











# Strategic Plan 2021/22



University of the Highlands and Islands Oilthigh na Gàidhealtachd agus nan Eilean



North Highland College University of the Highlands and Islands





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# Organisational context

## University of the Highlands and Islands (UHI)

The project to establish a university in the Highlands and Islands started in 1991 when Highland Council set up a steering group. The plan to offer higher education opportunities through existing colleges and research institutes meant that courses could be delivered to learners across the region without them having to leave home. The project, which received funding through the Millennium Commission, paved the way for creation of the UHI Millennium Institute in 2001. The partnership has awarded degrees from 2008 and became Scotland's newest university in 2011.

The university partnership now has the largest student population in Scotland, with nearly 40,000 students studying college and university courses each year. It is a pioneer of blended learning, using video conferencing, online technologies and faceto-face teaching to deliver education across the region and beyond. The partnership also has an extensive range of research expertise, focussed on the social, cultural and economic needs of the communities it serves.

UHI provides access to undergraduate and postgraduate study, and research opportunities through a distinctive partnership of 13 colleges and research institutions. Each institution has its own character and contributes to the distinctive organisation that is the University of the Highlands and Islands. Some are relatively large colleges in the urban centres of the region such as Perth, Elgin and Inverness. Others are smaller institutions, including some whose primary focus is on research. All, however, have a student-centred culture and an individual approach to student learning. In addition to the main campuses, UHI also provides educational opportunities through a network of more than 50 learning centres located throughout the Highlands and Islands, Moray and Perthshire.

Academic Partners have their own microstrategies and employ the majority of the research staff, make their own investments and exploit local autonomy in creating research activity within the wider university strategy. This breadth and diversity of the UHI partnership adds strength and impact to the main UHI research themes at the local level, often based on our unique regional characteristics. It permits a growing cross disciplinary approach which enriches our research and allows UHI to collaborate at the highest level.

UHI reputation is built on our innovative approach to learning and our distinctive research and curriculum – all enriched by the people, natural environment, economy, culture and heritage of the Highlands and Islands and its communities.

#### The University of the Highlands and Islands partnership celebrated its tenth birthday (Monday 1 February 2021), the same day it welcomed its new Principal and Vice-Chancellor, Professor Todd Walker.

Some of its key developments in the last decade have included becoming the regional strategic body for further education in the Highlands and Islands, having over 69% of its research classified as 'world leading', opening a micro campus at the Hunan Institute of Engineering in China and gaining powers to award its own research degrees. Last year, an independent economic impact assessment found that the partnership contributes £560 million to the Highlands and Islands, Moray and Perthshire economies every year and supports 6,200 jobs.

### **Our mission**

To have a transformational impact on the prospects of our region, its economy, its people and its communities.



## Draft UHI Strategic Framework

MISSION	To have a transformational impact on the prospects of our region, its economy, its people and its communities				
VISION	To become a connected, streamlined and sustainable university				
BRAND STORY	A university of today for the world of tomorrow				
CORE VALUES	Collaboration	Openness	Respect	Excellence	
STAKEHOLDERS	Staff   Students   Alumni   Business   Government   Community   Industry				
STRATEGIC PILLARS	Tertiary education	Research Excellence	Enterprise	Engagement	
	We will deliver a connected curriculum built on personalised learning with more content, to more people through more channels	We will elevate our research strategy ensuring it is internationally ranked, industry linked and world-leading	We will embrace an entrepreneurial spirit resulting in strong economic and commercial growth, and ensure we are a socially responsible and well managed enterprise	We will be an engaged organisation that values the people and the communities in which we work always striving for mutual benefit	

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We offer a learning

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#### Our brand story: A university of today for the world of tomorrow

We are the Home of Giving access to all-inclusive joined up learning university We believe in We take the best quality of our growing academic academic excellence without being reputation, elitist. We are world-class research, and proud to be a our proud different type of boundaries of university, history of where students vocational skills-based can start where training to join they need to and progress as up the world of learning with the far as they want. world of work. world

excellence and world-class All across our region we have centres of excellence and world class thinking that are pushing the academic and applied knowledge, where our staff and students are playing a part in changing our region and the

We are supportive, caring and personal We take time to help our students find their unique learner journey and succeed in the future world of work. We care passionately not just about our students and staff but also our region, its people, communities and future prosperity.

#### We are a regional university here to Let the Northern Land Shine



Inclusion and excellence; influencing locally, regionally and globally

#### Outputs

- Recognised, innovative . teritiary model
- Brand ambassadors
- Relevant seamless student journeys
- Inclusion, equality and diversity
- Learning joined up with work-related skills
- High student satisfaction and retention
- . Graduate/leaver employability
- High performing . staff/boards
- Research outputs/spinouts
- Supporting regional languages and culture

### Outcomes

Internal:

Enhanced brand equity Positioning of regional distinctiveness

Innovative learning environments

Research reputation/ innovation

Attractive to staff and students

Attract funding/income generation

Policy influence

Leader in rural area sustainability

Autonomy of thought and action

#### External:

Adding value to communities and society

Better quality jobs/talent attraction

Supply of work-ready graduates and researchers

Workforce training for regional need

Culture of lifelong learning Economic and productivity growth

**Regional resilience** 



# North Highland College UHI (NHC)

North Highland College UHI is one of thirteen academic partners and research centres that make up the University of the Highlands and Islands. This unique partnership allows us to deliver further and higher education programmes at our campuses in Thurso, Halkirk, Dornoch and Alness.

### **Strategic Vision**

North Highland College UHI will be an active and committed academic partner of the University of the Highlands and Islands, the United Kingdom's leading integrated university. We will be recognised for the quality of our students' experience and for their achievement. Our reputation will be built upon an innovative approach to tertiary learning and teaching and our distinctive research and curriculum, enriched by the people, natural environment, culture and heritage of the north Highlands. Whilst our primary focus will be on meeting the needs of our local area, we will also extend our reach regionally, nationally and internationally in areas of key strength and specialism.

### **Mission Statement**

To have a transformational impact on the prospects of the north Highland area, its economy, its people and its communities.

### **Core Values**

Support Collaboration Openness Respect Excellence

# Meeting the needs of our students



## Our Research will be sustainable, widely recognised and will focus on meeting the key targets of the University of the Highlands & Islands.

We are committed to excellence in our Research, in the context of the UHI commitment to "Focussed Research". We will further contribute to the University's strategy to concentrate on enhancing its reputation for high quality and impactful research in specific areas of expertise (including those with a local economic impact).

### OBJECTIVE

Deliver EXCELLENCE in our environmental research.

Promote environmental research locally, nationally and internationally through a tailored programme of OUTREACH activities.

Increase the commercialisation of our research and knowledge transfer activities

Enhance our student experiences through RESEARCH-INFORMED TEACHING.

### WE WILL

Progress and extend our environmental research projects and activities as our primary contribution to the UHI research portfolio.

Form new partnerships with agencies and other universities to further extend the reach and impact of our research projects.

Secure new income streams to support the further development and impact of our research.

Strengthen the linkages between our research and curriculum to enhance staff and student learning/development experiences.



# Environmental Research Institute (ERI)

The ERI is part of the North Highland College UHI. We have a rapidly evolving research profile and provide a high quality, vibrant research environment. Our young, highly-motivated team have the ethos of multi- and inter-disciplinarity securely embedded. The ERI has become a focus for promoting excellence in research in the region, largely due to the ability of its investigators to work with stakeholder, commercial, academic & educational organisations alike.



The ERI is a centre of aspiration that seeks to be internationally recognised for distinctive and innovative environmental science. We work with partners throughout Europe and as far afield as North and South America, Asia and Australia. With easy access to outstanding natural resources in the Pentland Firth and Flow Country, and a range of analytical and field equipment, we seek to address emerging issues related to improving our understanding of the natural environment. State-of-the-art laboratory, meeting and office facilities in our prestigious new Centre for Energy and Environment complement the facilities at our Castle Street base.

Learning is at the core of our activity and we aim to provide a high quality educational experience for all students whether undertaking higher education courses or studying for doctorate degrees. ERI is committed to making research accessible to a wide audience and our outreach agenda supports the school curricula as well as delivering benefits to the public, policy makers and the local economy.



### Strategy statement

The ERI is a centre of aspiration that seeks to address and advance understanding of contemporary environmental issues through high calibre research (including knowledge exchange), enterprise (including commercial and consultancy), learning and teaching and outreach activity.

We will use our proximity to outstanding natural resources combined with state-of-the-art facilities to build internationally recognised research capability. Our approach will be underpinned by strong, strategic partnerships and collaborations with academic, commercial and stakeholder organisations within regional, national and international contexts.

We aim to ensure that our work is highly significant to the advancement of scientific understanding and of tangible socio-economic worth. We will address new societal and policy demands related to improving understanding of the natural environment and to decarbonising modern society.

We will embed a flexible and highly responsive approach to deal with changes in the environmental, organisational, financial and political landscapes and implement a 'segmented' approach to ensure that we will realise our full potential in each of our strategic priorities, i.e. Research (including KE), Learning and Teaching, Enterprise and Outreach.

### **Vision Statement**

"To be internationally recognised for distinctive and innovate environmental science"

### **Mission Statement**

'Our mission is to address contemporary environmental issues and advance understanding of the sustainable use of the Earth's natural resources. We aspire to excellence in all that we do and to provide dynamic leadership in environmental scientific research, innovation and education'

### **Strategic Priorities**

Our work will be focused around the following strategic priorities, our 'core activities':

- Research (including knowledge exchange)
- Enterprise (including commercial and consultancy)
- Learning and teaching
- Outreach

To reflect the distinctive nature of each of these activities and the different operational contexts and environments, a segmented strategy has been developed. This ensures that aims and objectives are contextually relevant, that approaches and partnerships are appropriate and that outputs are optimised in each case.







### Structure

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## Ethos and values

We value science, research and related activity that is:

- Aspirational characterised by excellence at all levels
- **Relevant** addressing contemporary environmental issues and ensure that policy, management and legislative decision making is informed by robust, high quality science
- **Recognised** regionally, nationally and internationally for quality and reliability
- **Distinctive** capitalising on the scientific strengths of the ERI and its partners and on the outstanding and often unique environmental assets of the region
- Innovative bring creative thinking into practice
- Inter- and multi-interdisciplinary an environment devoid of disciplinary boundaries and well adapted to addressing issues and solving problems
- **Collaborative** forming effective working relationships regionally, nationally and internationally with key partners from the academic, business, stakeholder and educational sectors

To reflect the distinctive nature of each of these activities and the different operational contexts and environments, a segmented strategy has been developed. This ensures that aims and objectives are contextually relevant, that approaches and partnerships are appropriate and that outputs are optimised in each case.



### External environment

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The activities and ambitions of the ERI are currently set within a rapidly changing external environment including:

- **Covid-19 pandemic:** The impacts of the international pandemic are extensive and far reaching. As we plan for a 'post-Covid world' we have the opportunity to consider how we can play a positive role in forming the 'new normal'.
- **Brexit:** The UK's exit from the EU will have broad impacts on its society, economy, governance, policy and international relations. These will shape the operational environment and funding landscape of education and research and the ERI must respond and adapt to this.
- **Global climate emergency:** Our work is framed by the most significant challenge of our time, namely preventing and mitigating the impacts of anthropogenically driven climate change

These issues, individually and collectively, present significant challenges, but also opportunities. For example: the Organisation for Economic Co-operation and Development (OECD) note that 'cleaner air quality, healthier water, effective waste management, and enhanced biodiversity protection not only reduce the vulnerability of communities to pandemics and improve resilience, but have the potential to boost economic activity, generate income, create jobs, and reduce inequalities'.

Green, just and resilient recovery has been highlighted by Governments across the world, including the Scottish Government who noted that -

"The natural economy is a vital asset in mitigating greenhouse gas emissions, responding to climate change, ending biodiversity loss and creating the new, green employment opportunities of the future"... we have committed to a 'green recovery' from COVID-19, one which captures the opportunities of our just transition to net zero. That means creating green jobs, developing sustainable skills and nurturing wellbeing. This approach recognises climate change as a human rights issue and the transition to net zero as an opportunity to tackle inequalities. It is an approach that is fundamentally important to the future prosperity of our people and planet.

Scotland's National Performance Framework (2018) sets an overall purpose and vision for Scotland and is intended to inform discussion, collaboration and planning of policy and services across Scotland, encompassing the public sector, businesses, civil society and communities. It is Scotland's framework to localise the United Nations Sustainable Development Goals (SDGs).



### Scotland's National Performance Framework

Our Purpose, Values and National Outcomes



Image: Scottish Government: National outcomes are aligned with the UN Sustainable Development Goals

Through supporting 'Green Recovery' the Scottish Government aims to ensure 'good quality, green jobs and ensures a fair and just transition to net-zero, leaving no-one behind'.

These principles are coherent with the increasingly popular concept of 'Doughnut economics' framework for sustainable development which combines the concept of planetary boundaries with the complementary concept of social boundaries. (doughnuteconomics.org/)

'The Doughnut consists of two concentric rings: a social foundation, to ensure that no one is left falling short on life's essentials, and an ecological ceiling, to ensure that humanity does not collectively overshoot the planetary boundaries that protect Earth's life-supporting systems. Between these two sets of boundaries lies a doughnut-shaped space that is both ecologically safe and socially just: a space in which humanity can thrive'.



Image: Kate Raworth and Christian Guthier/The Lancet Planetary Health

This rapidly shifting external environment and conceptual framework presents opportunities for the ERI. However, it will require the organisation to respond and adapt. Should it be able to do so we will be able to contribute to regional sustainability, National Performance Outcomes, and doing so help, in a small way, advance UN SDGs.



# ERI strategic aims

### General

- To develop and sustain a vibrant and dynamic centre of expertise engaged in internationally recognised research and in learning and teaching, enterprise and outreach activity i.e. our strategic priorities.
- To optimise the contribution that ERI makes to the UHI's mission of having a 'transformational impact on the prospects of our region, its economy, its people and its communities'.
- To make a valuable contribution to the portfolio of the NHC and advance its ability to serve the local community.

### Research (including knowledge exchange)

- To address key environmental issues impinging upon environment, economies, societies and cultures of the Highland and Islands region and comparable regions around the world.
- To undertake environmental research that generates outputs of an internationally recognised standard.
- Engage in knowledge exchange activity that builds effective partnerships with businesses and stakeholders across the regions and makes a valued contribution to the local economy.

### Enterprise

• To develop and maintain a portfolio of commercial and consultancy services that are relevant and responsive to the needs of both private and public organisations in key economic sectors in the region.

### Learning and teaching

• The ERI aims to provide learners with a high quality educational experience in distinctive curriculum areas that are informed by contemporary research practice allowing them to achieve their full academic potential and enhance their career prospects.

### Outreach

• To promote environmental research locally, nationally, and internationally through a tailored programme of outreach, using relevant media platforms to reflect current working, and the skills of staff to ensure our research is valued and accessible.

### Organisational

- To ensure an operational environment that is conducive to, and supportive of, our core activities.
- To optimise the contribution that ERI research makes to advancing UHI's development as a strong University 'in', 'of' and 'for' the Highlands and Islands.
- To make an effective contribution to the portfolio of the NHC and advance its ability to serve the local community.



# ERI operational goals

To ensure an operational environment that is conducive to, and supportive of, our core activities including:

### External relationships

- To develop a network of effective collaborations and partnerships within the regional, national and international contexts that promotes the ability of the ERI to address contemporary and emerging environmental issues.
- To ensure that our key stakeholders are engaged and informed and can contribute value to our strategy and activities.

### Financial

• To ensure financial viability for the ERI though a balance of income streams secured for research, learning & teaching, commercial and outreach activities.

### Staff and culture

- To promote a culture conducive to creativity and innovation and characterised by aspiration and ambition.
- To continuously enhance the capability and excellence of the team through recruitment of highly motivated, high-calibre staff.
- To provide an environment that actively promotes professional development of all staff.

## Facilities

• To ensure on-going provision of estate facilities hosting state-of-the-art equipment and instrumentation to provide a high quality and attractive working environment for all staff, students and visitors.

### Policies and procedures

• To seek to develop effective policies and efficient procedures that contributes to enhanced operational performance.



# Strategic priorities

Effort has been focussed on developing segmented strategies for each the ERIs four strategic priorities: Research (and knowledge exchange); Enterprise; Learning & Teaching and Outreach.

# **1. Research (including knowledge exchange) I. Renewable Energy & the Environment**

The ERI is located close to many of Scotland's outstanding wind, wave and tidal energy resources, notably the Pentland Firth - the foremost tidal resource in the UK. Sustainable use of these resources will play a key role in achieving the Scottish Government's ambitious renewable energy and carbon emission targets.

The ERI seeks to capitalise on our multi-disciplinary expertise to address environmental uncertainties and issues underpinning development of the renewable energy sector to support international low-carbon and net-zero development. We will do so by actively seeking and developing effective collaborations and partnerships, including with our UHI partners, within regional, national and international settings.

Our team exploit distinctive blends of in-situ measurement, environmental survey, experimental, modelling and remote-sensing approaches. These provide new insights that are relevant not only to renewable energy, but also to ecosystem functioning and anthropogenic impacts more generally within the fields of marine biology, behavioural ecology and oceanography.

As well as developing and disseminating environmental knowledge, we also aim to promote understanding of closely-coupled social and economic issues, including the relationship with other key sectors. This will assist in establishing sustainable industries that can have a transformational impact on the prospects of our region, its economy, its people and its communities.

While renewable energy constitutes a main area of specialisation, we also recognise that our knowledge base and capacities are relevant to sectors such as oil and gas, and aquaculture. We will continue to explore the interdependencies of adjacent sectors.

Our work on Energy and the Environment must also consider broader social and economic impacts and we will continue to incorporate new environmental understanding into integrated sustainability assessments and models at community, local and regional scales in collaboration with the new cross-cutting "Environment, Economy, and Society" theme.

Our priorities are:

- Renewable energy resource measurement in-situ, remote-sensing and modelling approaches to advance understanding of tidal stream, wave, hydro and wind resources (temporally and spatially).
- Energy vectors, storage and smart / micro grids supporting optimal use of intermittent renewables into grid and off-grid applications, including remote communities and developing countries.
- Economically and ecologically-sustainable energy transition and decommissioning supporting the move to renewable sources, informing decommissioning and environmental and habitat considerations with preand post-decommissioning and pre- and post-consent monitoring.
- Bio-physical and environmental interactions understanding biological and ecological responses to changes in marine (tidal, wave, wind) and terrestrial (wind, hydro) environments, together with oceanographic and hydrodynamic drivers of biodiversity, and environmental interactions around renewable energy devices.
- Ornithology understanding the ecology of key species using techniques such as telemetry/bio-logging, remote sensing and observation.
- Innovative sensors and platforms development and application of novel cross-cutting approaches and technologies to gaining new environmental insights including drones, hydroacoustics, sensor fusion, computer vision, machine learning and big data.



## Carbon, Water & Climate

The Highlands and Islands of Scotland are home to a range of habitats with unique biodiversity attributes, many of which represent the last remnants of near-natural environments left within the UK, as well as the northernmost refuge on the UK mainland for resident and migrating species.

This includes blanket bog, a globally rare type of peatland that cloaks undulating landscapes in cool, highlatitude, hyperoceanic regions and sub-polar islands. In good condition, blanket bogs play critical roles in the regulation of water and in the local, regional and global regulation of climate, through sequestration and storage of carbon. With around 1.8M ha, representing >10% of the world's blanket bog, Scotland has a key role in the global stewardship of this biome, and a world leader in large-scale restoration interventions. With £250M pledged over the next decade to support the restoration of degraded peatlands across Scotland, the underpinning science that CWC seeks to provide is more important than ever.

The ERI Carbon Water and Climate team benefits from unrivalled access to the Flow Country peatlands of Caithness and Sutherland: covering 4000 km<sup>2</sup>, they represent largest expanse of blanket bog in Europe and a site of global significance. There, we aim to deploy in situ data collection at a range of scales to complement the development of novel remote-sensing monitoring tools. Our research also aims to better understand how these large-scale land use changes alter the freshwater rivers that flow out of the peatlands and into the ocean. These rivers ultimately link the terrestrial and the marine systems, but also play a vital part for the Highland economy through salmon fishing.

We will continue to seek to influence the development of better practices and sustainable land management decisions by collaborating with ERI's "Environment, Economy and Society" theme. This will allow us to incorporate the societal and economic impacts of land use change to our increased understanding of the environmental responses of the key Highland ecosystems.

Our priorities:

### • Peatlands in a changing world.

Using a combination of field-based monitoring, controlled experiments and remote-sensing to assess how peatlands respond to the compounding effects of land use and climate change, including droughts and wildfires.

Coordinating of the Flow Country Research Hub, a network of >60 organisations and stakeholders with an interest in the Flow Country peatlands to facilitate access to researchers from across the UK and abroad.

### • Organic matter from source to sink.

Understanding the fate of organic matter as it leaves the terrestrial pools and enters the freshwater rivers and estuaries by combining field sampling, analytical chemistry and improving our estimates of greenhouse gases from oceans using remote-sensing technology.

Using analytical chemistry to assess how land use change on peatland (restoration, wind farm construction) alters water quality in freshwater systems (in collaboration with ECEH).

### • Sustainable land use.

Developing an understanding of the economic and societal impacts linked with peatland degradation, restoration and conservation both in a Scottish (e.g., Highland estates, traditional land use and its cultural importance) as well as an international context.

### Environmental Contamination and Ecological Health

The ERI is located within the heart of the relatively pristine Highlands of Scotland – and as elsewhere, the environment, ecosystems and species of the region (and the ecological services they provide) are susceptible to pollution. A myriad and ever-increasing range of anthropogenic contaminants are now present in our environment – even in one as attractive as the Highlands; and, additional stressors (such as rapid climate change) are posing cumulative threats to biodiversity.

At the ERI, we will engage in a range of highly interdisciplinary research to quantify the risks to and impacts of contaminants and stressors on biota at the molecular, individual and population level. Using our state-of-the-art analytical chemistry facilities, we will promote a greater understanding of contaminants (i.e., pharmaceuticals, heavy metals, plastics) and their fate and behaviour, and develop new solutions and techniques to prevent and mitigate against negative impacts. In this context, our research will sit firmly within the wider global "One Health" agenda, which recognises that the health and wellbeing of humans, biota, and the environment are all closely connected and interdependent.

We will undertake research that is highly relevant within the rural Highlands and Islands region, but also conduct a significant proportion of our research activity internationally. We will work in partnership to support and encourage knowledge exchange, and the development of new products and services within economically important sectors in our region and beyond (i.e., aquaculture, energy, food and drink, healthcare).

Our team will work to promote globally sustainable solutions to complex problems, engaging with a diverse range of stakeholders and collaborators to apply fundamental and world leading applied research to real world challenges. We will use a combination of environmental monitoring, cutting edge analytical chemistry and advanced spatial/temporal modelling to inform and affect policy at local, national and international scales.

Whilst our overarching focus will regard environmental contamination, impacts on ecological health, and mitigating against these impacts - we will also target several more specific Strategic Priorities in coming years (several of which clearly overlap with other research themes at the ERI):

- Sustainable wastewater treatment developing new approaches to reduce contaminants entering surface waters, encompassing: novel wastewater treatment solutions, the repurposing of waste material for use in water remediation, engineered adsorption technology, low-cost/sustainable approaches (including constructed wetlands) and resource capture, recovery and recycling.
- Food safety and nutrition quantifying food safety, quality and nutritional value especially of less
  mainstream but regionally important human foods (i.e., game meat, seaweed, shellfish); assessing how
  variation in environment/habitat/processing impacts quality (spatially and temporally) and developing new
  ways to sustainably gain 'added value' from available resources.
- Co-stressors seeking to understand how additional stressors (such as climate change, disease, dietary intake, etc.), interact alongside and in addition to chemical contaminants to impact and pose heightened risks to wildlife and humans alike. Further encompassing the broader "One Health" approach and agenda.
- Novel monitoring approaches developing new approaches to monitor environmental contamination and change - and their impacts on ecological health; including new passive water sampling approaches, novel 'biomonitoring' techniques (i.e., to assess 'emerging risks' such as from antimicrobial resistance), eDNA metabarcoding and remote sensing.



## Environment, Economy and Society (EES)

In 2015, UN member states adopted the 'The 2030 Agenda for Sustainable Development' which outlines a framework to encourage 'peace and prosperity for people and the planet, now and into the future'. The agenda document emphasises that sustainable development requires a balance of 'the economic, social and environmental', recognising the interdependence between reducing poverty and inequality, improving education, healthcare, employment and quality of life, and improving economic prosperity, preventing climate change and other environmental protection, conservation, and remediation activities.



Research at the ERI has previously been organised into three themes: Environmental Contamination and Ecological Health (ECEH), Renewable Energy and the Environment (REE) and Carbon, Water and Climate (CWC). Recognising the requirement for a broad and holistic approach to sustainability research, going beyond specific or localised environmental impacts, a fourth theme, Environment, Economy and Society (EES) has been established. EES will cut across the other three themes and develop core expertise in sustainability assessment across the three 'pillars' of sustainability, carbon footprint analysis and circular economy. The main development mechanism of the EES theme will be in leveraging existing ERI capabilities and strengths to develop parallel and complementary research activities exploring wider sustainability issues. However, the theme will embrace its broad scope in order to capitalise on other opportunities - especially in relation to issues affecting rural, remote, coastal and island regions/communities, owing to the location of the ERI in the northern Highlands and in line with the UHI mission to 'have a transformational impact on the prospects of our region, its economy, its people and its communities'.

Through ERI wide engagement, four priorities have been identified for development of the theme:

- Health, Water and Sustainability life cycle sustainability assessment of novel water and wastewater treatment systems and exploring the relationship between health and water/wastewater including links with the 'One Health' concept (linked with ECEH).
- Plastics and Society analysis of the economic and societal viewpoint(s) relevant to plastic use, disposal and damage caused to the environment and to ecosystems with emphasis on solutions that contribute to the circular economy (linked with ECEH).
- Sustainable land use development of an understanding of the economic and societal impacts linked with land use and land use change, especially peatland degradation, restoration and conservation both in a Scottish (e.g., Highland estates, traditional land use and its cultural importance) as well as an international context (linked with CWC).
- Sustainability and Renewable Energy assessment of sustainability issues surrounding both mature and developing renewable energy technologies with foci on marine energy, off- & onshore wind, and off-grid/ community energy systems (linked with REE).



### Learning and Teaching

As part of North Highland College UHI, one of the academic partners in the University of The Highlands and Islands, Learning and Teaching will form part of ERI's core activities.

The ERI aims to provide learners with a high quality educational experience in distinctive curriculum areas that are informed by contemporary research practice allowing them to achieve their full academic potential and enhance their career prospects.

The ERI's teaching activity will take advantage of the provision offered by the UHI (both in terms of delivery of courses to locally based students, by the UHI, and for the opportunity for ERI staff to deliver courses to a wider UHI audience). Additionally, relevant Programmes will be made available to locally based students to allow those interested in a career in science access to education and professional development. We will also provide learning opportunities to a wider audience (including international students) through the provision of online programmes and locally based programmes (i.e. summer courses) for cohorts of students.

The ERI seeks to capitalise on the expertise of our research active staff in order to develop research informed teaching within the UHI curriculum. This will be achieved through the development of new Programmes, which reflect the research interests of the ERI, and through competing for suitable Module and Programme leaderships which become available through the University. We will also seek to influence the allocation of Module and Programme leadership programme leadership appropriate channels.

The Learning and Teaching provision will provide opportunities for staff to teach, as well as a sustainable income for the ERI. Effective marketing of Programmes, Modules and other teaching activity offered by the ERI will ensure we reach our target audiences for Learning and Teaching provision.

The strength and diversity of the ERI's research community, together with its state-of- the-art laboratories, instrumentation and equipment provides a strong platform for the development of contemporary and distinct research-informed curriculum. In addition, the proximity of the ERI to the outstanding natural resources (primarily the Flow Country and the Pentland Firth), means that our students have easy access to an exceptional 'living laboratory'.

Our Learning and Teaching objectives are to:

- ensure that current academic provision is informed by our research and delivered by research active staff
- **increase** the number of staff actively involved in development and delivery of our curriculum and to support them in this enterprise
- **promote** a spirit of enquiry amongst the students we teach to enable them to be independent learners and to provide them with opportunities to acquire the skills required to succeed in their chosen careers
- **increase** the number of students recruited (regionally, nationally and internationally) and improve retention and progression rates
- **enhance** or develop distinctive new curriculum and in doing so meet the needs of prospective students and their current, or prospective, employers.
- offer distinctive and attractive learning opportunities, using both traditional and novel modes of delivery, that enhance the quality and flexibility of curriculum provision
- **develop** effective approaches of marketing our curriculum provision to target audiences
- maintain the income generated from teaching, both in absolute terms and as a proportion of the total ERI budget



## Enterprise

In line with Scottish Government's aspiration that research should contribute, wherever possible, to regional economic recovery and prosperity; and building on UHI's intention that academia should respond to the development needs of communities, the Environmental Research Institute will work with key local sectors to develop and grow a commercial portfolio that makes best use of available skills and facilities, and contributes to ERI's financial position.

Our Enterprise portfolio will seek to deliver practical, workable solutions that help local businesses transition to a greener, net zero economy, whilst also ensuring that we use our expertise and knowledge to help local communities contribute to Scotland's response to the climate emergency. Within ERI, we will review our current capacity (skills and facilities) against regional economic requirements, responding to commercial opportunities, whilst developing new partnerships with local businesses through joint working and innovation.

In doing so, ERI will seek to build new collaborations and have a transformational impact on the prospects of the Highland area, its economy, its people, and its communities.

Our Enterprise work will seek to deliver environmental, social, and economic impacts that in the first instance seek to support regional recovery:

- Towards a greener, net zero economy. We will seek opportunity to support local businesses to become more
  competitive whilst reducing their emissions, and at the same time explore and develop innovative solutions
  to supply chain issues across rural areas.
- Supporting regional economic growth. ERI will work with land and marine based sectors to develop new services that help business transition to more sustainable energy sources, deploying our skills and facilities to support contributions by these sectors to the climate emergency.
- Contributing to stronger/ more sustainable local communities. We will seek to support local businesses
  and communities to identify and address training needs and contribute to the development of low cost /
  sustainable approaches to resource use

### Outreach

ERI (Environmental Research Institute) is committed to making its research accessible to a wide audience to ensure people understand the importance of science in their lives. We utilise relevant media platforms to promote our research activity and widen audience engagement, whilst maintaining opportunity for community involvement. By contributing to STEM (Science, Technology, Environment and Maths) and creating opportunities to support school curricula, we help to nurture the next generation of scientists. Our outreach agenda encourages the dissemination of research and delivers wider benefits to the community, policy makers, development and environmental organisations and the local economy.

The ERI seeks to promote environmental research locally, nationally, and internationally through a tailored programme of outreach, using the skills of staff to ensure our research is valued and accessible. We aim to:

- Actively promote to increase public and political awareness of the research, knowledge exchange and teaching activities of the ERI and ensure that our science is readily accessible by the widest possible audience
- Build Networks to develop and sustain relationships with key local, regional, and national contacts both virtually and in person, to ensure our research is relevant to current agendas and utilised by a wide section of society
- Nurture the next generation by developing an active placement programme which provides UK and international students with opportunities to work alongside our researchers and/ or gain experience through virtual mentoring and project involvement.









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