air plants in α space

As a means of integrating plants into the urban environment, **Alpha Space Air Plant Systems (ASAPS)** should not be confused with present vertical or roof gardens. ASAPS is distinctly different. However to gain an understanding of the advantages of ASAPS it is useful to make constructive comparisons between the two.

Biological advantage
Because of the sophisticated biology air plants (Tillandsias) have evolved, where they take all their water and nutrients through special cells on the leaf, they can be utilized in a much great range of situations with no physical risk to a building, virtually no maintenance, and minimal on going costs. These amazing plants have also evolved to grow at night through the use of a CAM cycle, which means they shut down during the heat of the day to conserve water. So, they uptake CO2 and release oxygen at night when nearly all other plants are inactive and pollution levels within the urban environment spike. More than this, they have the ability to assimilate toxic heavy metal particulates from the atmosphere through the leaf which can be tested to monitor comparative pollution levels.

Both soil & water less
This means ASAPS can be designed into urban infrastructure without the cost or complexities of a rooting medium or reticulated watering system.

Light Weight
Consequently ASAPS weight about 3 kg a sqm as opposed to many vertical gardens which can weigh 60 -70 kg a sqm. They can be utilized into facades as living movable weather shields and even suspended across an open space to offer shade and mitigate heat in summer.

Beyond Vertical
Unlike vertical gardens, which can not be constructed beyond vertical, ASAPS can be designed in a 3 dimensional manner to suit any location and the plants will grow at any angle, even upside down.

Adaptive or selective systems
Most vertical garden systems rely on adapting the environment to suit the desired plants. ASAPS installations are based on knowledge and experience in selecting resilient species that have evolved to grow in a habitat similar to that which exists at a particular urban site, negating the need for extensive infrastructure and ongoing maintenance.

Proof of concept
Current experiments with air plants at 20 sites on 5 buildings across 2 states have proved the resilience of this plant system. One of these sites is atop of Melbourne's Eureka Tower (295m) where the plants have been located for over 2 years and are exposed to extreme winds, heat, cold and long periods without rain.

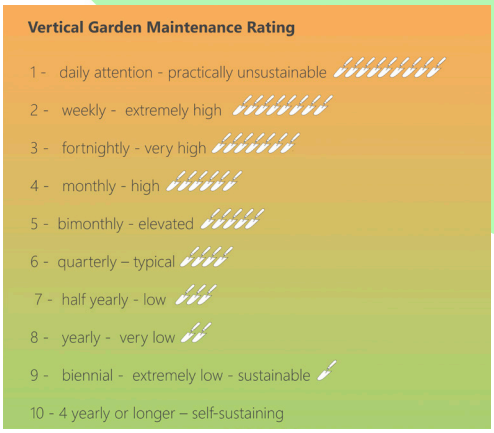
The experimental air plant sites can be traced from this schematic map:
http://lloydgodman.net/suspend/swarm/map.html

The Eureka experiment has proved ground breaking and featured in two recent papers which offers a greater insight into the work.

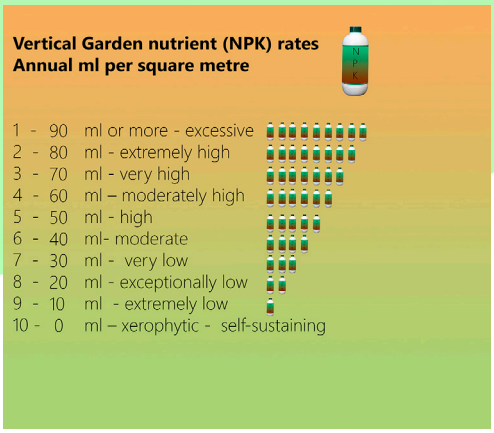
Tall Building Urban Habitat Council Journal
http://www.lloydgodman.net/Cv/Press/TBUH1.pdf

Green Building Council Journal
http://www.lloydgodman.net/Cv/Press/JGB.pdf

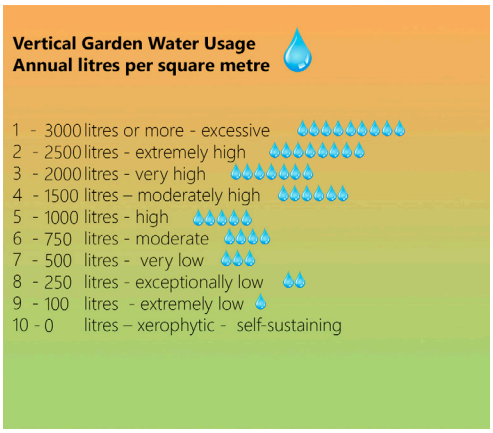
Because there is a wide range of vertical garden systems, with out specific information, it can be difficult to make direct comparisons, but the charts below are offered as a guide.



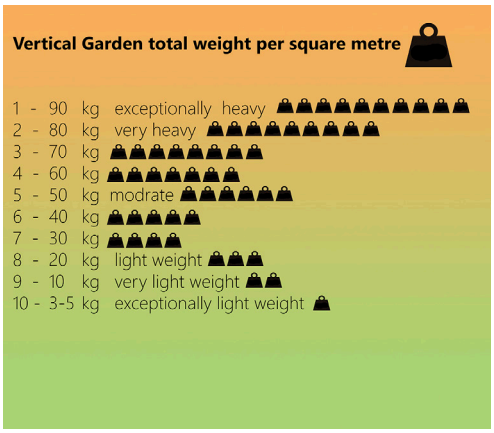
ASAPS score 10 on Maintenance



ASAPS score 10 on nutrient rates



ASAPS score 10 on water usage

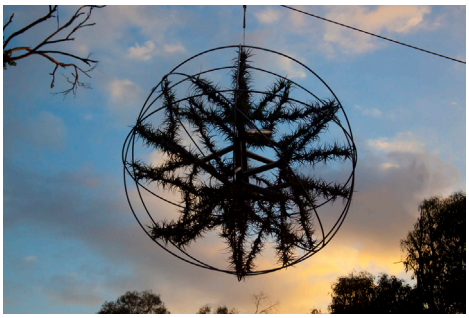


ASAPS score 10 on weight

Overall ASAPS offers a reliable, self sustaining system where the plants can even be harvested over time to adorn other urban structures.

If you are interested in learning more about ASAPS or discussing how we could collaborate with you by incorporated this plant system in a sustainably effective, creative and innovative manner into any urban project, please contact us.

www.lloydgodman.net - lloydgodman@gmail.com - 001161448188899



Team members:

Lloyd Godman MFA : Ecological artist

As a key aspect of his MFA study from 1996 at RMIT, Lloyd worked with Bromeliad plants and particularly air plants. After 20 years experimenting with air plants and realizing many plant based art projects in New Zealand, Australia, U.S.A. and France he is now acknowledged as a leader in this field.

"Lloyd Godman is one of a new breed of environmental artists whose work is directly influencing 'green' building design.....Godman's installations are the result of a unique blend of botanical science, environmental awareness and artistic expression. All three elements are intrinsic to the practical realisation of his polymathic vision".
John Power - Editor of Facility Management Magazine Aug 2011

Stuart Jones:
Structural Engineer BE(Civil & Computing), FIEAust, CPEng, NPER

Stuart Jones is Technical Director for Arcadis in Melbourne. Previous to this he was the Owner/ Director of Point 5 Consulting in Melbourne for 14 years. Stuart has over 25 years professional experience in all phases of project delivery and specialises in creative structural design with extensive experience in Australia and throughout Asia.

Grant Harris:
Environmental Scientist & Arboricultural Consultant

Grant Harris is the principle of Ironbark Environmental Arboriculture, with over 12 years experience in the arboricultural sector he also holds a degree in Environmental Science (Wildlife and Conservation Biology). His particular areas of interest are the use of green infrastructure to mitigate urban heat island effects and urban ecology.