with details contained in the Protocol for Environmental Management (Greenhouse Gas Emissions and Energy Efficiency in Industry).

For more information, download EPA publication 1035, *EPA Victoria Industry Greenhouse Program: the Story So Far* from www.epa.vic.gov.au/publications



Paul Tebo, former vice-president of DuPont global, with Paul Thomas of Dow Chemical

Sustainability Covenants

Sustainability Covenants are voluntary statutory agreements, enshrined in the *Environment Protection Act 1970*, through which EPA Victoria and a company or a group of companies can explore creative ways of reducing the environmental impact and increasing the resource efficiency of their products and services. Through Sustainability Covenants the entire life cycle of products and services is considered and therefore the environmental benefit achieved extends beyond the site of a company's operations. Sustainability Covenants also enable companies to receive statutory recognition for leadership and commitment shown to the environment.

Case study: VicSuper, the first superannuation fund to have a statutory agreement with an environmental regulator.

VicSuper is one of Australia's largest regulated superannuation pension funds with more than 200,000 members and \$3.3 billion in assets at the commencement of this covenant. Following the success of its first Sustainability Covenant, VicSuper has signed a 10 year Sustainability Covenant with EPA Victoria. This Covenant emphasises that superannuation and sustainability are natural partners that can work together to create positive and necessary change in the long-term for the benefit of superannuation fund members, the economy, society and the environment.



EPA Victoria Chairman Mick Bourke with Bob Welsh, Chief Executive of VicSuper

Some of the initiatives committed to in the first year of the covenant include:

- Developing procedures and practices to assess the environmental sustainability of VicSuper Fund's investment portfolio;
- Engaging with investee companies on issues including life-cycle stewardship, resource use efficiency and climate risk; and
- Collaborating with the Investors Group on Climate Change Australia and New Zealand to instigate research into the investment related risks and opportunities of climate change.

Under its first Sustainability Covenant, VicSuper measured the impact of its office, and some of its products and services consumed in its office operation using the EPA Ecological Footprint Calculator for Offices. VicSuper identified that its printed publications were one of the largest contributors and switching to recycled paper for publications reduced this impact by half.

"It is becoming increasingly clear that the long-term success of companies is linked with their environmental, social and economic performance. This is true not only for the companies in which we invest, but also for VicSuper. Our operations depend, and impact on, the environment, society and the economy."

Bob Welsh, Chief Executive of VicSuper

www.epa.vic.gov.au/Sustainability_Covenants/vicsuper

For more information about EPA Victoria while at the Footprint Forum 2006, contact EPA Victoria's **Terry A'Hearn**, Director – Sustainable Development, or **Krista Milne**, Acting Manager of Strategic Coordination Unit, or go to www.epa.vic.gov.au.

Victoria is the second largest State in Australia, in terms of population and economic output. EPA Victoria is the Victorian Government's statutory agency that is charged with protecting the Victorian environment. EPA's mission is to enable the achievement of a clean, safe and sustainable environment. To do this we use our statutory capacities, knowledge and experience, with an emphasis on nurturing our valued relationships.

EPA also has a strong focus on business facilitation programs. We work with a wide range of businesses, community groups and governments to raise awareness on sustainability issues and identify ways for stakeholders to integrate sustainability into their core activities.