



FARMER LED, FARMER DRIVEN

DUMFRIESSHIRE
Solar pump project
2023



Barnbackle solar pump project

Innovation funding



This year at Barnbackle the solar water pump has relieved the water pressure for the second part of the summer.

The real benefits of this project will be seen in the warm months of 2024 when it can be used to help implement and maintain a rotational grazing system over the summer.



Farmers learning about the solar pump at the summer meeting in July

Timeline

Pump ordered	30 th June
Pump installed	6 th July
Pump in use	6 th July
Pump displayed at Monitor Farm open meeting	18 th July
Pump fully functional alongside rotational system	By May 2024

Issues

So far there has only been 1 issue with the pump. A spare was sent out same day and pump was functional again within 24 hrs.

Benefits

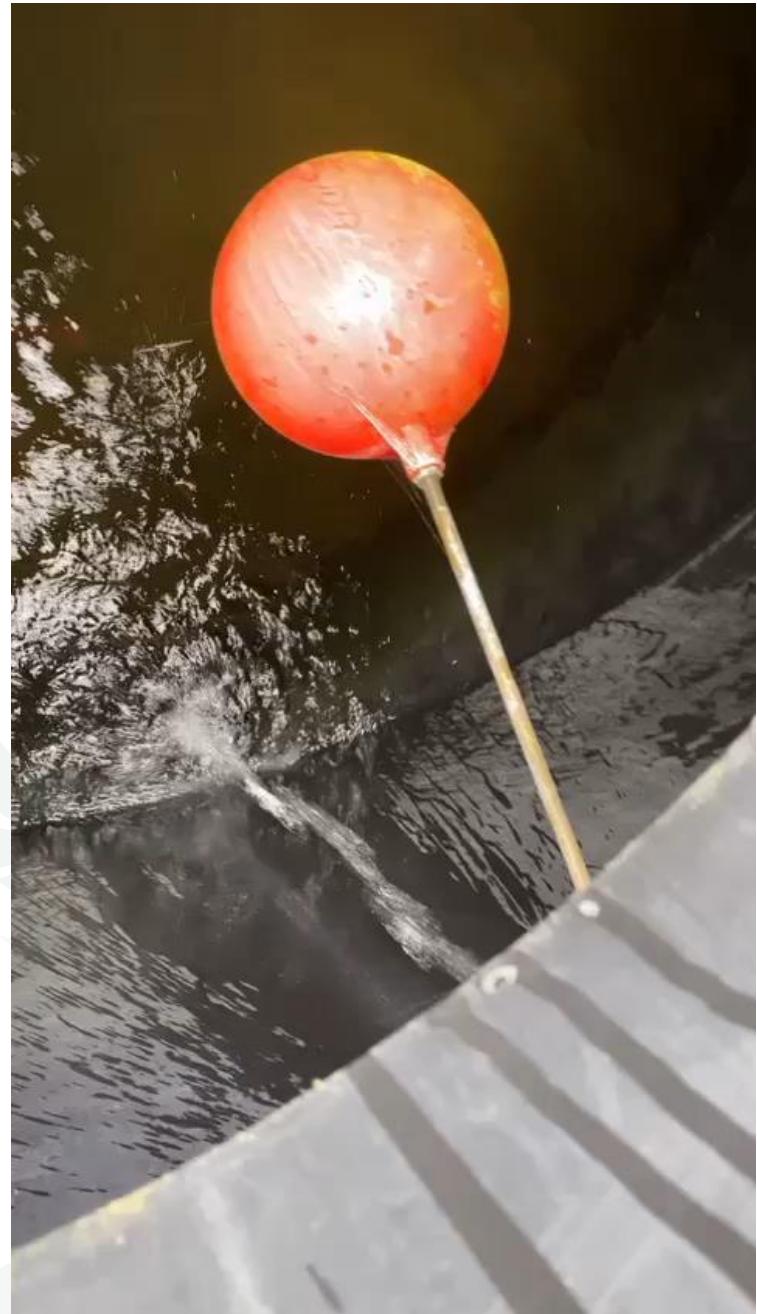
- 1) The expected benefits for the monitor farm was the ability to successfully rotational graze without water shortage pressures and eliminate the need for manual labour to move water from the main source up to fields. The use of the solar pump in summer 2023 had a clear and direct benefit to the farm with the main one being time saving. The full benefit of the pump will be realised in Autumn 2024 when it will have been in use for the full season.
- 2) The benefits for the wider audience include seeing the benefits of a successful rotational system and the use of a renewable energy source pump which incurs very little cost other than initial investment. The pump was on display at the summer open meeting where attendees were given a demonstration. Alongside this we had Rhidian Jones, a grazing specialist who discussed the benefits of a rotational system which is made possible by the solar pump at Barnbackle.

Solar pump in action at Barnbackle

Below are videos of the solar pump location and it functioning



The solar pump hooked up to the water source. As shown in the video the pond is not directly accessible for livestock. The pump now allows multiple fields to be opened up to trough watering. A Kiwitech drag trough was also included in the project to assist the implementation of rotational grazing.



The video above shows the water from the pond being pumped into the header tank which supplies the existing troughs. Up until the pump was installed, IBC tanks of water were having to be manually brought up to this tank.

Specifications



200 WATT SOLAR PUMP



200 WATT SOLAR PANEL



115 AH LEISURE BATTERY



20 AMP CONTROLLER TO
REGULATE CHARGE TO
BATTERY



PRESSURE VESSEL AND
GAUGE



PUMP CAPABLE OF PUMPING
6 GALLONS OF WATER PER
MINUTE WITH A MAX
PRESSURE OF 50 PSI



MADE IN RECYCLED PLASTIC
OR A GALVANISED BOX



INTEGRATED PRESSURE/
DEMAND SWITCH



MOUNDED ON A RECYCLED
PLASTIC PALLET FOR EASE
OF MOVEMENT



MONITOR FARM

Scotland

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Initiative supported by:



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