

ERI Quarterly Report

June 2023 to August 2023

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ACTIVITY REPORTS

Theme	Energy

Highlights

- Stephanie Strother, Benjamin Williamson and James Slingsby secured £95k for 2023-24 activities of UHI Energy Innovation led from ERI and £78k for the next steps developing the cross-UHI Net Zero Carbon Hub.
- Stephanie Strother was part of a successful proposal to the UK Space Phase 1: International Bilateral Fund.
- Benjamin Williamson and Caitlin Harris completed equipment redeployment for the NERC ecosystem effects of offshore wind (PELAgIO) project, with equipment preparation supported by Toby Izod.
- Stephanie Strother coordinated ERI's Energy representation at the Thurso Community Development Trust -Greenhouse Open Day.
- Louise Thomas completed her engineering internship with ERI supervised by Benjamin Williamson and Jason McIlvenny, before returning to complete her studies at SeaTech at the University of Toulon.
- Samuel Langlois Lopez (supervised by Elizabeth Masden) submitted his PhD thesis entitled "The foraging ecology and conservation of the Great Black-backed Gull *Larus marinus*"

Current major projects/initiatives (select; with partners + funders) - examples

- Energy KE activities include completion of 5 challenge fund projects, including one led by Jason McIlvenny at ERI titled "Comparison of reanalysis datasets with historical wave buoy data in northern Scottish waters". Stephanie Strother participated in the Highland Adapts Highland Climate Risk and Opportunity Assessment Workshop, continues contributing to Net Zero and Innovation Working Groups for the Inverness Cromarty Firth Green Freeport, and attended Highlands and Islands Green Energy Conference and developing follow-on business development opportunities.
- The 'Energy' work package of the **Windswept KTP** has completed; supplementary energy work will be included in the 'waste management' work package. The project was shortlisted as finalist for the VIBES award in the category Vision in Business Scotland (Best Small Business) with a decision due in November.
- The Ocean Science Consulting KTP has started marine instrumentation construction and testing.
- The £2.5m NERC and Crown Estate funded PELAgIO project (Physics-to-Ecosystem Level Assessment of Impacts of Offshore Wind Farms) fieldwork is underway with several moorings deployed, a successful cruise completed, and 2 oceanographic gliders recovered. The project will be complemented by ERI's PREDICT research investigating effects of large-scale offshore wind on marine pelagic ecosystems, including prey availability to seabirds and marine mammals.
- ROBINSON (Smart integration of local energy sources and innovative storage for flexible, secure, and costefficient energy supply on industrialised islands) acoustic monitoring fieldwork for rapid biodiversity
 assessment has been completed by Lucy Mitchell, and a manuscript, led by Lucy, arising from a previous
 deliverable on methods for prioritisation of ecological survey is in review ahead of the 36-month project
 meeting in Stornoway in September.
- The **INGINE Wave Energy Systems** feasibility study for wave energy electricity generation in Indonesia has started, with initial reanalysis completed and detailed modelling pending bathymetry data collection.
- WP6 delivery within Sustainable Aviation Test Environment (SATE2), with Connected Places Catapult (CPC) is ongoing. Barbara Bremner reported on progress to Innovate UK monitoring officer at the Quarterly Reporting Meeting on Orkney in July. Collaboration with HITRANS established to form synergies with their use cases. A SATE2 <u>LinkedIn profile</u> was created by HIAL.

Theme Pollution

Highlights

- Neil James is an editor of the book "Marine Plastics: Innovative Business Solutions", published by Springer.
- Szabolcs Pap secured a second IBioIC Feasibility Fund (£91K) project "Optimisation of Biological
 Treatment of Effluents Produced During the Manufacture of Biofertilisers" with SEM Energy and PyroYield
 to test novel materials to treat wastewater the project starts in November.
- Mark Taggart and Szabolcs Pap secured funding from the CO-OP Carbon Innovation Fund (£200K project)
 with SAMS and SRUC. The project "Green Shoots from Blue Growth creating blue/green circularity" will
 look at repurposing wastes from aquaculture for use in wastewater treatment and soil fertilisation.
- Marta Herrero-Villar (co-supervisor Mark Taggart) completed her PhD successfully on "Determinants of exposure to veterinary pharmaceuticals in avian scavengers to improve environmental risk assessment".
- Szabolcs Pap was successful with a number of small grant calls including a Carnegie RIG Grant (with Lydia Niemi) and a joint SULSA, IBioIC and CENSIS Innovation Seed Fund to support our ongoing biochar projects.
- Christina Karmann (PhD student) will be joining the team (under an Erasmus+ Traineeship) in September– from the Czech Republic to work on the "Conversion of sewage sludge into biochar: Phosphorus recovery and pollutant removal". She will work mainly with Szabolcs Pap for up to 3 months.
- Szabolcs Pap got to meet HRH King Charles in July to talk about ERI Pollution's work with STS-CIC and our shared biochar interests/projects.

Current major projects initiatives (select; with partners + funders) - examples

- Lonneke Goddijn-Murphy, together with Heriot-Watt and Plymouth Marine Laboratory, is developing a ~£100k project proposal (Satellite Altimetry for finding Aquatic Microplastics) for **ESA funding.**
- Szabolcs Pap, Thomas Thompson and Mark Taggart are working on a IBioIC Feasibility Fund (£92K) project
 to look at creating biochar from sewage sludge with Scottish Water. The project will use biochar for
 nutrient removal from water, with a view to subsequent use on land as a soil amendment/fertiliser. Biochar
 optimisation and production was the focus during this quarter.
- Two EU COST projects are starting up one on "BEekeeping product valorization and biomonitoring for the SAFEty of BEEs and HONEY" and one on "Safety in the Game Meat Chain" Mark Taggart will join the Management Groups for both, with kick-off meetings occurring in September in Brussels.
- Szabolcs Pap and Mark Taggart are working on two "Porous Alpha" projects (Challenge Fund and Innovation Voucher) with B2E to look at the efficiency of nutrient and metal recovery from water.
- The **HIAL Wick Airport** project (~£90K) was completed with the final reports drafted and sent to HIAL Thomas Thompson's passed his MRes viva with minor corrections (completed/submitted).
- The **RSPB Neonicotinoids in Forestry** project continues (£15K) with the first samples taken in May; method development taking place over the summer; and second round sampling happening in September.
- The **WINDSWEPT KTP** project continued over the summer but sadly this has now been suspended as the company (Windswept Brewing) can no longer support the project due to the current economic climate.
- Mark Taggart is working on a HORIZON consortium proposal (to be submitted in September) under the
 "Soil-friendly practices in horticulture, including alternative growing media" call to develop peat free
 growing media for use in horticulture using various novel materials (€6.5M call; ERI €750K).

Theme Peatlands

Highlights

- Callum Thompson and Mascha Bischoff successfully set up and monitored experiments on drought stress on Sphagnum species.
- Liam Godwin, Chris Marshall and Sam Webber spent time in Svalbard to develop collaboration with the University Centre in Svalbard (UNIS) around peatland landscapes of the past, present and future.
- Heather Johnstone joined the team as a new Peatland Scientist with the Leverhulme Leadership team.
- Roxane Andersen presented at a "Bog Breathing" workshop hosted by NatureScot for International Union for Conservation of Nature (IUCN), Scottish Government, NGOs and Peatland ACTION on continued progress with InSAR based monitoring of peatland condition.
- Chris Marshall participated in a Highland Adapts Highland Climate Risk and Opportunity Assessment Workshop

Current major projects/initiatives (select; with partners + funders) - examples

- Leverhulme Leadership Award (£980K) 4th year of the programme now underway with a very busy field season and data collection phase, as well as some publications in preparation
- MOTHERSHIP (£3.2M) NERC funded Large Grant (JHI lead, UHI, U of Nottingham, U Leeds, U Exeter, UKCEH) - 2nd year underway with plans in place for data collection and preparation of manuscripts with long-term datasets.
- NatureScot "Bog Breathing" project (£150K) 5th year of the research programme continues with a phase of work on change analysis and development of restoration monitoring tool.
- DRINK WHISKY a KTP worth £250K (£750K inc. matched funding) in collaboration with Highland Park and the Edrington Group on the development of responsible management practice on peatlands associated with production of whisky currently awaiting outcome – developed by Chris Marshall (lead) and Roxane Andersen with input from Mascha Bischoff

Theme Society

Highlights

- The Flow Country Partnership (of which ERI is a member and Stuart Gibb is Chair) has been shortlisted In the 2023 VIBES Scottish Environment Business Awards the category of 'Nature Rich Scotland' see below.
- Lydia Niemi participated in "Scotland's Blue-Green Prescribing Co-creation Workshop" organised by researchers at Glasgow Caledonian University
- Working with Connected Places Catapult (CPC), WP6 delivery within Sustainable Aviation Test
 Environment (SATE2) is progressing. Barbara Bremner (WP6 lead) reported on progress to Innovate UK
 monitoring officer at the Quarterly Reporting Meeting on Orkney in July. Collaboration with HITRANS
 established to form synergies with their use cases. A SATE2 LinkedIn profile was created by HIAL.

Current major projects/initiatives (select; with partners + funders) - examples

- Funding (£30K) has been secured for another year through University Innovation fund (UIF) Knowledge Exchange Platform Grant for KE Water Hub activities, chaired by Professor Stuart Gibb.
- Roxane Andersen and Stuart Gibb took part in the International Union for the Conservation of Nature evaluation visit to the Flow Country as part of the bid to secure UNESCO World Heritage Site Status for the area.
- Lydia Niemi, Stuart Gibb and Mark Taggart are continuing work on the Medical Research Council project
 (£100k), "Developing frameworks for eco-directed sustainable prescribing", with Co-Is from NHS Highland
 and University of Nottingham. Project partners include SEPA, Scottish Water, the James Hutton Institute,
 and University of Uppsala.
- Lydia Niemi, Neil James and Stuart Gibb were successful with the One Health Hydro Nation project proposal (£83k) submitted to the Scottish Government's Water Industry Division for continued support of the One Health Breakthrough Partnership's activity.
- Lydia Niemi, Sharon Pfleger and Stuart Gibb are engaging with the University of Exeter's Pharmaceutical Pollution Hub – contributing to a UK White Paper "A Cross-Sectoral Action Plan to Reduce the Environmental Impact of Pharmaceuticals" as the working group lead for the Environmental monitoring and management section

PEER-REVIEWED PUBLICATIONS (citation) ERI authors in bold	Journal Impact Factor
Goddijn-Murphy L , Woolf DK, Pereira R, Marandino CA, Callaghan AH and Piskozub J (2023) The links between marine plastic litter and the air-sea flux of greenhouse gases. Front. Mar. Sci. 10:1180761. doi: 10.3389/fmars.2023.118076	5.2
Ledger MJ, Evans CD, Large DJ, Evers S, Brown C, Jovani-Sancho AJ, Callaghan N, Vane CH, Marshall C , Baskaran A, Gan JY, Sowter A, Morrison K and Sjögersten S (2023), Tropical peat surface oscillations are a function of peat condition at North Selangor peat swamp forest, Malaysia. Front. Environ. Sci. 11:1182100. doi: 10.3389/fenvs.2023.1182100	5.4
Pavlov, V., James, N.A., Masden, E.A., de Aguiar, V.C.M., Hole, L.R., Liimatainen, H., Pongrácz, E., 2023. Impacts of offshore oil spill accidents on island bird communities: A test run study around Orkney and Svalbard archipelagos. Environmental Pollution 334, 122193. https://doi.org/10.1016/j.envpol.2023.122193	8.9
O'Hanlon, N.J., Bond, A.L. , Masden, E.A ., Boertmann, D., Bregnballe, T., Danielsen, J., Descamps, S., Petersen, A., Strøm, H., Systad, G., James, N.A. , 2023. Using foraging range and colony size to assess the vulnerability of breeding seabirds to oil across regions lacking at-sea distribution data. Ornithological Appl,; https://doi.org/10.1093/ornithapp/duad030	3.0
Pap, S. , Paunovic, O., Prosen, H., Kraševec, I., Trebše, P., Niemi, L., Taggart, M.A. and Sekulic, M.T., 2023. Removal of benzotriazole derivatives by biochar: Potential environmental applications. <i>Environmental Pollution</i> , <i>334</i> , p.122205.	9.9
Herrero-Villar, M., Taggart, M.A., Mateo., R., 2023. Medicated livestock carcasses and landfill sites: Sources of highly toxic veterinary pharmaceuticals and caffeine for avian scavengers. Journal of Hazardous Materials, 459, 132195.	12.7

BOOK CHAPTERS

Grimstad, S.M.F. (ed.), Ottosen, L.M. (ed.) & **James, N.A.** (ed.), 2023, Marine Plastics: Innovative Solutions to Tackling Waste. *Springer Nature Switzerland AG* DOI: 10.1007/978-3-031-31058-4

James, N.A. & Große, A., 2023. Marine Mammals and Interactions with Debris in the Northeastern Atlantic Region: Synthesis and Recommendations for Monitoring and Research *IN:* Marine Plastics: Innovative Solutions to Tackling Waste. Grimstad, S. M. F., Ottosen, L. M. & James, N. A. (eds.). *Springer Nature Switzerland AG*, p. 3-25 21 p. Chapter 1, DOI: 10.1007/978-3-031-31058-4_1

James, N.A., 2023. Developing a Circular Economy for Fishing Gear in the Northern Periphery and Arctic Region: Challenges and Opportunities. *IN:* Marine Plastics: Innovative Solutions to Tackling Waste. Grimstad, S. M. F., Ottosen, L. M. & James, N. A. (eds.). *Springer Nature Switzerland AG*, Chapter 3, DOI: 10.1007/978-3-031-31058-4 3

Lima, A.T.M., Bertelsen, I.M.G., Ottosen, L.M. & James, N.A., 2023. The Effect of Fishing Nets Aging on Metal Uptake *IN*: Marine Plastics: Innovative Solutions to Tackling Waste. Grimstad, S. M. F., Ottosen, L. M. & James, N. A. (eds.). Springer Nature Swit. AG. Chapter 11, DOI 10.1007/978-3-031-31058-4_11

CONFERENCE/EVENT PRESENTATIONS	Poster / podium / invited
Lydia Niemi presented at the Royal Society of Chemistry - Environmental Chemistry 2023 conference, Glasgow	Podium
Bog Breathing Research: Validation (NatureScot workshop 25 th August 2023)	Invited presentation
Lydia Niemi and Sharon Pfleger presented on the OHBP and Scottish KE Award at the Water Hub Forum Meeting in Inverness	Award recognition
Lucy Mitchell presented a poster about her Blackcap migration work and delivered a workshop on Motus VHF tracking at the European Ornithological Conference in Lund, Sweden (Aug 2023)	Poster/ Workshop
Anna McWilliam attended an open day with The Cairngorms, Speyside, Deer Management Group to see Glenfeshie's forest restructuring work.	Invited

MEDIA COVERAGE

SOLAS Newsletter - https://mailchi.mp/xmu/solas-newsletter-august-2023 (Goddijn-Murphy et al., 2023)

https://www.earthisland.org/journal/index.php/magazine/entry/carbon-sinks-teaching-peatland-restoration-in-scotland

Contribution to an online article on peatland restoration by Roxane via interview

Natalie Isaksson joined the ICES Journal of Marine Science 2023-2024 cohort of editorial board mentees, which was highlighted on the ICES website: Shaping the future of scientific publishing and journal editing (ices.dk)

AWARDS AND NOMINATIONS

The Flow Country Partnership (of which ERI is a member and Stuart Gibb is Chair) has been shortlisted In the 2023 VIBES awards in the category of 'Nature Rich Scotland'.

This Award recognises organisations who have adopted nature-based solutions to tackle environmental and social challenges, whilst delivering benefits. We are looking for examples of organisations who have protected, re- stored and enhanced nature, improved biodiversity and reduced carbon emissions whilst delivering social and economic benefits.

The KTP with Windswept Brewing, supervised by Stephanie Strother, Benjamin Williamson, Mark Taggart and Stuart Gibb from ERI, with KTP Associate Chinguzorom Chizaram, was shortlisted as finalist for the VIBES award in the category – Vision in Business Scotland (Best Small Business). A press release is hosted on SEPA Website https://media.sepa.org.uk/media-releases/2023/scottish-business-leaders-embracing-economic-benefits-of-sustainability/

The VIBES Scottish Environment Business Awards are a partnership between Scottish Environment Protection Agency (SEPA), The Scottish Government, Energy Saving Trust, Highland & Islands Enterprise, Scottish Enterprise, South of Scotland Enterprise, Scottish Water, Zero Waste Scotland and NatureScot.

Winners will be announced later in the year

METRICS

1. STAFFING _ People - The Environmental Research Institute (eri.ac.uk)

2. Postgraduate Students

	31 August 2023	30 November 2023	28 February 2024
Postgraduate Research	13		
Student numbers			
(PGR, at time of report)			
PGR completed in 22-23	2		

Degree	Funder	Start date	End Date	Status	DoS	Additional ERI Supervisors
	Wick					
MRes	Airport	01/10/2021	01/04/2023	complete	Mark Taggart	Paul Gaffney
PhD	SSER/RS PB	01/09/2022	31/08/2025	Ongoing	Roxane Andersen	Lucy Mitchell, Chris Marshall
PhD	MASTS SUPER DTP	01/10/2019		Ongoing	Roxane Andersen	Paul Gaffney
	MASTS SUPER				Elizabeth	Nina O'Hanlon
PhD	DTP	01/10/2019	30/09/2023	Ongoing	Masden	
PhD	Hydro- Nation	01/10/2020	31/03/2024	Ongoing	Mark Taggart	Paul Gaffney
PhD	MASTS SUPER DTP	01/10/2020	31/03/2024	Ongoing	Benjamin Williamson	,
	MASTS SUPER					Devene Anderson
PhD	DTP	01/10/2020	31/03/2024	Ongoing	Peter Gilbert	Roxane Andersen
PhD	Leverhu Ime	06/09/2021	05/03/2025	Ongoing	Roxane Andersen	Mascha Bischoff
PhD	Leverhu Ime	06/09/2022	05/03/2025	Ongoing	Roxane Andersen	
PhD	Leverhu Ime	13/09/2021	12/03/2025	Ongoing	Chris Marshall	Roxane Andersen
PhD	Hydro- Nation	01/10/2021	30/09/2025	Ongoing	Mark Taggart	Paul Gaffney
PhD	RSPB	02/02/2022	01/09/2026	Ongoing	Roxane Andersen	
	MASTS SUPER					
PhD	DTP	01/09/2022	31/03/2026	ongoing	Benjamin Williamson	
MRes	self	01/09/2022	31/08/2023	ongoing	Szabolcs Pap	Mark Taggart

3. VISITING STAFF AND PLACEMENT STUDENTS

Name	Staff / student	Home country/ organisation	Dates	Project title	ERI Theme
		(Programme if applicable)	(Length of visit/ placement)		
Recently cor	npleted /curre	ent			
Hayley	student	UK University of West of	September	Undergrad BSc	Pollution /
Waller		England (Bristol)	2022 to June	Env. Science	Peatlands
			2023	placement –skills	
				and experience	
Candice	student	Ecole Normale Superier de	Feb 2023 to	Master's in	Peatland
Lescop		Lyon	June 2023	Biology (1st year)	
Louise	student	Universite de Toulon,	May 2023 to	Masters Marine	Energy
Thomas		France	August 2023	Engineering	

4. RESEARCH AND KE PROJECTS APPLICATIONS

A summary of the applications contributing to the ERI 'pipeline' is provided in the table below. Please note:

- New proposals submitted within this reporting period are shown in line 388 onwards
- The status of pending proposals is 'dynamic', but the table reflected the position as of 31 August 2023
- Proposals under negotiation, or subject to resubmission, may be subject to changes in value
- Proposals submitted of value less than £5k are not included
- Intervention rates vary per project, as does the monthly euro conversion rate used by EU Projects

Updates

In the meantime, the ERI continues to explore new funding opportunities, including those in partnership with external universities, research institutions, businesses, and stakeholders. For example:

3. Looking forward

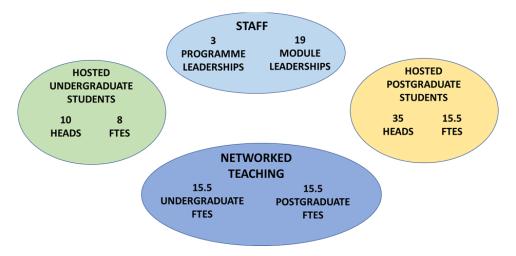
- General: Funding from Leverhulme Trust, NERC, H2020 and other projects provide some security as we seek to navigate impacts of Brexit on new funding calls and collaboration. Whilst we await the outcome of applications submitted earlier this year (see table below), teaching income, small projects and commercial funding continue to support our financial position.
- Grant success rates: Recent meetings of F+GP have noted high success rate of funding applications. While rates are indeed encouraging, as highlighted, they are in part a result of short-term Covid response calls. However, discussions with research-intensive groupings (e.g., SAMS) have highlighted a recent upsurge in applications for more substantive calls (e.g., UKRI) and that lower success rates are expected.

Summary Table

EOI		overall project value	ERI component	% likelihood	Duration (months)	Funder	% FY 22- 23	%FY 23_24	% FY 24_25	Status	
Number	proposal/theme			of success							end date
358	PhD_access road impacts_Peatland	84,383	84,383	70	36	SSER	33	33	33	secured	
359	Mres-toxic metals in biochar_Pollution	9,000	4,500	100	12	self funded	100			secured	Sep-23
360	Indonesia Wave energy_Energy	250,000	41,500	10	12	Innovate UK-SE Asia	25	75		secured	Mar-24
361	EMPIRE_Mrv sollution_Peatland	74,500	19,500	10	6	Innovate UK	100			secured	complet
				ations sinc	e Septembe						
367	SAPHIRE -Asia _Pollution	10,000	7,808			RSE Asia				unsuccessful	
368	SAFE MEAT_Pollution	200,000	20,000	5	48	COST-EU resubmission	0	25	25	secured	L
369	platform for fish monitoring_Energy	250,000	10,727	10	12	SCOTMER	100			secured	Oct-2
370	OHBP second phase_Pollution	32,000	32,000	25	12	Scottish Government	100			secured	complet
371	BEE keeping Biomonitoring_Pollution	200,000	20,000	5	48	COST_EU		25	25	secured	Oct-27
372	particle tracking model_Energy	9,100	9,100	10	6	Highland Wind Ltd	100			secured	complet
373	wave data sets analysis_Energy	29,500	29,500	10	6	Northlands Sheena Ltd	100			secured	complet
374	oil spills & seabirds_Phd_Pollution	172,000	150,000			ITDPF				unsuccessful	
375	removal of CIP3 contaminants_Pollution	15,000	15,000	5	12	Carnegie		100		secured	Nov-24
376	whisky cask biochar_Pollution	16,952	12,700	. 25	6	Interface	100			secured	complet
277	annual studential B. C. C.	00.000			e December			400			
377	sewage sludge biochar_Pollution	92,219	51,500	25	6	IBioC feasibility		100		secured .	Oct-2
378	PhD support vessel time_Energy	40,000	40,000	50	36	Equinor		50	50	secured	Mar-2
379	Karnataka research exchange_Pollution	20,000	10,000	50	12	British Council India	25	75		secured	Dec-2
380	PhD ecology black guillemot_Energy	90,000	75,000			DAERNA				unsuccessful	
381	PhD Marine remote sensing_Energy	90,000	75,000	33	42	UHI		30	30	secured	Mar-2
382	reusing aquaculture waste_Pollution	200,000	70,000	50	30	COOP green fund		40	40	secured	Jan-2
383	porous alpha material_Pollution	10,000	7,500	50	6	Interface		100		secured	Oct-2
384	OHBP third phase_Pollution	82,000	82,000	50	12	Scottish Government		100		secured	Mar-2
385	Dram Filtration FiltraFlo	90,000	36,000	25	6	IBioC		100		secured	Mar-24
386	migratory tracking network Arctic_Energy	8,345	8,345			Arctic Connections				unsuccessful	_
387	SBRI MRV sollution 2_Peatlands	260,000	40,000	lientione ei	neo March 2	Innovate UK				unsuccessful	
388	trial of SPOOR AI_Energy	7,500	7,500	40	nce March 2 12	Vattenfall/BTO		100		secured	Jul-24
	:			25	24			100	50		
389	Energy Catalyst Round 10_Energy	1,500,000	45,708			Innovate UK /Ingine				awaiting outcome	
390	KTP Highland Park_Peatlands	400,000	228,000 an	10 nlications s	36 ince June 20	Innovate UK			33	awaiting outcome	=
391	North Coast Space Cluster_Energy	75,000	3,000	25	4	UK Space Agency		100		secured	Oct-24
392	EuropeWave3_Energy	6,000,000	120,000	10	33	Horizon/ Energy Wave Scotland		100	40	awaiting outcome	
393	ENHANCE_Coastal Communities_Energy	2,000,000	100,000	5	60	UKRI_resilent communities			20	1st stage	
394	SSE decarbonisation_Energy	8,227	8,227	50	1	SSE		100	20	awaiting outcome	
395	ROBINS reducing bird impacts Energy	500.000	50.000	5	24	UKRI cross council		100	50	1st stage	
396	Offshore Energy Sensing_Energy	1,200,000	150,000	5	24	UKRI cross council			50	1st stage	
397	Modelling boundary effects_Peatlands	1,200,000	50,000	5	24	UKRI cross council			50	1st stage	
398	Biochar in Circular Economy_Pollution	25,000	20,000	25	6	EBNET		100	30	awaiting outcome	
399	Metocean monitoring_PHD_Energy	105,000	105,000	25	42	ETP +company		100	30	awaiting outcome	
400		39,000	39,000	50	6	Orsted		100	30		
400	Offshore Env. Measurements_Energy COMPEAT soilless growing Pollution	6,000,000	700,000	10	36	H2020		100	33	awaiting outcome	
401		105,000	105,000	10	42	HydroNation			30		
	Sewage sludge biochar_PhD_Pollution			10	42				30	awaiting outcome	
403	Nest incorporation of plastic_PhD_Polluti	75,000	75,000	10	42	SUPER DTP			30	awaiting outcome	-
	Environmental Contamination and Ecological H				gy-Renewabl	le Energy & Environment; Society -Er	vironment	Economy &	Society		
	ervention rates vary e.g. NERC 80% . The bud is in sequence indicate where unsuccessfu	-		•							-

5. ERI LEARNING AND TEACHING

Status August 2023



METRIC	VALUE		
	2021-2022	October 2022	Aug 2023
PROGRAMME LEADERSHIPS	3	3	3
MODULE LEADERSHIPS	20	19	19
HOSTED UNDERGRADUATES (HEADS)	15	14	10
HOSTED UNDERGRADUATES (FTEs)	12.5	11	8
HOSTED POSTGRADUATES (HEADS)	33	57	35
HOSTED POSTGRADUATES (FTEs)	15	16.5	15.5
NETWORKED TEACHING UG (FTEs)	16.3	19.5	15.5
NETWORKED TEACHING PG (FTEs)	19.7	15.5	15.5

Metrics - Definitions

Staff

- Programme Leaderships: Programme Leaderships as appointed by UHI.
- Module Leaderships: Module Leaderships as appointed by UHI.

Hosted Undergraduate Student

Hosted Undergraduates: Undergraduates on the following Programmes who are hosted at NHC- UHI
(Bioscience, Applied Science, Environmental Science, Archaeology and Environmental Studies, Sustainable
Development, Culture Heritage and Scottish History). Heads are the number of students registered on
these Programmes. Full Time Equivalents (total number of annual credits/120). Numbers from SITS.

Hosted Postgraduate Students

 Hosted Postgraduates: All students on the following Programmes (MSc Sustainable Energy Solutions and MSc Net Zero Communities). Heads are the number of students registered as taking these Programmes.
 Full Time Equivalents (total number of annual credits/120). Numbers taken from SITS.

Teaching

- Undergraduate FTEs: Number of students taught across all our modules divided by 6 (a full-time student will take six modules per year). Numbers taken from SITS.
- Postgraduate FTEs: Number of students taught across all our modules divided by 6 (a full-time students will take six modules per year). Numbers taken from SITS.