



The Green Project

Creating Sustainable, Ecofriendly Practices, One Step at a Time

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“We don’t have to engage in grand, heroic actions to participate in change. Small acts, when multiplied by millions of people, can transform the world.” - **Howard Zinn**

Background

Sustainability, refurbishment, and reuse were all practices adopted by the Morgan family who were owners of Ardoch in the late 1980s. They saw potential in the estate, and it started forming into what we see today - a project that would last nearly 20 years using many local tradesmen - we still use the original joiner and roofer today - saw all the outbuildings restored using many original and recycled materials.

A small coppice of Scottish pine trees was planted on the west side of the building to ease the prevailing wind along with another seven coppices around the estate; the driveway has been lined with cherry blossom, oak, and lime trees; the dry-stone walls amounting to hundreds of meters over the 133-acre grounds were repaired by one mason along with volunteers from the West Coast Dry Wall Association. The Morgans also created the pond area which provides a delightful spot for wildlife and has been the natural habitat for local flora and fauna.

Roll on to 2007 and the new custodians of Ardoch saw the potential in the location to open up the stunning estate, share the views with a wider audience and give back to the communities. The Armitage family turned Ardoch into an 18- bedroomed conference facility that for part of the year hosted day and residential meetings, seminars and training events, and for the rest of the year hosted mostly children-focused charities whose visits were part funded by the Ardoch Foundation which had been set up for charitable and social purposes.

Before building works began, recycle and reuse were familiar methods being used - the tin barn where the new building stands, was taken down by a local farmer and rebuilt on his land; all the decking was removed and now is placed in a neighbour’s garden; the old Aga cooker went to another neighbour along with the drawing room parquet flooring which was originally recycled from the old school.

The main house, farmhouse and the cottages were refurbished sensitively in keeping with the architectural and natural fabric of the property during the first year. The following two years saw the barn being created using environmentally sensitive processes, along with recycled and reclaimed materials to produce a state-of-the-art multi-purpose facility. In 2013 the venue was named one of the country’s most environmentally friendly organisations in the government-backed Green Apple Awards. The venue was commended for its commitment to sustainability and corporate social responsibility as well as the sensitive way in which it works with the local environment.

Our Commitment to Sustainability

Efficiencies installed in the 2009-2010 Barn building

The barn was dug into the hill to provide two floors and give it protection from the prevailing winds; the top of the hill was rock, and this was reused in the gabion baskets that cover the internal and external walls. The building used the latest insulation; the windows also have excellent thermal qualities, which is imperative with so many windows on the property. With an efficiency rating of Band A, the Argon filled glazing cavities exceeded the then building regulations; the internal window material is the desired wood but the external part is a strong lightweight aluminium cladding which reduces maintenance. The building was clad in sustainably sourced larch to give it the look of a barn.

A biomass was installed to provide 95% of heating and all the hot water needs; the boiler runs on locally produced and sourced wood pellets. Using sustainably produced wood in place of fossil fuels is one of the most important environmental benefits and has a positive impact in helping moderate long-term global climate change. Using solid biomass for heating typically gives reductions in carbon of around 80-90 percent compared with fossil fuel alternatives. Wood pellets have a calorific value and a higher density than wood chips making them more efficient for our small storage area.

Running hand in hand with biomass, we have a state-of-the-art Building Management System; heating and hot water usage has been monitored and fine-tuned for over 14 years to make the system as efficient as possible. The system is designed to optimise energy use, reduce costs, and minimise environmental impact.

Solar panels have been installed on one of the sheds to provide hot water needs, and the system is set up so that these are utilised first before biomass heated water.

Rainwater is harvested from the new roof and stored underground; this water is then used for the toilets to be flushed, along with taps for gardening needs. Scotland has no shortage of water, so we regularly have full tanks.

Ardoch is situated in 133 acres of rolling countryside of which there are several areas of woodland. No fallen trees go to waste; they are cut dried and brought up to the house to use in the log burners. We leave selected fallen trees in safe spaces for biodiversity. Over 1200 trees were planted at the end of the building.

Soon after opening, we redesigned the pond, so it had water entering and exiting it via an adjacent stream. This removed stagnant water and kept the pond healthy; hundreds of plants were added, and 250 brown trout were reintroduced creating a haven for wildlife. We drilled for a water supply to be self-sufficient. This is still in situ but running costs and the standing water charges have made this unviable; perhaps one day we can reopen it and sell Ardoch spring water.

A comprehensive recycling policy is in place to reduce general waste. Glass, tin, paper, and plastics are all recycled.

Green Measures 2021 to Date

Single use toiletries have been removed from the bathrooms and replaced with refillable hand wash, hair, and body washes. We use a Scottish soap company who aim to use locally sourced ingredients or strive to choose a sustainably and responsibly sourced alternative. They use 100% recycled and recyclable plastic bottles with 99.5% of their products manufactured in Scotland. No products are tested on animals; products contain no parabens or microbeads, and they do not add palm oil in its natural form to their products.

Flowers are grown in our walled garden and used throughout the season. Fir trees and holly bushes found on the estate are used for Christmas wreaths, and herbs are grown in planters through the seasons.

A car charger is in place due to the increasing number of electric vehicles we now see. We have an Energi Zappi 7.2KW untethered charging unit providing fast charging at all times.

Ardoch now records all waste and energy usage and can calculate how much CO₂ emissions are released.

Ardoch was kindly gifted to CHAS (Children's Hospices Across Scotland) and re-opened as an exclusive use venue with a profit for purpose business model. Inspired by Ardoch's commitment to sustainability, CHAS has been working closely with Ardoch's General Manager on various initiatives and is too exploring the introduction of sustainable options and ways of working, including electrical charging points and possibly solar panels at the hospices. Both organisations have a commitment to being more sustainable and choosing greener options in the future.

Green Volunteerism

Volunteering at Ardoch is helping with a greener future along with improving wellbeing. Volunteers come most weeks and tend to the gardens. We have also had several corporate days where their volunteers have removed the plastic tubing around the initial trees that were planted in 2010; to date over 800 tubes have been removed from the estate with approximately 250 square meters of plastic removed and sent for recycling. In March 2023, groups of volunteers came over a 3-day period to help plant 900 native trees in a newly formed 0.8-hectare site. The motivation for planting was to increase biodiversity and the amount of native tree cover to improve local quality woodland habitat and increase opportunities for wildlife including habitat connectivity. Native trees planted included: Alder, Bird Cherry, Goat Willow, Rowan, Scots Pine, Sessile Oak, Silver Birch, and Wild Cherry. Shrubs included: Blackthorn, Elder, Hawthorn, Hazel, and Holly.

Efficient Water Usage and Recycling

Our rainwater harvesting system provides a fully automatic supply of water from underground tanks providing enough water for all the toilets on site. We also divert water to taps for watering the garden. If there is a shortage of rain (which is rare in Scotland), sensors automatically revert to mains water. When our main water storage tanks are flushed, these are also diverted to our water storage tanks making sure we never waste a drop.

Ardoch Green Actions in Place

“Sustainability is no longer about doing less harm. It’s about doing more good.” -Jochen Zeitz

SUSTAINABLE & INCLUSIVE ACTIONS IN PLACE AT ARDOCH		SUSTAINABLE & INCLUSIVE ACTIONS IN PLACE AT ARDOCH		SUSTAINABLE & INCLUSIVE ACTIONS IN PLACE AT ARDOCH	
1	<p>ENERGY EFFICIENT BUILDING</p> <p>The barn is a modern, well-insulated building, with large double glazed windows. Our windows are aluminium clad wooden windows with excellent thermal qualities helping to reduce winter heating bills. The external aluminium cladding is strong, lightweight, and reduces maintenance. With an efficiency rating of Band A the Argon filled glazing cavities exceed current building regulations.</p>	5	<p>TREES AT ARDOCH</p> <p>Fallen trees are all wind-blown and used to fuel our log burners and fire pit. There are multiple piles of tree lengths located around the estate drying for future years; we will always leave some fallen trees in selected areas to rot in order to attract wildlife. In addition, 2000 new trees have been planted in recent years.</p>	10	<p>ELECTRIC CAR CHARGER</p> <p>A car charger is now in place for the increasing numbers of electric vehicles we see. We have an Energi Zappi 7.2 kW untethered charging unit providing a fast charge at all times.</p>
<p>BIOMASS BOILER</p> <p>Biomass using locally sourced wood chip pellets is used to provide 95% of heating and all hot water needs.</p>	2	<p>NO SINGLE USE TOILETRIES</p> <p>Single use toiletries are no longer used and have been replaced with refillable hand wash, hair and body washes. We use Scottish Fine Soap refillable products who aim to use UK and locally sourced ingredients, and use 100% recycled and recyclable plastic bottles. 99.5% of their products are manufactured from their site in central Scotland. No products are tested on animals.</p>	6	<p>ARDOCH RECYCLING POLICY</p> <p>Comprehensive recycling policy is in place to reduce general waste. West Dunbartonshire Council provides skips and bins for glass, paper, tin and plastic.</p>	11
3	<p>SOLAR PANELS</p> <p>Solar panels are used for topping up hot water during the warmer months. In 2009, six large solar panels were installed on our maintenance shed; these service a 500-litre tank and are the primary source of hot water on warm days; a fully automatic system switches between solar and woodchip systems.</p>	7	<p>LOCALLY GROWN HERBS & FLOWERS</p> <p>Flowers grown in our gardens are used throughout the building in summer months. Fir and Holly trees found on the estate are used for Christmas wreaths. Herbs are grown in planters through the seasons.</p>	12	<p>EFFICIENT WATER USAGE/RECYCLING</p> <p>Our rainwater harvesting system provides a fully automatic supply of water from underground tanks providing enough water for all the toilets on site; we also divert water to taps for watering the garden. If there is a shortage of rain, sensors automatically revert back to mains water.</p>
<p>EFFICIENT BUILDING MANAGEMENT SYSTEM (BMS)</p> <p>Heating and hot water usage has been fine-tuned over 14 years on a Building Management System to be as efficient as possible. Thermostatic valves are installed throughout the building.</p>	4	<p>ACCESSIBILITY & INCLUSION</p> <p>Three accessible bathrooms are available; two in bedrooms and one public.</p>	8	<p>ENVIRONMENTALLY-CONCIOUS LAUNDRY</p> <p>We use Fishers Laundry who are committed to being energy efficient through investments in low temperature washing and energy recycling.</p>	13
		9	<p>LOCAL TRAINED STAFF</p> <p>Staff are recruited locally where possible as are maintenance providers, to keep journey time low. Staff are trained to turn radiators down and lights off when the building is vacant.</p>		

What does Green Future look like at Ardoch?

A Snapshot



“The journey of a thousand miles begins with a single step.” Lao Tzu

Our future projects do not start with ‘disruption’ but with simple, sustainable practices that are consistent and can be scaled up. The compound effect of these endeavours would ensure that there is:

- a) **community engagement**
- b) **awareness in guests, and all other stakeholders**
- c) **heightened morale of staff to be enthusiastic about implementing and continuing these practices**
- d) **steady systems in place regardless of succession**
- e) **continual impact**
- f) **interest and involvement of all age groups**
- g) **room to grow and expand on or scale up these exercises pivoting with changing times as need be**

Activities and Recommendations

The ethos of Ardoch is directly linked to environmentally aware outlook and thought process, with our brand essence being “where everything comes naturally”. Following are some of the activities that can/would be initiated and/or expanded:

Green Calendar

We all are aware of ‘World Environment Day’ scheduled for 5 June 2024 and to be hosted by Saudi Arabia this year; and ‘Earth Day’ is widely known and marked as an important day to be celebrated for the planet with practices that would preserve it. Ardoch is committed to take this further and focus on segments that have been marked for this year. Here is a list of recommended days to follow:

2024	
January	
1st - 31st January	Veganuary
8th - 14th January	Houseplant Week UK
26th - 28th January	Big Garden Birdwatch
February	
2nd February	World Wetlands Day
March	
3rd March	World Wildlife Day
18th March	Global Recycling Day
22nd March	World Water Day
April	
1st April	National Walk to Workday
1st -7th April	Community Garden Week
14th April	Dolphin Day
22nd April	Earth Day
24th April	Stop Food Waste Day
May	
1st -31st May	No Mow May
5th - 11th May	International Compost Week
17th May	Endangered Species Day
20th May	World Bee Day
20th - 26th May	Water Saving Week
25th May - 2nd June	National Children's Gardening Week
June	
5th June	World Environment Day
8th June - 16th June	The Great Big Green Week

8th June	World Oceans Day
15th June	National Clean Air Day
16th June	World Refill Day
22nd June	World Rainforest Day
July	
1st July - 31st July	Plastic Free July
10th July	Don't Step on a Bee Day
TBC	The Big Butterfly Count
TBC	Love Parks Week
28th July	National Bog Day
August	
TBC	National Allotments Week
September	
1st - 30th September	Secondhand September
1st - 30th September	Organic September
16th September	International Day for the Preservation of the Ozone Layer
22nd September	World Car Free Day
22nd September	World Rivers Day
TBC	Zero Waste Week
TBC	Great British Beach Clean
TBC	World Cleanup Day
TBC	FSC Forest Week
October	
1st - 31st October	Unblocktober
1st - 31st October	International Walk to School Month
4th October	No Disposable Cup Day
TBC	Recycle Now Recycle Week
TBC	International E-Waste Day
November	
TBC	World Vegan Month
TBC	National Tree Week
December	
5th December	World Soil Day

Green online posts

Ardoch website is viewed daily and draws substantial traffic to the site on a regular basis. In keeping with our commitment to raise awareness for sustainable and ecofriendly steps, we have an editorial calendar with one green blog post a month for this year.

Tours of the Boiler

Our use of biomass boiler technology is a concrete step towards high performance, low-carbon, and energy-efficient heating. We use sustainably produced wood for energy instead of fossil fuels as it is environmentally beneficial and has significant positive impact on long-term global climate change. We receive a large percentage of corporate as well as third sector clients year-round; arranging a short tour through the boiler room and connected facilities would be a factor to inspire change in how energy consumption practices are adopted in large and medium organisations and their offices.

'Awareness in a bowl'

The first step in sustainability is awareness whether in-house or with our clients and customers. A local crafter engaged for inscription of conversation-starter, sustainability-oriented messages/riddles for our existing soup bowls as well as multiuse corporate souvenirs would be a fun and unexpected way to incite conversation on conscious, planet preserving efforts.

Co-hosting an awareness raising project

Each year, we would partner with an organization that works to promote ecofriendly measures and conservation of the planet and co-host an event at Ardoch in collaboration with partner organisation and partner schools from local communities. The projects can be as simple as an Art Competition for school children to more elaborate ones like starting their own local green campaign that could be launched at Ardoch on day of the event to be continued through the year with support of their school and commemorated at next year's event.

Eco walks

We believe in a strong philosophy of recreational edutainment. Hence, walking trails around the grounds with silent observation of wildlife and nature in itself is a great teacher and eye opener. Organised wildlife/nature walks for groups during breaks will not only help create time to reflect, but to do so in the grounds and woods with countryside in its rawest and purest form, would enhance our message of preserving the planet and its beauty.

Our Sustainability Pledge

Our emphasis on creating a green environment at Ardoch has led us to take a pledge to use 80% recyclable or reusable packaging and hosting equipment by the year 2026. This would mean increasing the use of recycled materials, reducing and/or eliminating nonbiodegradable and single use plastic respectively, and inculcating our 'green code' in our staff and suppliers.

Appendix 1

Testimonials



A Note from MCE Scotland Ltd.

State-of-the-art BMS

“Our company has been proudly involved with Ardoch since its construction. Over the past 14 years, we have been committed to providing efficient and sustainable Building Management System (BMS) solutions. We were initially contracted during the construction phase of the property to install a state-of-the-art BMS and provided a comprehensive BMS installation service which included the design and implementation of control systems for heating and hot water.

Our systems were designed to optimise energy use, reduce costs, and minimise environmental impact and we continue to provide ongoing maintenance and optimisation of the BMS to ensure it operates at peak efficiency. We also regularly monitor system performance, make necessary adjustments, and provide updates as technology advances”.

Savings in Energy Consumption

“Over the past 14 years, our BMS has significantly reduced Ardoch’s energy consumption. While it is difficult to quantify exact savings without specific data, BMS changes to the software have increased biomass boiler usage and decreased gas boiler usage ensuring that renewable energy is a priority over fossil fuel.

We have developed analytics programmes which monitored the building’s demands; these programmes ensure that the heat provided to the radiators is the required amount to ensure the building is comfortable with the least amount of energy required”.

Green future with Ardoch

“Looking ahead, we aim to continue our partnership with Ardoch, providing them with the latest advancements in BMS technology. We are committed to helping Ardoch achieve their green goals by further optimising their energy use and reducing their carbon footprint”.