



# Best Practices Database

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## Vertical Garden, Creteil *France*

Good Practice

New for 2002

**Categories:** Architecture and Urban Design:  
- green building  
Environmental Management:  
- urban greening

**Level of Activity:** Global

**Ecosystem:** Continental

## Summary

In cities from all around the world, most of the building walls are left naked, displaying concrete. In the same cities, people are complaining about the lack of green areas and the disappearance of biodiversity. The Vertical Garden, conceived and realised by the botanist Patrick BLANC, is the solution to implement beautiful plant landscapes in any location where there are no others places left for plants. This solution relies on the plants ability to develop their roots in a vertical thin layer of acrylic matter. Thanks to this ability, it is possible to grow plants on any vertical structure. Basically, the structure used is very light (less than 15 kg / m<sup>2</sup>) and can be set permanently on any wall of any building.

The watering is provided automatically through a drilled hose running along the top of the Vertical Garden. It is possible to recycle the water.

The Vertical Garden can be of any dimensions. So far, there are roughly 100 Vertical Garden realisations. Most of them are in France but some have been realised in Italy and in Germany. The largest Vertical Garden is in Paris. It covers a surface of 300 m<sup>2</sup> and is 30 m high.

With a proper choice of the plant species, it can be implemented in any environment (light, wind, temperature, air humidity), either indoor or outdoor.

It is thus possible to implement Vertical Gardens in any city of the world

## Narrative

Situation before the initiative began:

Before the Vertical Garden, there were no possibilities of creating a permanent, multi-specific, self-maintained vertical garden which can be implemented in any city of any climatic part of the world. The only solution to live with plants in cities was to save horizontal surfaces for public gardens.

### Establishment Of Priorities:

Originally, the Vertical Garden was conceived with the purpose of growing plants in small areas where all the horizontal surfaces were occupied. The first priority was then to find a way of growing plants on vertical surfaces, the last one to be left free in cities.

The second priority was to set up a device which allow the Vertical Garden to be watered and fertilized without human action. An automatic solution was then added.

### Formulation of Objectives and strategies:

The main objective is to implement many Vertical Gardens in many cities in order to improve the life quality of many urban inhabitants by offering beautiful green landscapes. In addition, the Vertical Garden is also a way to improve air quality thanks to the plant photosynthesis and thanks to the air purification ability of this living system. The strategy is then to convince many private and public building owners to convert their naked walls into gardens by demonstrating all the benefits they could obtain through Vertical Garden implementation.

### Mobilisation Of Resources:

Once a private or public building owner is interested in a Vertical Garden implementation the only critical resource is the financial one. The technical resources are under the botanical control of Patrick BLANC and under the control of technicians for the hanging of the Vertical Garden on the building wall. The human resources required are not highly qualified and are easy to hire for the duration of the implementation.

In the case of private buildings, the owner finances all expenses. It must be noticed that, depending of the wall orientation, a private own Vertical Garden can be seen from the street and then be public.

In the case of a public building, the owner finances the expenses on his own annual budget or can share the expenses with some specific public money.

Nearly all the financial resources are required for the initial implementation. The maintenance costs are low.

### Process:

As a any new technology, Vertical Garden wide diffusion faces many barriers.

The lack of a worldwide awareness is an important handicap. People (outside France at least) don't know about the Vertical Garden. That means that some opportunities to implement Vertical Garden are wasted.

So far, Vertical Garden implementation are conducted by Patrick Blanc alone : he coordinates all the necessary works required for each realisation. The fact that there are no business structure able to fully handle all the works limits the worldwide diffusion of the Vertical Garden.

The financial problem also exists. Despite the many public benefits of the Vertical Garden there are no governments incentives to support its diffusion.

In the process of implementing Vertical Garden, it is also necessary to fight against false ideas. For instance, due to the lack of information, many people believe that a Vertical Garden installation will require constant and costly maintenance. That assertion is wrong thanks to the automation of watering and fertilizing system. Furthermore, thanks to the botanical knowledge, plant species are selected in accordance with each peculiar environment in order to reduce the maintenance cost.

## Key Dates

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1994 : first public realisation during a garden show (Chaumont

sur Loire)

1998 : first realisation in a public park (Ile Saint Germain)

1999 : first realisation on a new building (Blanc Mesnil)

2000 : realisation of a 300 m<sup>2</sup> large Vertical Garden (Pershing Hall)

## References

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Jean-Marcel Bouguereau, la passion verticale, *Le Nouvel Observateur* 1940, 10 jan. 2002, 4-5

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## Lessons Learned

In order to improve the life of a lot of people, the Vertical Garden realisations should be large, numerous and worldwide.

To achieve that goal within few years :

- the global awareness about Vertical Garden should be increased.
- financial incentives (from the governments or from cities) should appear as the results of the many public benefits of the Vertical Garden

A very large realisation on a public building of on major city of the world would be a good way to increase the worldwide awareness. That realisation should be very large and implemented in an emblematic place. The communication about that major realisation should also insist on all the public benefits of the Vertical Garden. So far the communication about the Vertical Garden rely only on its aesthetic value. Very few communication deals with the others public benefits such as air quality improvement, temperature regulation, phonic isolation and biodiversity preservation.

Once all the public benefits of the Vertical Garden will be widely recognized, a lot of people will want to take advantage of these benefits. This situation will initiate a public pressure towards governments. They could then make it mandatory, through legislation, to fit new buildings with Vertical Garden.

Transferability [300 words]: So far, most of the Vertical Garden realisations have taken place in Paris and its suburbs. That geographic limitation is only due to the fact that the Vertical Garden is mostly known in the Patrick BLANC's hometown.

Since the Vertical Garden is suitable for the growth of nearly all plant species and since there are plants in nearly all earth ecosystems, it is possible to diffuse the Vertical garden to any city of the world, whatever the environmental conditions are.

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## Financial Profile

Email questions or problems to [help@bestpractices.org](mailto:help@bestpractices.org).

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Year	Total budget in US \$	Partner 1 (% of the budget)	Partner B (% of the budget)	Partner B (% of the budget)
1998	18 000	100	-	-
1999	9 350	5	95	-
2000	150 550	2	3	95