

Agri-EPI: Project dissemination update: GreenShed Phase 2

Newsletter 3: October 2023



Welcome to the third newsletter about Phase 2 of the pioneering GreenShed project which explores a net zero livestock production model and real production system.

In our previous newsletter (find it on the project's [web page](#)) we shared the progress on the project after successful site visits by representatives from the Department for Business Energy and Industrial Strategy (BEIS), as well as our latest podcast episode ([listen here](#)). We also reported on qualitative consumer research. The UK Government's cabinet reshuffle in February involved BEIS splitting into three new departments, one being Energy Security and Net Zero ([DESNZ](#)), under which this project now sits.

In this newsletter, we bring you a progress update on the GreenShed build.

Project recap:

- GreenShed aims to produce a solution for the livestock farming sector to reduce its greenhouse gas (GHG) emissions, whilst also improving productivity.
- The shed is designed as an integrated low carbon, circular farming and vertical farming system that captures methane from housed cattle and utilises its combustion outputs to yield low carbon produce.
- No system currently has the capabilities to capture and remove methane from housed cattle, but if implemented across the sector, this could allow for a 50% reduction in GHG.



Podcast: Introduction to the GreenShed Project hosted by SRUC's podcast channel.

[Listen here](#) to the interview with Prof Carol-Anne Duthie and John Farquhar, Consultant SAC

Progress update - Nearing building completion

The GreenShed is nearing completion of Phase 1 of the build, with [JC+P](#) project managing the build and [Algo](#) leading on construction. Phase 1 includes the shed, [Galebreaker's](#) shed membrane and ventilation tubes, the [no pollution's](#) HVAC system, and Organic Power Ireland's anaerobic digester and combined heat and power engine. These are predicted to be complete by the end of October 2023.

The next stage will see the installation of other system components that will lead to the generation of other value-added products. This stage is on target for completion by the end of this year.

To ensure that the building is up to the specification of the project it will be tested for

its technical performance before embarking on a 12-month monitoring, reporting, and verification exercise.



Consumer perception on beef – key insights

Industry expert [Sam Host](#) led the part of the project which undertook qualitative and

quantitative research on consumer attitudes towards the concept of GreenShed. This was done in partnership with food and drink consultants, [Levercliff](#). This section focuses on the quantitative research gathered.

The research was conducted through an online individual survey undertaken in August with 1,034 UK consumers of beef and was representative of UK demographics.

Consumer concerns relating to climate change ranked after the cost of living, the NHS, and the economy. Reducing emissions and changing to renewables was seen as a much higher priority (26% of people ranked this first) than reducing emissions from farming (9% of people ranked this first).

Out of those who are reducing their beef intake, one third are doing so for environmental reasons. However, in terms of top-of-mind concerns about buying beef, 46% have none. As in other research, animal welfare ranks next at 12%, with impact on the environment at 6%.

In the willingness to pay component, all reductions of carbon resulted in a greater willingness to pay more. At a 30% reduction in carbon, all respondents were willing to pay an extra £0.71/kg and the environmental beef limiters an extra £1.28/kg.

Gaining feedback on how beef from the GreenShed is described ('low carbon', 'reduced carbon', 'climate friendly', or 'environmentally friendly'), the pattern of price elasticity was very similar, although 'reduced carbon' was the weakest. This likely indicates that consumers are sceptical about vague descriptions.

Consumer perception on GreenShed

The overall attitudes towards the GreenShed were positive for the environment, low emissions, and better animal welfare. Over half (52%) of respondents had no perceived disadvantages, but in those that did, the potential for poor animal welfare was the main concern (29%).

The perceptions about GreenShed were significantly more positive in the quantitative research, a reflection of an actual photograph of animals in a shed and the lack of any group dynamics.

It has been a very productive working relationship with Levercliff. Their consumer insight knowledge has been very important in guiding how we describe the GreenShed to non-agricultural audiences such as consumers.

Clodagh Sherrard, Managing Director of Levercliff said:

"We were very excited to work on the Greenshed project with Scotland's Rural College (SRUC) and Agri-EPI Centre, because although we have completed a number of consumer projects related to beef consumption where concerns around the environment have surfaced, this was the first time we were researching a potential solution to the issue. Previous experience had told us that it would be important to get the language right when designing the quantitative survey. It was therefore great to work with SRUC and Agri-EPI who were willing to listen to our advice and build in a qualitative stage at the start of the project.

Working in food and drink industry (and academia) means that we often forget that the average consumer has no real understanding of where their food comes from, or different farming systems. Liaising closely with both teams, enabled us at Levercliff to understand the benefits of 'Greenshed' from a technical perspective and then translate the most relevant into words and pictures more familiar to consumers. Through the use of detailed statistical analysis, we have been able to provide detailed guidance on likely premium consumers would be willing to pay, and what are the key benefits that should be communicated to consumers."

Supply Chain Development

Building on the consumer research, the next stage, which is being led by industry expert Jimmy Hyslop, is to detail additional elements of the project to beef supply

chains, to ensure GreenShed can deliver the consumers aspirations in relation to their animal welfare and environmental concerns, without compromising the provenance and product quality they have come to expect.

With this in mind, we have already started to bring together our supply chain partners, to scope out what changes may be needed to either their dedicated product streams, or their provenance data systems, when Greenshed beef supply chains get up and running.

In addition, the project has begun to set up a “Greenshed Interest Group”. It will encompass a wide range of stakeholders; from farm assurance supply organisations to Government agencies, industry levy bodies and financial investors looking to invest in more sustainable food supply chains. Group discussions and workshops will help identify and formulate changes needed to existing supply chains, assurance schemes, support or grant structures, and any financial incentives that may be necessary to release the GreenShed vision.

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