

South Downs Eco Lodge

A Story of Transformation 2020-2021



We are delighted to celebrate the opening of the South Downs Eco Lodge. After a year long construction period which started on March 23rd 2020 and three further months waiting for the moment to arrive.

This inspirational retrofit provides much needed additional overnight accommodation for our schools, courses and visitors.

The newly transformed wing provides 11 ensuite rooms which we are offering as a B+B; a specially fitted room for wheelchair users; a 'changing places' toilet; a kitchen, a breakfast/living room and a staff flat.

This phase of works completes the transformation of this former MoD accommodation block. The first phase of works was retrofitted in 2005 on a very modest budget to provide 38 bed hostel-type accommodation which will be prioritised for school visits, group bookings.

We were pleased to work with a local and experienced contractor – Ascia Construction delivering the construction works. They support our ethos, understand the needs of our customers and are experienced in working within school and community sites. Our project management team was drawn from our staff and Trustees working alongside and supported by local expertise.

We hope that this eco retrofit build inspires others to transform their homes and existing buildings in a similar way.



Why Retrofit rather than Knock Down and Start Again

The value of retrofit is commonly looked at solely from a cost perspective. The other factor that deserves consideration is the embodied energy in the existing building materials such as the brick, concrete and steel that is usually consigned to landfill if the building is demolished.

As with many buildings of the 1960s and '70s, the construction materials were durable and built to last, but energy efficiency was hardly a consideration. Energy back then was cheap and the impact of its consumption on the wider environment largely overlooked.

It is clear the built environment plays an important role in our response to our changing climate, since it accounts for around 39% of global energy-related carbon emissions and the construction industry accounts for at least 50% of waste that goes to landfill.

We believe that it is also time to look beyond that and see the unquantifiable values – the impact it can have on people, the Earth and our places.

Learning Along the Way

The Sustainability Centre has captured as much of the building learning as we could, and will develop courses and resources to share this learning with school groups, the construction industry (through links such as local apprenticeship colleges), as well as other visitors. We have also retained many examples of building materials and techniques to be displayed in the building.

We will be working with Southampton University to monitor the performance of the system over first year to have good quality user information to share

Further work is planned by the Adult Courses team to develop eco-retrofit courses, to add to what is on offer in the future. The Sustainability Centre sees this project as a clear demonstration that there is hope for the future. Retrofit achieves comfortable and sustainable rethinking of our homes, offices and commercial buildings to meet the needs of inhabitants within the limits of the Earth's resources.

By employing simple but well thought through solutions, paying careful attention to design and choices, utilising local skills and resources, the future for previously out-dated buildings can be re-imagined.

Partnerships for Change

The Sustainability Centre is working in partnership with communities in Hampshire to inspire retrofit projects in peoples' homes, work places and in community buildings. We are part of the National Energy Foundation's REACH project working alongside WINNAC (Winchester Action on Climate Change) and PECAN (Petersfield Climate Action Network); in partnership with Hampshire County Council and The Greening Campaign; linking with other initiatives across the UK, supporting the development of new centres of excellence with 3rd sector and private sector collaboration.

Fabric First

The Sustainability Centre has always sought to lead by example, offering practical solutions from our own experience, actions and knowledge. The aim of the South Downs Eco Lodge Project was to transform a wing of a former 1970s Ministry of Defence building to meet the highest energy efficiency performance by taking a fabric first approach. This involves maximising the performance of the components and materials that make up the building fabric itself, before considering the use of mechanical or electrical building services systems, and reducing energy demand by metaphorically wrapping it up with a thermal blanket.

Another key principle was **'go local'**, working with local and natural materials where possible, and a local construction company who cared about the ethos of the Centre and the project design brief.



To integrate energy saving throughout the design, the flat roof was built over with a pitched roof. Photovoltaic panels were built onto the roof pitch as this provides a better angle of inclination for capturing the sun's light energy, converting to electricity. Natural sheep's wool insulation was laid inside the new roof space. Thermafleece was chosen as it is much less hazardous to lay, and also biodegradable.

A ground source heat pump as installed as the main source of space heating and hot water, coupled with a mechanical ventilation and heat recovery (MVHR) system. The systems are integrated with the photovoltaic panels to reduce overall energy consumption.

The walls are insulated with external western red cedar cladding and a combination of Pavatex and Pavaflex wood fibre. The timber

was from a woodland less than a mile away, owned by a local farm. It was cut and prepared with a mobile sawmill by a local contractor. Triple glazed windows replace the former single glazed units.

Materials such as timber, paints, wall and floor finishes were carefully selected, guided by *The Green Construction Guide*. Compromises were supported by our ethos, values and knowledge. For example, we chose plastic guttering and service pipes, not only to work to budget but also in consideration of factors like the embedded carbon and durability of materials.

Multifunctional Design

The detail of the design responded to the restrictions of the existing building and structure and involved the staff in identifying needs and customer requirements. We wanted to achieve maximum flexibility of use. The whole building has been designed to allow the Wetherdown wing to be separated from Longdown wing and for Longdown to be split into two separate floors. This way there are two separate internal stairways with lockable fire doors and separate fire escapes for each part of the building. We also have separate kitchen/ dining facilities and a second staff residential flat. Wetherdown can be separated completely and used for a school, or can be opened up with the first floor of Longdown for a bigger school course or for teachers, or we can open up the whole building for a large school or adult residential course or events. If we have free space we can open this up to other guests whilst maintaining separation for the schools and youth groups to ensure child protection standards are supported by the design. We can also host a residential course for adults and a school/youth/group booking at the same time, zoning the areas and keeping children and adult clients separate to enhance their 'group' experience.

Beyond Construction

Once the construction phase was complete, the next stage of fitting and furnishing began. Each of the 11 ensuite rooms are themed with native trees.

The interior detailing became a community project in itself. Some of the furniture was made by staff and volunteers; other pieces are bought from companies who are clearing hotels and pubs or from free-cycling websites.

Artwork was created with local artists, staff and Friends working to a design brief. There are donated items such as upcycled mirrors using local driftwood; a boot room has been fitted out with pallet wood boxes; donated furniture has been upcycled; and soft furnishings, such as cushions, made by a small army of volunteers.

Leftover timber from the construction phase has been used to create side tables; hanging hooks use wood coppiced on local allotments, gardens and our own woodland.

School children have been involved with making these as part of the special education programmes. Where items have been bought new, careful selection is employed to ensure that these meet the sustainability standards, like throws made from recycled wool ends and tables made with recycled scaffold planks

Funding for this interior fit-out stage has been raised from grants and donations to our 'From a Room to a Spoon' campaign. So, whether it is money, time, skills or enthusiasm, it has all been achieved by the generosity of our supporters, volunteers and staff team who have all made their mark in being part of the project.



A huge **THANK YOU** is due to everyone who has been involved. It has been hard work but great fun. We are delighted with what we have achieved and hope our guests enjoy their stays.

Herb Gardens

The beautiful gardens immediately adjacent to the South Downs Eco Lodge have been designed by Rachael Mairey our Volunteer Co-ordinator, skilled horticulturist and champion for wild plants and re-wilding.

To the immediate south of the Garden Room is a **culinary herb garden**. All plants are labelled for easy reference. The flint herb spiral was inspired by the many permaculture design and kitchen gardening courses we have hosted over the years and acts as a practical demonstration and teaching aid.

The area south of the entrance porch and underneath the Field Maple tree is a demonstration of wild shade tolerant plants inspired by our native woodlands.

The area south of the main wing both sides of the path is planted with **medicinal herbs**. These will grow to create an area to support our Medicinal Herb Workshops and guided walks. Plants are labelled for easy reference.

Herbal Medicine is the oldest form of medicine known to mankind and still the most widely practised medicine. Over 80% of the world's population rely on herbs as their main form of treatment.



Herb spiral

A herb spiral is an idea commonly implemented in permaculture gardens. It is a way of growing a wide range of herbs, each of which enjoys different moisture and light levels, in a relatively small area.

Rachael has used flints from our site to create a beautiful structure. Other materials such as bricks, rocks or even timber can be used just as easily.

The spiral design is not without purpose. It's most certainly a beautiful shape to find in the garden, but it also has practical reasons. By having the spiral raised in the centre, spiralling down to ground level, lots of microclimates are created. Some spots of the spiral will get more sunlight, others more shade. Some areas will hold moisture better while the more raised parts offer the chance for better drained, drier soil. By having all of these differences, the spiral enables us to grow plants with different needs in a smaller space.

The herb spiral is a few steps from the Garden Room and kitchen in the South Downs Eco lodge. This reflects the 'first things first approach' - putting those items that require the most attention or provide the most regular use nearest to our living space. This area is called zone one. A spiral is most definitely something to put near the kitchen because herbs are a crop used daily if not multiple times a day.

Another consideration for locating a spiral is that it will need sun. Most herbs like a lot of light, so be aware when putting the bed next to a wall or beneath a tree. In the same breath, having a somewhat sheltered spot, protected from

the wind or heavy rains might help with the more delicate herbs. The more of these factors that can be accounted for, the more likely the plants will be successful.

We are grateful to Rachael for her beautiful design, attention to detail and boundless enthusiasm; to our loyal volunteers for planting and caring for the gardens and Cllr Rob Mocatta who supported us with a grant through the East Hampshire District Council Councillor Community Grant Scheme to help pay for plants.

Please support us

The past 18 months have been challenging ones for us all and there were times when we wondered how we would survive. Now more than ever the work we do to empower and enable people to lead greener healthier lives is so much needed. Please help us by donating what you can. Large or small – any amount you give will help us raise the funds we need to continue our work.



Leaves for Learning Appeal

Details of our Leaves for Learning Appeal are at <https://www.sustainability-centre.org/support-us.html>