

# Sustainability Case Study Larchfield Estate

June 2023





# Larchfield Estate

Larchfield Estate is an award-winning luxury venue for weddings, corporate away days and special events located 20 minutes from Belfast. Larchfield's heritage dates back to the 1600's and has an interesting 350-year history. The property extends to 600 acres and includes numerous heritage cottages for self-catering accommodation, a large stone-walled luxury barn, walled gardens and converted stables.

## How did your sustainability journey start?

“When we took over the estate in 2007, we had a vision to develop it into a luxury events venue. Financing that vision wasn't something the banks were too interested in at that time and so we really looked at making savings and being as efficient as possible throughout the operations. We have tried to focus on the big, simple stuff that really makes a real impact first. We were both always interested in sustainability in general, saving energy and minimising waste. We also see ourselves as custodians of this special place, its cultural heritage and natural beauty. Being sustainable helps us answer the question: how can we make an income and also protect this place for future generations?”

Gavin and Sarah Mackie,  
Larchfield Estate



# What have the greatest areas of impact been?

## Reducing use of fossil-fuelled electricity

Initially, the venue was heated by electric heaters powered from a diesel generator. When it wasn't possible to eliminate the generator by increasing electricity supply, the couple looked instead to reduce electricity consumption. All light-bulbs were changed to LED and light sensors were installed. The generator was set to only power on when demand required extra electricity. All cookers were changed to gas. Next, 12kVA of PV solar panels were installed on the roof of a shed to cover the daytime electricity use of the office and barn events space.

The challenge remained of heating large spaces and heating water, which was expensive and fuel intensive. In 2015, a new biomass boiler was installed and in 2017, a 2m deep by 110m long track was dug from the Biomass boiler to the barn and a Rehau heavily insulated pipe was installed. This allowed the removal of all the electric heaters in the barn and to change the heating to run via fin tube piping and strat fans. Thermostats in each room now only call for heat when required. Wood from the estate is used in the biomass boiler.

## Sequestering carbon

Due to the size of the estate and number of trees on it, Larchfield sequesters more carbon every day than it produces. Up to 1000 trees are planted on the estate each year, mostly native hardwood.

The amount of carbon sequestered by woodland on the Estate has been calculated at 502 tonnes per year

(using Forestry Commission Carbon Code calculation method) while the Scope 1 and 2 Emissions from the Estate have been measured at 168 tonnes per year. As methodologies for measurement become more accurate, the Mackie's are looking forward to having their carbon negative status independently accredited.

## Protecting natural and cultural heritage and biodiversity

Having grown up on Larchfield Estate, Gavin appreciates the importance of upholding its legacy. The website shares information on the history timeline of the Estate and the life of an employee there in the early 1900s. The buildings, cottages and barns have all been restored to preserve their rustic features and uphold their history. An events space has been created through the restoration of an Old Piggery and recently an old beekeepers folly in the woods which has had no roof for 40 years has been 100% restored. Along with extensive tree planting, several wildflower meadows have been planted, new lakes created, and a wetland walk is being developed. Nesting bird boxes, lakes and the 5 beehives on the Estate protect the local biodiversity and enrich the lives of local species from Barn and Long Eared Owls to Otters and Kingfishers

## Do you know?

Tourism NI offers a range of practical toolkits and templates to help reduce the carbon emissions from your business:

[Saving Energy & Reducing Waste | Tourism NI](#)





# What are your sustainability ambitions for the future?

“We want to find a reputable organisation that will properly quantify the carbon that is sequestered on the estate so that there is full transparency and credibility about being carbon negative. While we have a great biomass boiler, a newer one could now be twice as efficient so we would like to change that and add at least another 30kVA of solar panels. It’s a bigger win in terms of cost and carbon savings and we like to focus on the simple, big wins. A payback time of about 6 years is a rule of thumb for us. Over the next 5 years, we expect that improvements in battery technology and greater capacity of solar will allow us to eliminate the use of fossil fuels for electricity entirely.”

*Gavin Mackie, Larchfield Estate*