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ARCHITECTS & DESIGNERS

ECO LUXURY

The ripple effect of nature's abundance

A design guide for high-end residential property

Foreword

Introduction to Ecoluxury Design Guide

by Sandra Orlando Payne, Inhabitat Architects Director

I am delighted that you came across our latest guide about eco design for luxury properties. This is probably because you are about to embark in a building project. Congratulations! Starting the design process for your 'dream home' is an exciting prospect. I hope you find inspiration and an architect's insight useful as a starting point.

You will need a lot of good professional support to succeed. And key to any building project comes the choice of the architect to work with. How do you chose the right architect for an 'ecolux' project?

We like the term 'ecolux' because it represents the relationship between the richness of the natural environment and the comfort and 'feel good' factor that can be achieved with bespoke, high end design features.

This booklet outlines some of the mistakes clients often make and how these challenges affect their projects. I trust that once you have read through and familiarise with them you can feel confident that you are on the path to achieving your own 'grand design'

I have one simple giveaway, even if you read no further...

Take your time to chose the right architect. Their services will be one of the most important investment in the whole project!

What if ... ?

How would your lifestyle change if your house framed your life beautifully, with materials and architectural features which embrace human emotions? Ecodesign is at the heart of everything we do at Inhabitat Architects.

Whether radical remodelling, reworking existing or new building, with sustainability in mind we believe in the integration of the natural and the built environment. We have a holistic approach to architecture and we believe it is possible to combine sustainability and luxury.

We named this new concept "ecolux", a bespoke design approach for high end residential properties.

Inhabitat eco audit

More square footage and luxury interiors are not always the answer for a high end residential project. Before making effective eco changes to your existing house or making any decision about your new building, We strongly recomend to develop an eco audit.

The aim is to add beauty, comfort and functionality to the house. That is why and ecolux design work starts by understanding not only the site or the functional needs, but the essence of the client's vision: their lifestyle and their environmental goals.

Green materials and strategies, integrated earth-friendly architectural features, separate-yet-connected and flexible space for the family can help preserve the original identity of a place, improving air quality, natural light, flow and reducing the family's environmental impact.

Budgeting

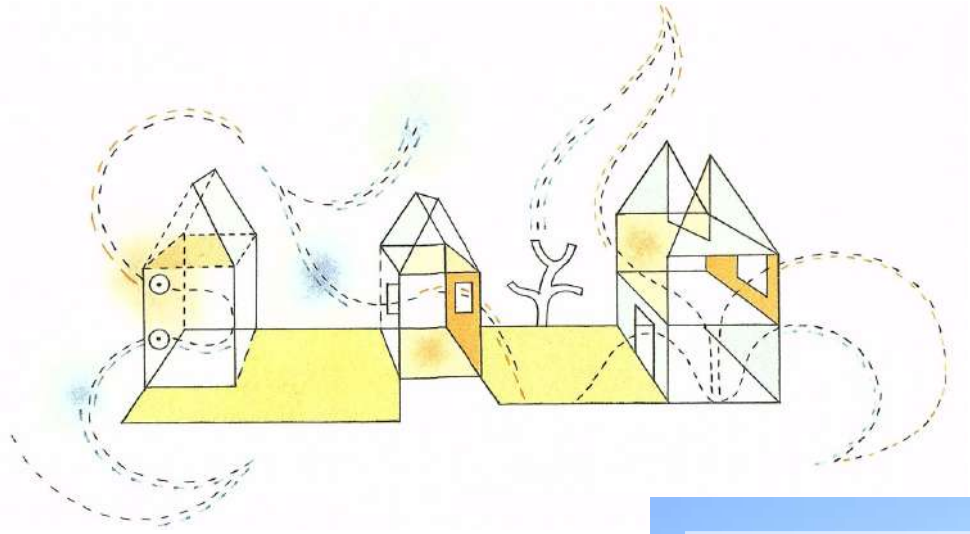
There is a perception that ecolux design is much more expensive than standard eco design solutions.
While some types of alternative technology are undoubtedly costly to install, designing and building in an environmental friendly way can actually be cheaper than conventional approaches, both in the short and long term. Financially speaking, the most telling argument is the savings you will make over time in reduced utility bills and O&M (Operation and Maintenance) costs. Increased expense for day lighting and controls will be offset by reduced HVAC (Heating, Ventilation and Air Conditioning). On the most basic level budgeting means ensuring that you have enough money to carry out the work to a proper standard; an extra as contingency allow has also to be considered. But it can also entail working out your real priorities, so that you spend your money on what is more important and relevant to you.

Permissions

As eco-awareness has grown, official resistance to eco design has dramatically lessened. In many cases the situation has now reversed with gaining permission in areas where development would be frowned upon, thanks to the inclusion of high eco standards and green components.
Any alterations that affect the external appearance in listed buildings or conservation areas has obviously to be discussed by a conservation planning officer, but several intelligent solutions can be implemented, being cleverly mimetic or adding architectural and ecological value to the surroundings.
One of the benefits of using specialist consultants is to be able to defend your case with competence and relevant counter proposals. Good communication can help to smooth the path to a successful project and it makes the administrative burden more sustainable as well.

Passive thermal mass

Our homes are not mechanistic containers that we have to heat up or cool down by switching on and off appliances. A more holistic design approach can be adopted when refurbishing a period property or building a new modern house. Perhaps the single most effective passive strategy is to improve the insulation (see Chart "Where heat is lost?"), but other actions can efficiently make use of solar gain.
For instance, by making the most south facing elevations - enlarging windows or openings - so that the greatest advantage can be taken and reduce the need for supplementary heating. Furthermore, by building in flexibility and planning the internal layout giving consideration to the seasons, according to where warm air accumulates and where it is cooler. Eventually, using massive materials, such as bricks, stone and concrete, which warm up slowly and release heat slowly, would be highly reccomended.



Natural ventilation

Air moves naturally according to differences in pressure and temperature, and air on the move, which has lower level of humidity, is cooling. Passive ventilation systems go a long way to promoting a comfortable temperature indoors during the warmer months. Cross-ventilation, which makes use of differences in air pressure, is one such strategy. This result can be achieved by designing windows, skylight, inner open patios - suitably shielded from solar irradiation - which become natural sources of fresh air, improving the quality of the indoor by maximising the connection with the outdoor.

Natural stone

One of the most beautiful of all natural materials, stone makes your home extremely durable and attractive. Types of stone vary widely in colour and texture, from smooth opulence to contemporary elegance. They all provide high thermal mass, which means that it is a good choice for homes designed for passive solar gain and it is extremely effective installed over under floor heating. The greenest option is to source it locally, quarried nearby. This will give to your house a natural, warm sense of belonging to its surroundings.

Smart home controls

Smart home metres and sensors allow people to control internal devices.
By allowing them to see at a glance how much energy they are consuming at any given time and make economies on the spot it is possible to cut energy waste. They also put the occupants in control of their desired level of comfort more accurately. The right design of smart home facilities is essential in a ecolux building.

We will widely discuss Smart Home in more detail in a further Inhabitat Architects Design Guide!

Radiant Heating

Because radiant heating warms through conduction - not convection - it produces a more natural and comfortable interior climate than a heating system which warms the air. It is also healthier for asthma sufferers, as dust mites and other allergens are less likely to be stirred up by rising warm air. The choice of materials also plays also an important part in the overall efficiency of the building. Materials with high thermal mass will warm up slowly and retain heat for longer, which will reduce temperatures swings. Underfloor heating can successfully be used under wooden floor, tiles, concrete or stone.

Enhancing natural light

The more daylight the interior of your home receives, the less you will have to rely on artificial light sources to provide illumination during the day, which means lower energy consumption. One strategy to enhance daylight is to plan the layout of your home so that working areas such as the kitchen or the living room are located where daylight is at an optimum level. Making new openings or enlarging existing ones are also direct ways to maximise daylight. Particularly valuable in this respect are high-performance windows and skylights.

Borrowing light from spaces that have a better quality of light can also help to boost levels in dark areas. One way is to open up the layout by removing partition walls (open plan) or adopting glass floors or a panel of glass set in upper floors to draw light down into a converted basement, for instance, or from an inner green patio into a brand new open plan kitchen.

Energy-efficient artificial light bulbs, such as compact fluorescents, come in a wide range of fittings and shapes, which makes replacement of traditional bulbs straightforward, without renouncing to a warm, relaxing, hospitable light.

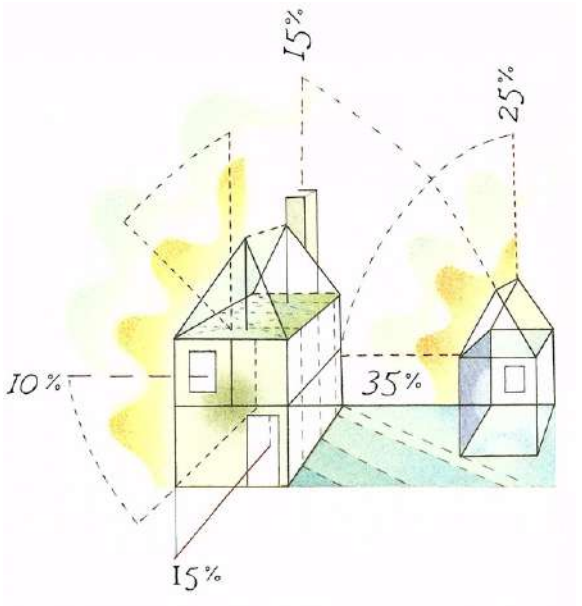
High-performance Skylights

Minimalist rooflights, skylights or lanterns with frameless internal view are designed to allow as much natural daylight into a room as possible. These components can brilliantly unlock the potential of a terrace or a dark basement, without sacrificing usable space.

Freestanding box rooflights in particular are the perfect solution if you are looking for easy access to your roof terrace.

Operated at the touch of a button, you simply climb the stairs whilst the rooflight is retracting into its position and then walk-straight out onto the terrace.

Flat glass rooflights can be manufactured in a variety of configurations and they could consist of a sliding section of glass moving over a fixed section: they can instantly turn an interior into an outdoor space.



Where heat is lost?

up to 35 per cent of heat lost in a home that is not insulated is lost through external walls

up to 25 per cent is lost through the roof

between 15 and 20 per cent draughts - poorly fitting window frames, doors, attic hatches

further 15 per cent is lost by gaps in flooring

single glazed windows also contribute to a total heat loss and environmental discomfort

Green roofs

One of Le Corbusier's Five Points of Architecture, the Garden Roof, can sympathetically serve a domestic purpose while providing essential protection and further insulation to the building.
Living or green roofs replace land lost to construction, help to insulate the house and create habitats for local wildlife. Roof gardens can be self-sufficient and include rainwater harvesting, encourage hawthorn shrubs, attract birdes, bees and butterflies. By offering alternative views and natural beauty in the urban environment, they can be elegant and sophisticated.

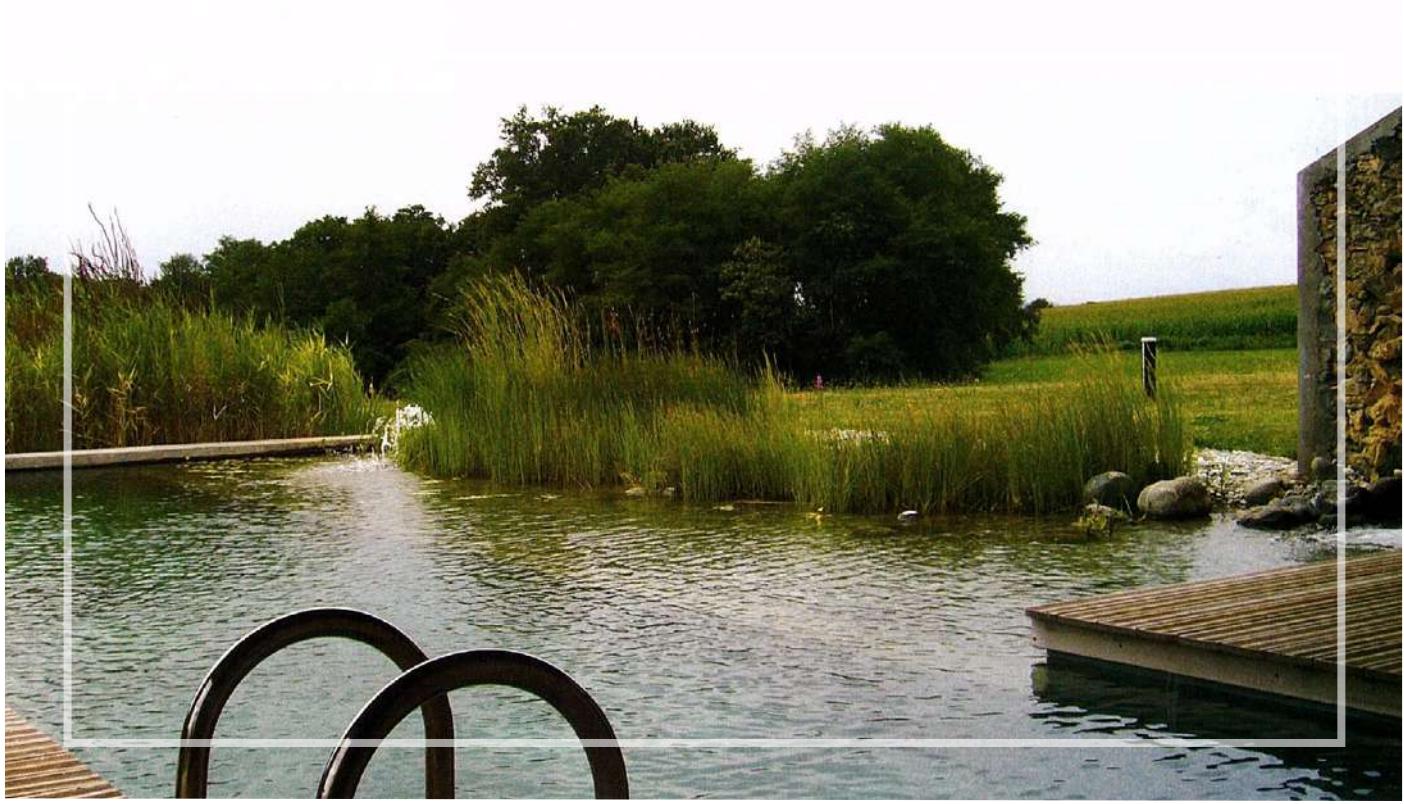
Garden Roof
Villa Savoye, 1928-1931

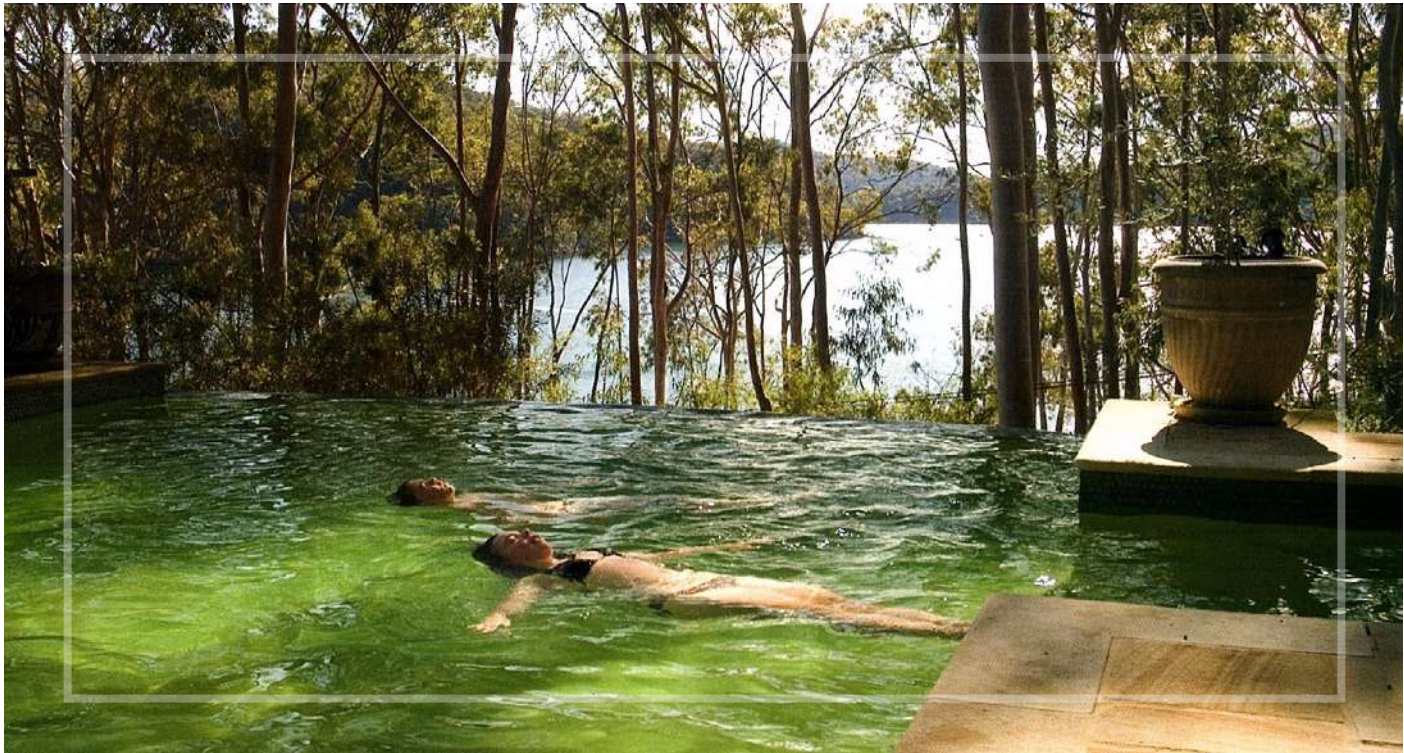
Water recycling systems

Conserving water is another key part of the eco lifestyle, and not simply for those who live in hot climates where droughts are common. Collecting rainwater with underground water tanks to be used in the garden or green roof is a costs saving and eco-friendly solution that will definitely make its contribution even in a temperate climate.

Natural ponds and pools

A world away from the rather artificial “water feature”, of so many garden makeover programmes, a natural pond or pool is a living ecosystem. Whether in the garden of an immaculate Georgian country house, or in a decorous Victorian backyard, they attract wildlife, promote biodiversity and are perfectly sustainable. An eco pond relies on aquatic plants such as reeds, lily pads and irises to filter waste and discourage algae bloom. If you have a big garden you might even consider creating a natural swimming pool. They are generally divided in two areas: a deep swimming areas and a shallow zone where the water is filtered and warmed by aquatic plants, providing rzoomzelaxing, meditative and exclusive experience. They look fabulous all year around and require minimum maintenance.





Spring into action

Where to from here

✓ Decide if you have enough information about your property and you are ready to move ahead

✓ Collect your ideas, visions, social media inspirations, scrapbooks together

✓ Call Inhabitat Architects for an initial briefing session

We offer a *free phone call consultation* with one of our experienced architects. This can be booked at a mutually convenient time. Following this call if we all agree it is a good idea to move onto a *needs & options review* we can schedule a design session for a cost effective fee.

The design session will achieve 3 outcomes:

1. clarify your aspirations, emotional and functional response to this project (e.g.: How do I wish to feel in this house? Which are the real priorities in this project? What is not negotiable?)

2. have your plans discussed for their feasibility (e.g.: Is it possible to build it? How long it will take? Is it possible to incorporate bespoke solutions?)

3. provide a first assessment of the required budget for your early draft ideas (e.g.: How much could it cost? Can it be done in stages?)

Sandra Orlando Payne / Director

A chartered member of the Royal Institute of British Architects (RIBA, www.architecture.com) and registered at the Architect Registration Board (ARB, www.arb.org.uk), she started Inhabitat Design Studios as a means of galvanising her wide experience which she acquired during more than 10 years in practice.
She has undertaken architectural work on a variety of sectors with particular expertise in high quality residential, educational, community

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