

NURSERY PAPERS

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NURSERY PAPER: GREENING OUR CITIES FOR THE FUTURE

Australia's dynamic nursery and turf industries are joining forces with a range of public and private institutions in cutting-edge research to help build the case for more green space in our communities and our cities.

The **Green Cities Fund** forms one of the seven components of the Hort Frontiers strategic partnership initiative, which was developed by Hort Innovation to future-proof and advance Australia's \$11.3 billion horticulture sector.

Green Cities aims to deliver innovative research to ensure greater sustainability across urban areas, while at the same time boosting the value of our green life industries, and delivering return on investment for levy payers.

The **Hort Frontiers Fund** facilitates collaborative cross-industry investments that are focused on longer-term, complex and often under-invested themes identified as critical for Australian horticulture into the future.

The **Fund** brings together investors and research partners across commercial industries, universities, public and private research institutions and state government agencies. It incorporates funds

from these entities together with levy funds and contributions from the Australian Government.

Australian production nurseries are continuing to lead the way in innovation and technological advancement. In this Nursery Paper, we explore how the industry is a key enabler of several research programs in the Green Cities fund.

Summary

- Green Cities Fund combines industry, investors and research partners to help build the case for more green space in communities and cities
- The nursery industry has grower representatives on Hort Frontier's Green Cities Expert Advisory Panel
- A small proportion of the \$17 million currently invested in the Green Cities Fund, is provided by the nursery levy along with investment from commercial businesses, universities, private research bodies and government agencies
- Current projects include increasing the use of green roofs and walls in architecture; assessing the impact of green space on our wellbeing; and identifying which plants best suit particular green spaces and why.



Photo: Chris Barbalis.

BACKGROUND

With the Australian urban population growing and the health benefits of plants becoming more clearly understood, urban developers and governments are seeking 'greener solutions' to create healthier, more sustainable communities.

The nursery industry is well placed to take advantage of these emerging opportunities by providing high quality, sustainable green life, supported and inspired by leading research into the key factors influencing green cities.

The Green Cities Fund is a prime opportunity for the nursery industry to work with leading research institutions and businesses that share a common goal of expanding green space in urban areas.

The Fund seeks to identify and reveal the trends for green infrastructure in cities, and to identify opportunities for more green life through world-class research in the horticultural sector.



GREEN CITIES AND THE NURSERY INDUSTRY

Currently there are \$17 million worth of funds invested in Green Cities. The nursery industry is a key stakeholder in the Fund and has industry and grower representatives on the Hort Frontiers' Green Cities expert panel.

Green Cities builds on the extensive work of the nursery industry's marketing initiative, 2020 Vision, which seeks to increase urban green space by 20 per cent by 2020 and build greater connections within Australia's green community.

Nursery levy investments in Green Cities are guided by four key themes:

- 1. Climatic and environmental research** which leads to increased understanding and application of the positive benefits of urban greening with a specific focus on its role in overcoming Australia's climatic and environmental challenges, such as extreme weather and the urban heat island effect.
- 2. Metrics and measurements** which provide economic measurements of the productivity, health and environmental benefits of increased urban green space.
- 3. Culture and community** which builds greater understanding of the cultural and community opportunities and barriers to urban greening.
- 4. Knowledge and information** to enhance national mapping of urban green space and to overcome the current fragmented approach to planning and designing urban green space.

Each Hort Frontiers Fund, such as Green Cities, has an Expert Advisory Panel that provides expert advice and oversight, including input into proposed projects and recommendations on potential methods to address research gaps.



Green vertical wall.

FEATURED PROJECTS

Developing cost benefit analysis tools and business case methodology to promote the case for urban green space (GC15000)

This newly contracted project, co-funded by a commercial developer, the CSIRO, Hort Innovation and funds from the nursery levy, aims to find out what information already exists on current green space and processes for urban development and renewal, and to identify any gaps.

Using a real life development site, the project aims to better understand the flow of information between those proposing a development and those making the decisions, and what information they need to account for the benefits as well as the costs.

This is particularly important where developers are creating a masterplan that includes parks that could be handed over to the local council once completed, becoming an additional responsibility to maintain.

For more information, visit: <http://yourlevyatwork.com.au/putting-a-price-on-green-space-in-urban-development/>

Expanding the living architecture industry in Australia (GC15001)

Cities around the world are mandating green roofs and walls in their planning legislation to increase the livability of their cities and combat rising temperatures and density. However, while Australian capital cities encourage green infrastructure, they do not mandate its adoption.

This twelve month project explores whether a mandatory approach to green roofs and walls is appropriate for Australia, and will outline a number of policy frameworks that could be adopted over time.

Led by the University of Technology, Sydney, the project will be bolstered by real-life case studies and include a guideline of the ongoing costs and maintenance associated with implementing more green walls and roofs. More information is available here: <http://horticulture.com.au/co-investment-project/expanding-the-living-architecture-industry-in-australia/>

The final report is available to order at <http://horticulture.com.au/resources/final-report-order-form/>



Which plant where, when and why database (GC15002)

This national initiative brings together a coalition of researchers, industry and grower stakeholders to deliver a first-of-its-kind project, which will investigate the suitability of various plant species under current and future climatic scenarios.

It will be delivered via an interactive tool that will map which plants are best planted where and why.

The tool will enable users to select from a range of filters to choose the right species of plant for various urban areas, ranging from street plantings to housing developments and open spaces.

More information: <http://horticulture.com.au/co-investment-project/gc15002/>

Measuring Australia's green space assets (GC15004)

This project is co-funded by the nursery and turf industry levy in partnership with the University of Technology, Sydney,

and seeks to identify the uses and limitations of current urban green space planning and management.

It will address two key research questions, including:

- What existing tools and methods are available around the world for mapping, monitoring and reporting on urban green space?
- To what extent are these tools suitable for application in Australia, and what modifications would be required?

There are three phases in the project – consultation, a scientific literature review and developing a blueprint for an Australian set of metrics for urban green space, which is available here: <http://horticulture.com.au/co-investment-project/measuring-australias-green-space-asset/>

The set of urban green space metrics to be proposed for Australia will cover both the demand side experience and the supply side of services from green space assets.

The final report is available to order at <http://horticulture.com.au/resources/final-report-order-form/>

Greener Cities – Healthier Lives (GC15005)

To what extent is green space beneficial to our health and wellbeing?

That's the key focus of Greener Cities, Healthier Lives, which will be the first project to study systemic evidence of the benefits of green space on humans, from birth through to old age.

The research will provide industry and policy makers with an idea of the minimum threshold of local green space necessary for favourable health and societal outcomes.

The University of Wollongong has teamed up with an international network of experts in the field to deliver ground-breaking research that they hope will uncover the direct link between green space and human health.

More information: <http://horticulture.com.au/co-investment-project/gc15005/>



International Convention Centre, Sydney, Australia.



View of green roof on modern buildings and other residential buildings in Sydney, Australia during sunrise

Investigating the influence of green infrastructure on demountable building performance (GC16000)

This is an innovative project to investigate the benefits of green infrastructure, most notably green roofs and walls, on temporary buildings.

There is currently no evidence to suggest whether the benefits of green infrastructure outweigh the cost of providing them on temporary buildings such as those used on construction or mine sites.

The project being delivered by the University of Queensland is using a real life case study at the RAAF Amberley Base in Queensland.

Collaborating with a large construction company, the project will help the nursery industry understand the horticultural constraints of a hot, dry climate and extreme weather, and assist in developing a base list of plants growing in shallow inorganic systems both on walls and roofs.

More information: <http://horticulture.com.au/co-investment-project/gc16000/>

HOW WILL THESE PROJECTS BENEFIT THE NURSERY INDUSTRY?

Cutting edge research into aspects of greening cities and communities helps to ensure Australia's nursery and turf industries are ready for the future and contributes to the 2020 Vision of an increase of 20 per cent in urban green space in the next two years.

By working collaboratively with industry, public and private institutions and state government agencies, Hort Innovation's Green Cities Fund will produce information and actions on longer-term, complex and often under-invested themes that are critical for Australian horticulture into the future.

This will promote greater sustainability of green space across urban areas and at the same time boost the value of our green life industries, and deliver return on investment for levy payers.

LINKS TO RESOURCES

Overview of Hort Frontiers: <http://horticulture.com.au/hort-frontiers/>

Green Cities Fund current projects: <http://horticulture.com.au/co-investment-fund/green-cities-fund/>

Nursery levy R&D and marketing projects: <http://horticulture.com.au/grower-focus/nursery/>

Which Plant, Where website: <https://www.whichplantwhere.com.au/>

PAST EDITIONS OF NURSERY PAPERS ARE AVAILABLE ONLINE on the Nursery & Garden Industry Australia website http://www.ngia.com.au/Section?Action=View&Section_id=46