

EDUCATION CASE STUDY:

# Dumfries and Galloway College

Allocated funds £195,000



### THE ASK

Dumfries and Galloway College identified a lack of quality training facilities on renewable and energy efficient technologies in Dumfries and Galloway. As a result, engineers and apprentices were forced to travel out of the area for training courses.

The college also realised that it had limited ability to properly educate students and community organisations about climate change and the available solutions. By having more renewable technologies on site, it could really increase its impact.

Using funding from the South of Scotland Digital Skills Network, the college built a state-of-the-art renewable technology hub. The hub is a modern facility equipped with multiple renewable and energy efficient technologies which makes it as low carbon as possible.

### THE PROJECT

The GEF provided £195,000 in funding. This enabled the college to purchase a wider range of renewable and energy efficient technologies than they'd have been able to otherwise.

These technologies include:

- Wind turbine (7.5kW)
- Solar photovoltaic panels (PV) (15kWp)
- Ground source heat pump (11kW)
- Air source heat pump (11kW)
- Battery storage system (40.5kWh)
- Electric vehicle (EV) charge points

The college successfully overcame various challenges, installing and commissioning all the technologies they originally intended to showcase. The renewables hub is now formally open and students will begin using the facility in the 2020/21 academic year.

### THE BENEFITS AND PROGRESS

The hub is the first facility of its kind in Scotland, filling a definite gap in the market. It is used by students, businesses and the wider community to learn about renewable and energy efficient technologies, addressing crucial skill gaps which exist both within the region and across Scotland. We anticipate multiple benefits as a result, but they are still being recorded and gathered at this stage.

The college worked with its supply chain and design team to integrate as many renewable and energy efficient technologies into the new hub building as possible. A lack of local installers resulted in the college expanding its procurement options and inviting firms from outside the region.

The college also found it difficult to balance the design requirements with teaching requirements. For example, planning restrictions prevented the installation of a wind turbine that would allow working-at-height training. However, the college was able to install a slighter smaller capacity wind turbine.

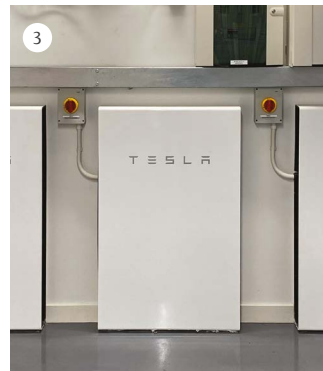
1. Aerial view of Dumfries and Galloway College's on campus renewables hub.

2. The hub was launched in August 2020 by Joanna Campbell, Principle, Dumfries and Galloway College, MSP Joan McAlpine and Frank Mitchell, CEO of SP Energy Networks.

3-4. A variety of renewable and energy efficient technologies feature within the STEM hub.



*Dumfries and Galloway College in the South of Scotland has two campuses in Dumfries and Stranraer. The college considers action on climate change one of its core duties and has committed to reducing its carbon emissions. The college also wants to make sure that its students understand climate change issues.*



### How this project serves the GEF aims

#### Putting the planet and people first

The new technologies provide the college with 137,800kWh of renewable energy each year; so the hub building won't need to use electricity from the grid or mains gas, saving 56 tonnes of carbon dioxide each year.

The college expects the new EV charge points will lead to further carbon savings as it switches its fleet to electric vehicles.

#### We must keep evolving

The hub is used by students, businesses and the wider community to learn about new technologies, addressing crucial skill gaps which exist both within the region and across Scotland.

#### We're already making an impact, and will continue to do so

The college plans to hold 36 events each year to raise awareness of its courses with local schools and small and medium sized businesses.

#### Support where it's needed most

The new hub will be used to upskill and train at least 25 tradespeople and apprentices in its first year. The college will consider increasing this number once initial courses have been evaluated.

The EV chargers will be available to the public to encourage more people to switch to low carbon transport.

### EDUCATION

## Key findings

Through analysis of the projects monthly reporting, we were able to identify the following key findings:

*Colleges will play a crucial and pivotal role in training and upskilling to achieve Net Zero and also home energy efficiency targets which has been a long-term priority for the Scottish Government*

*To enable the Green Recovery post covid, education facilities need to be readily available to reskill a workforce in the wake of the pandemic to help with local job creation and alleviate the economic impact of the crisis.*

*The Scottish Government have also recommended a focus on ground and air source heat pumps including upskilling for the workforce which will influence teaching curriculum.*

*Colleges need to be able to adapt to Government priorities, the new Skills Competency Framework and Changes to the college curriculum which meant from August 2020 the inclusion of low carbon technologies is now mandatory.*

*Colleges must be able to provide access to low carbon technology and appropriate facilities that enables them to support learning and hands on experience.*

