



PRIFYSGOL
BANGOR
UNIVERSITY

Environmental Management System

Context of the Organisation

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4.1; 4.2; 4.3; 4.4

Introduction

Bangor University's Environmental Management System (EMS) is a tool for managing impacts on the environment. The EMS is a structured approach to planning and implementing environmental improvement and protection measures. It considers what the University is required to do because of legislation and commitments and is based on the process of Plan, Do, Check, Act, achieving continual improvement.

The EMS is externally verified to the management system requirements of the ISO 14001:2015 Environmental Standard.

Context of the Organisation

Bangor University was established in 1884 and has around 12,000 students and offers courses spanning the Arts, Humanities and Sciences in over 100 buildings and across more than 300 hectares. In addition to traditional teaching, the University also undertakes outreach work, extensive research, scientific consultancy, numerous off-site activities, fieldwork, and all the operational professional services supporting these activities.

Scope of the Environmental Management System

The EMS covers all operations, learning, teaching and research and has been determined through considering the University's context, environmental aspects¹, interested parties, external and internal issues, risks, and opportunities.

The intended outcomes of the EMS are to:

1. Fulfil our environmental compliance obligations
2. Support the University's Strategy, Mission, and Values
3. Deliver the Environment Policy and aspects of the Sustainability Strategy
4. Deliver continuous improvement in environmental performance
5. Raise awareness of environmental issues amongst staff and students through effective communication, training, and influence

The Estate

The University carries out its primary activities at the following distinct campus locations:

Location
Main Arts Site, College Road, Bangor
The Management Centre, College Road, Bangor
Science Site/Pontio, Deiniol Road
Ffriddoedd Site, Bangor
Ocean Sciences Site, Menai Bridge
Engineering and Computer Sciences, Dean Street, Bangor

¹ Significant Environmental Aspects are discussed in further detail in EMS Document "Evaluation of Environmental Aspects"

Henfaes Research Station, Abergwyngregyn
Health Sciences, Cambrian Way, Wrexham
Mona
Treborth
St Mary's Student Village ²

The geographical scope of the EMS includes all parts of the University's estate within north Wales.

Exceptions from the Scope of ISO14001:2015

The Bangor University ISO14001:2015 certified EMS does not include the research vessel, Prince Madog, which is a joint venture with O.S. Energy and is subject to independent environmental audit and assessment to ISO14001:2015.

At this stage, the University subsidiary company, M-Sparc, is not included in the scope of the ISO14001:2015 certification.

Interested parties

Bangor University has a wide range of stakeholders and interested parties, including current staff and students, alumni, the local community, businesses, funding authorities, contractors, and suppliers within and beyond the United Kingdom.

Mapped out in the table below are the needs and expectations of the University's key interested parties as related to the EMS.

It can also be seen which of these needs are compliance obligations.

Interested Parties	Internal / External	Needs / Expectations	Compliance Obligations
Staff	Internal	Easily accessible environmental and sustainability information and comfortable/clean working environment. Support/Training and opportunities for involvement.	No
Existing Students	Internal	Easily accessible environmental and sustainability information and comfortable/clean working environment.	No

² St Mary's Site: Bangor University is responsible for the Bryn Eithin Halls only. All other Halls and operations are the responsibility of CRM Ltd

		Support/Training and opportunities for involvement.	
Prospective Students	External	Assurance of the University's environmental and sustainability credentials and activity.	No
Alumni	External	Assurance of the University's environmental and sustainability credentials and activity.	No
National Union of Students	External	Campaign support	No
Natural Resources Wales	External	Compliance with environmental authorisations and exemptions Compliance with relevant legislation	Yes
Environment Agency	External	Compliance with relevant legislation associated with cross border issues.	Yes
Dŵr Cymru Welsh Water	External	Compliance with relevant legislation regarding water conservation and sewage/trade effluent disposal. Commitment to water efficiency	Yes
Local Authorities	External	Compliance with relevant planning, environmental health, building conservation, tree preservation, contaminated land, trading standards and waste management legislation. Seek to contribute to the economic, environmental, cultural, and social well-being of our area	Yes
Contractors	External	Guidance on working requirements. Induction prior to commencement of work.	No
Funding Bodies	External	Demonstration of environmental sustainability, and certification to an appropriate environmental standard.	Yes
Local Residents	External	Good neighbour relationships. Regular liaison and maintenance of a clean environment in and around university campuses.	No
General Public	External	Maintaining a good reputation and understanding of the University's commitment to the environment	No
Fairtrade Organisation	External	Maintenance of University's Fairtrade status.	Yes

		Ongoing awareness campaigns and proactive raising of profile of Fairtrade issues.	
ISO Certification body	External	Maintenance of effective Environmental Management System and compliance with ISO 14001:2015 criteria.	Yes
People and Planet Organisation	External	Annual provision of information and data to enable assessment of University's environmental and sustainability credentials as a UK benchmark	No
Higher Education Statistics Agency	External	Annual provision of environmental / estates management information and data.	No
Welsh Government	External	Compliance with criteria associated with the Agricultural Basic Payment and Glastir schemes. Completion of duties under Section 6 Biodiversity. Participation in commitment to Net Zero carbon commitments. Carbon reduction and waste targets.	Yes

To further understand the organisation and its context, the external and internal issues that relate to the University, which guide the production and development of the EMS, are detailed below in a PESTLE analysis.

Political Issues

External	Risks	Opportunities	EMS Response/Influence
Changes to government policy	Changes to policy may put public funding of higher education at risk (e.g., research grants) A reduction in overall funding may reduce the resources allocated to the EMS	Changes to government policies may incentivise us to address sustainable development issues to reduce carbon emissions and operational costs	Document (Doc) - Managing Legal Compliance
Changes to taxes/levies	An increase in taxes may reduce funding for the EMS	An increase in tax linked to energy or waste may incentivise us to become more efficient	None
Local authority planning	Planning conditions may be imposed on the University that are not aligned with the University Strategy	Local Authority could influence the University Strategy to focus planning on long-term, sustainable development, circularity, and whole-life costing	Doc - Managing Legal Compliance
Influence from NGO's, unions or other external bodies	Unions may highlight poor environmental performance Funding bodies may place further sustainable development requirements on us which would require additional resource	Incentivise good environmental management practice Create student engagement opportunities for sustainable development initiatives	None
General public pressures	Risk of not meeting public expectations for environmental performance	Adds pressure to ensure good level of environmental performance	Doc - Environmental Awareness and Communication
League tables	Reputational damage	Adds pressure to ensure good level of sustainable development performance	Doc - Environmental Awareness and Communication

Brexit	Potential risk of environmental policy and legislation changes	May reduce red tape	Doc - Managing Legal Compliance
Internal	Risks	Opportunities	EMS Response/Influence
Restructuring of management	Risk of losing supportive management staff	Opportunity to engage with new staff members	None
APVC Sustainability	Loss of post or poor recruitment into post	Greater involvement and improved publicity	None
Budget reallocation	Reduction in budget for EMS and environmental development initiatives	Increase in budget for EMS and environmental development initiatives	Doc - Management Review and Environment Report Procedure
Varying focus of management during term times	Lack of commitment during peak times	Opportunity to implement sustainable development initiatives during quiet periods in preparation for student return	Doc - Environmental Awareness and Communication
Resistance to change	Lack of commitment from staff	Opportunity to engage with staff through bulletins and training	Doc - Environmental Awareness and Communication
Restructuring of University Strategies/ Policy	Potential for focus to be reduced from EMS	Opportunity to ensure that environmental management and sustainable development is considered within institutional strategy	Target - Travel & Transport Target – Carbon Emissions

Economic Issues

External	Risks	Opportunities	EMS Response/Influence
Changes to economic climate	A downturn in the economy may negatively impact the institution's investment in sustainable initiatives	Create opportunities for investments in environmental initiatives	None
Communicable diseases	Policies create an increase in waste and energy	Incentive to assess energy consumption, travel patterns and space requirements on site	None

Changes to taxes etc	Increased taxation may reduce funding available for EMS	Increased taxation may incentivise investment into sustainable development	None
Legislation changes	Increased costs to ensure compliance	Forces spending on environmental management	Doc - Managing Legal Compliance
Energy costs	<p>Increase in energy costs may decrease funding available for the EMS</p> <p>Increased energy prices may decrease the payback periods for energy efficiency projects</p> <p>Lack of sign-up to REGO Green Tariff due to rising energy prices</p>	Incentive to reduce energy consumption and increase investment into energy saving initiatives	<p>Aspect A03 - Heating of buildings by Mains Gas</p> <p>Aspect A04 - Heating of buildings by Electricity</p>
Availability of funding	Previous government policy changes have allowed universities to charge higher tuition fees but have also reduced public funding	There are funding schemes available for institutions	None
Internal	Risks	Opportunities	EMS Response/Influence
Budget changes Re-allocation of funds away from EMS and related initiatives	Re-allocation of funds for EMS and related initiatives.	Re-allocation of funds for EMS and related initiatives.	Doc - Management Review and Environment Report Procedure
Cost of EMS	<p>Difficult to demonstrate return on investment of EMS</p> <p>May lead to lack of support from management</p>	Demonstrating return on investment may incentivise further support for EMS	None

Institution's financial performance	Poor financial performance may lead to withdrawal of funding from EMS	Positive financial performance may lead to further funding for environmental development initiatives	None
Significant decisions	The institution's strategic direction may not align with the intended outcomes of EMS Large capital projects may not sufficiently address sustainable development issues	Opportunity to address sustainable development issues early on in capital development process	Aspect A23 - Construction and refurbishment of buildings Aspect A35 - Procurement of construction works and materials
Changes in research focus	Increased research activity may necessitate in increased energy and water consumption and waste	Ensure that aspects are understood before project start	None
Changing student numbers	Higher proportion of HE institution funding is linked to tuition fees therefore greater emphasis placed on retaining student numbers	Changes to higher education funding places students as consumers having a greater impact on the type of service universities provide. NUS research has illustrated sustainability is a key factor for students when evaluating a university	None

Social Issues

External	Risks	Opportunities	EMS Response/Influence
Societal pressures and cultural trends Reports by media	Lack of sustainable development responsibility may damage institution's reputation if exposed	Opportunity to publicly announce improved environmental and sustainable development performance Incentive to address environmental issues	Doc - Environmental Awareness and Communication

Increased expectations from stakeholders for organisations to demonstrate environmental responsibility			
Impact of climate change on society	Greater expectation from society for environmentally responsible organisations Risk of being exposed if not environmentally responsible	Increased expectation to address environmental issues may act as an incentive	Doc - Environmental Awareness and Communication
Internal	Risks	Opportunities	EMS Response/Influence
Staff and student engagement and expectations	Lack of engagement may reduce effectiveness of EMS	Increased expectations make it easier to engage staff and students	Doc - Environmental Awareness and Communication
Demographics	Sustainable development initiatives may be halted by certain groups (e.g., objections to wind / solar projects from local communities)	Changing demographics may increase support for sustainable development initiatives	None
Expectations of internal stakeholder groups - SU, staff, student bodies	Lack of stakeholder pressure may detract focus away from the EMS	Stakeholder pressure may incite investment into sustainable development initiatives	None

Staff retention	High staff turnaround can negatively affect EMS through lack of engagement	Experienced staff can connect and boost efficiency	Doc - Environmental Awareness and Communication
Sustainable development awareness	Lack of awareness can hinder EMS progress	Increased sustainable development awareness can make it easier to engage staff and students Lack of awareness may present opportunities for behavioural change	Doc - Environmental Awareness and Communication

Technological Issues

External	Risks	Opportunities	EMS Response/Influence
Advances in technology	Technological development has the potential to increase energy use as more technology is embedded across the university estate	The continual emergence of new technologies present opportunities to address sustainable development issues	Aspect A03 - Heating of buildings by Mains Gas Aspect A04 - Heating of buildings by Electricity
Costs	High technology costs with relatively long payback periods can reduce uptake of new technologies	Costs of technologies will likely fall over time becoming more financially viable	None
Funding availability for technologies	A reduction in the financial incentives for technologies may make it harder for the institution to achieve carbon reduction targets	External funding available for carbon reduction technologies	Aspect A03 - Heating of buildings by Mains Gas Aspect A04 - Heating of buildings by Electricity
Internal	Risks	Opportunities	EMS Response/Influence
Implementing new technology	Intended outcomes may not be achieved if implemented incorrectly	New technology can be used to help achieve sustainable development objectives in areas such as energy, waste and water	Aspect A03 - Heating of buildings by Mains Gas

			<p>Aspect A04 - Heating of buildings by Electricity</p> <p>Aspect A07 - Water supply to buildings for domestic, office and teaching</p> <p>Aspect A08 - Water supply to buildings for research activities (equipment & aquaria)</p> <p>Aspect A15 - Generation of general waste</p> <p>Target - Travel and Transport</p>
Use of new technology	Technologies may not be used to full capacity (e.g., complex energy monitoring systems are only useful if data is used to manage energy consumption)	Hot desking / remote working may reduce energy and transport emissions	None
Existing infrastructure	Risk of increased energy consumption for old, inefficient equipment	Opportunities to upgrade equipment to meet energy reduction objectives	<p>Aspect A03 - Heating of buildings by Mains Gas</p> <p>Aspect A04 - Heating of buildings by Electricity</p>

Legal Issues

External	Risks	Opportunities	EMS Response/Influence
New legislation	<p>Prosecution for non-compliance</p> <p>Costs associated with tax, levies and fines</p>	Incentive to manage environmental responsibilities	Doc - Managing Legal Compliance

Cost of compliance	Increased costs of compliance may detract funding from other areas		None
BREXIT	The UK leaving the EU may lead to further changes in environmental legislation and relaxed or increased regulation	The UK leaving the EU may lead to further changes in environmental legislation and relaxed or increased regulation	Doc - Managing Legal Compliance
Internal	Risks	Opportunities	EMS Response/Influence
Awareness / Keeping up to date	Lack of knowledge, understanding and accountability of legal requirements can lead to non-compliance	Opportunities to engage with staff to ensure compliance	Doc - Environmental Awareness and Communication
Staff knowledge			
Communication			
Responsibility			
Accountability			
Operational changes (cost/training)	Resistance to comply due to extra resources required		None
Enforcement	Lack of enforcement from regulatory bodies can make it difficult to demonstrate the need to comply		Doc - Managing Legal Compliance

Environmental Issues

External	Risks	Opportunities	EMS Response/Influence
Institution's impact on the environment	Pollution to air, land and water Ecosystem damage Nuisance	Enhance biodiversity Improve the environment through sustainable development initiatives and via EMS targets	Target – Biodiversity Aspect A07 - Water supply to buildings for domestic, office and teaching

	<p>Waste</p> <p>Natural resource consumption</p>		<p>Aspect A08 - Water supply to buildings for research activities</p> <p>Aspect A15 – Generation of general waste</p> <p>Environmental Impact SN - Statutory Nuisance</p> <p>Environmental Impact Ap - Air Pollution</p> <p>Environmental Impact HW - Hazardous Waste</p>
Climate change	<p>Not meeting Net Zero 2030 target</p> <p>Increased energy consumption</p> <p>Disruption to operations</p> <p>Increased flood risk</p>	<p>Increased awareness of climate change may incentivise sustainable development improvement programmes</p>	<p>Aspect A03 - Heating of buildings by Mains Gas</p> <p>Aspect A04 - Heating of buildings by Electricity</p> <p>Aspect A26 - Use of air-conditioning</p> <p>Aspect A30 - Use of refrigerators, freezers and cold stores</p> <p>Aspect A38 - Business travel by bike, car, minibus or van</p>
Resource availability	<p>Potential for limited resource availability in the future</p> <p>Cost of resources likely to increase as supply reduces</p>	<p>Develop re-use initiatives for waste</p>	<p>Aspect A15 - Generation of general waste</p>

Internal	Risks	Opportunities	EMS Response/Influence
Existing infrastructure	Older buildings can detract from organisations energy efficiency		None
Location	Building near sensitive areas may increase risk of local environmental damage	Utilise local environment as source of staff/student engagement	None
Capital development	Increased use of resources	Sustainable buildings Opportunities to enhance biodiversity	Aspect A23 - Construction and refurbishment of buildings