



## SPECIAL EU PROGRAMMES BODY

# Project Case Study: Renewable Engine Project Update

### THEME:

Research and Innovation Health & Life Sciences Renewable Energy

### FUNDING(ERDF+MATCH):

€5,802,426.20

### MATCH FUNDERS:

Department for the Economy Northern Ireland, Department of Business, Enterprise and Innovation Ireland

### LEAD PARTNER:

South West College (SWC)

### PROJECT PARTNERS:

Institute of Technology Sligo, Action Renewables, Queen's University Belfast, Manufacturing Northern Ireland, Mid Ulster District Council and University of Strathclyde.

### PROJECT CONTACT:

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End Date: 31/07/2021



[www.renewableengine.eu](http://www.renewableengine.eu)



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The unique industry-academic collaborative Renewable Engine project aims to spearhead innovation in the renewable energy sector by giving companies access to world class facilities and resources available through academic partners. Since launching in late 2017 the project has facilitated direct knowledge transfer and technological development in the Advanced Manufacturing and Renewable Energy Sectors, with research focusing on areas such as Energy Generation, Energy Storage and Innovative Enabling Technologies.

### Rotational Moulding & Renewable Energy Manufacturing Technology

Rotational moulding is the forgotten manufacturing technology that has the potential to produce large structures, like those needed in renewable energy generation. In 2017 a research group was developed at Queen's University Belfast, comprising of three PhD students, who focused on exploiting the advantages of rotational moulding. This included research on the mechanisms of part formation to expand the number of material combinations that could be used in the process. Expanding on this lab-scale testing a visual imaging system was developed to monitor composite structures formation in real-time. Developing new material combinations in rotational moulding can reduce production costs of lightweight aircraft structures, reinforced boat hulls or renewable wind turbine blades - making them more accessible for industries and people.



### Award for Renewable Engine PhD Researcher at Environ 2019

Renewable Engine PhD Researcher Sean O'Connor was awarded the ESAI Best Poster Presentation prize at Environ 2019 (an annual Colloquium of Irish Environmental Research, organised by the Environmental Sciences Association of Ireland). Sean, posted at IT Sligo, is working alongside Organic Power in Northern Ireland to develop novel anaerobic digestion technology.



### Exciting Research into Offshore Wave Generation Devices

Queen's University Belfast are currently working in collaboration with King-span Water and Energy to assist rotational moulders in the manufacturing of viable large-scale offshore wave energy generation devices. By learning more about the development of polymer foams, it is hoped that larger, more robust, and complex structures could be manufactured using the process in the future. This includes use in future studies of foamed recycled materials, which would allow consumer waste products to be given a new lease of life within future wave energy generation systems.