



**LEARNING AND LEGACY** THE ROLE OF EDUCATION IN CREATING HEALTHIER, HAPPIER CITIES  
EAUC 20th Annual Conference 25th - 26th May 2016

# The revised ISO 14001

## linking strategy, risk, resilience and improvement

**Martin Baxter**

Chief Policy Advisor

Institute of Environmental Management and Assessment (IEMA)

[m.baxter@iema.net](mailto:m.baxter@iema.net)

 @mbaxteriema

**Estates  
and  
Operations**



# Corporate Sustainability



Estates and  
Operations



**iema**

# Challenge



Estates and  
Operations



Population  
Growth

Climate  
Change

Resource  
Security

Ecosystem  
degradation

Air Quality

Energy & food

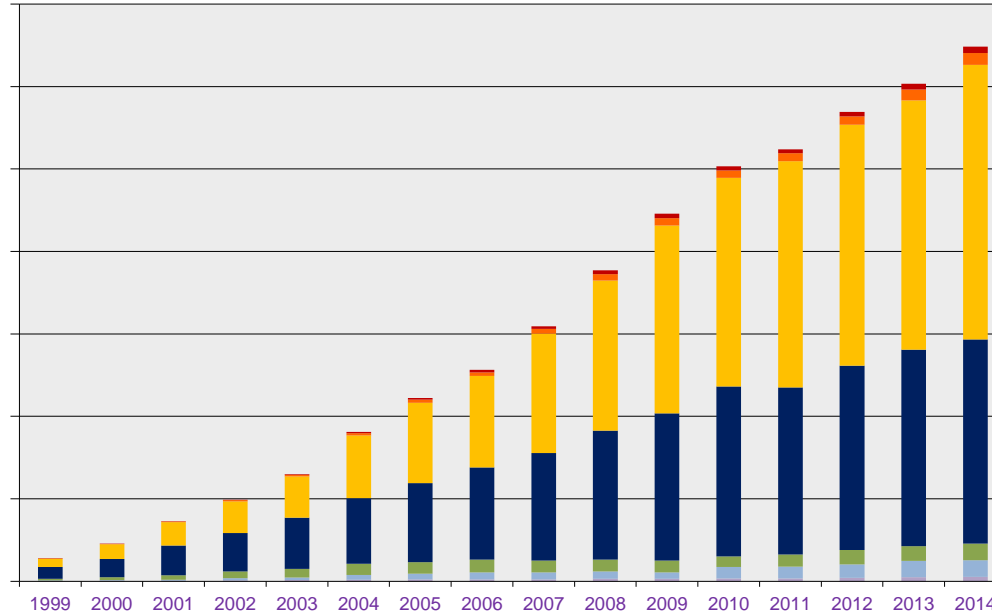


iema

# Opportunity for +ve change



Estates and  
Operations



325,000 certified organisations in 170 countries – 7% annual growth

# Key Changes

---



Estates and  
Operations



- Strategy
- Risk
- Resilience
- Improvement

# Strategic Context & Alignment



Estates and  
Operations



Internal & external issues that will affect outcomes of the EMS (4.1):

- Not limited to solely to environmental factors (e.g. can include economic, regulatory, technological)
- Impact of the organisation on the environment
- Impact of the environment on the organisation

Needs and expectations of interested parties (4.2)

- Can include customers, regulators, shareholders, investors, + internal (e.g. marketing, finance)
- Determine which become compliance obligations (“legal requirements that an organisation has to comply with and other requirements that an organisation has to or chooses to comply with”)

# Strategic Context & Alignment



Estates and  
Operations



- New requirements on leadership & top management (5.1, 9.3)
- Take accountability for the effectiveness for the EMS
  - Ensure integration of EMS into business processes
  - Ensure alignment of environmental policy & objectives with the overall strategic direction and context of the organisation
  - Decisions on EMS effectiveness, improvement & integration opportunities, & any implications for organisational strategy

# Risks & Opportunities



Estates and  
Operations



## Actions to address risks and opportunities (6.1)

- i. Risks and opportunities are defined and used throughout the standard as a combined term, with the following definition:  
  
“potential adverse effects (threats) and potential beneficial effects (opportunities)”
- ii. Risks and opportunities relate to the organisation and the environment.



# Risks & Opportunities



Estates and  
Operations



## Actions to address risks and opportunities (6.1)

Determine risks and opportunities related to:

- i. environmental aspects
- ii. compliance obligations
- iii. other issues relating to the organisation's context

That need to be addressed to:

- i. Give assurance that the EMS can achieve intended outcomes
- ii. Prevent or reduce undesired effects, including the potential for external environmental conditions to affect the organisation
- iii. Achieve continual improvement

# Risks & Opportunities



Estates and  
Operations



## Actions to address risks and opportunities (6.1)...continued

- i. Determine environmental aspects and impacts, that you can control and influence, considering a life-cycle perspective
- ii. Determine those that are significant
- iii. Identify compliance obligations and determine how they apply to the organisation

Plan action to address:

- i. significant environmental aspects
- ii. compliance obligations
- iii. risks and opportunities

# Control & Influence...

## ...becoming more resilient



Estates and  
Operations



Put in place, as appropriate, controls to ensure environmental requirements are addressed

- In the design and development process for products/services, considering each life cycle stage
- For the procurement of products and services
- Communicate relevant environmental requirement(s)
- Consider the need to provide information about potential significant environmental impacts in forward-life cycle stages (e.g. use and end-of-life treatment)

# Performance Improvement



Estates and  
Operations



- More explicit focus on improving environmental performance
- More pro-active on fulfilling compliance obligations
  - “demonstrate knowledge and understanding of compliance status”
- Enhanced requirements on communication and setting performance indicators to evaluate performance – including the reliability of environmental information

# Key issues for users



Estates and  
Operations



1. How to interpret the new requirements
  - Those making changes to existing systems
  - Internal & external auditors
2. How to get more business value out of your system and align with business drivers
3. Competence and capability (internally, external auditors)
4. Implementing the new standard from scratch – including for smaller organisations
5. Life-cycle perspective – across the value-chain (suppliers, procurement, design, end-of-life)
6. Managing the interface between the organisation & environment, including how to respond to changing environmental conditions
7. Integration of environmental management into core organisational processes and strategic decision making

# Skills and capability



Estates and  
Operations



iema



**Estates and  
Operations**



# Thanks!

**Martin Baxter**

**Chief Policy Advisor**

**Institute of Environmental Management and Assessment (IEMA)**

[m.baxter@iema.net](mailto:m.baxter@iema.net)

 [@mbaxteriema](https://twitter.com/mbaxteriema)

**iema**

# Manchester Met - Case Study



Estates and  
Operations



## Manchester Metropolitan University

### Our EMS Journey

Helena Tinker  
Environment and Energy Systems Manager  
Manchester Metropolitan University



# Manchester Met - Case Study



Estates and  
Operations



- 37,000 Students
- 4,000 staff
- 2 Main campuses  
(Manchester and Cheshire)
- Estates area of  $\sim 240,000 \text{ m}^2$
- £5.9m /year on utilities



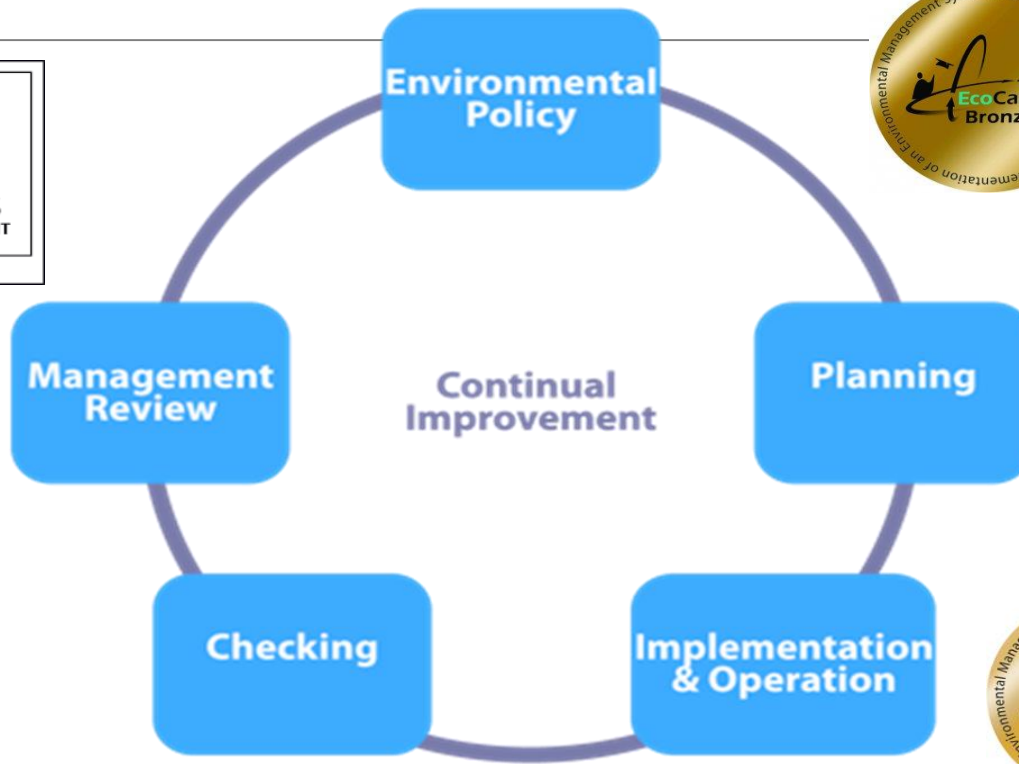
# Manchester Met - Case Study



Estates and  
Inns



2016



2012



2014



2015



# Manchester Met - Case Study



Estates and  
Operations



1. Leadership and commitment
2. Environmental Policy
3. Roles and responsibilities
4. Environmental aspects and LCA
5. Compliance obligations and evaluation
6. Objectives/targets & action Plans
7. Context analysis and risks
8. Competence and awareness
9. Communication and Stakeholders
10. Control of documented information
11. Operational control
12. Monitoring and measurement
13. Internal audit
14. Management review
15. Nonconformity and corrective action

# 1. Leadership and Commitment



**Estates and  
Operations**  
Environmental Management Governance- Version 2



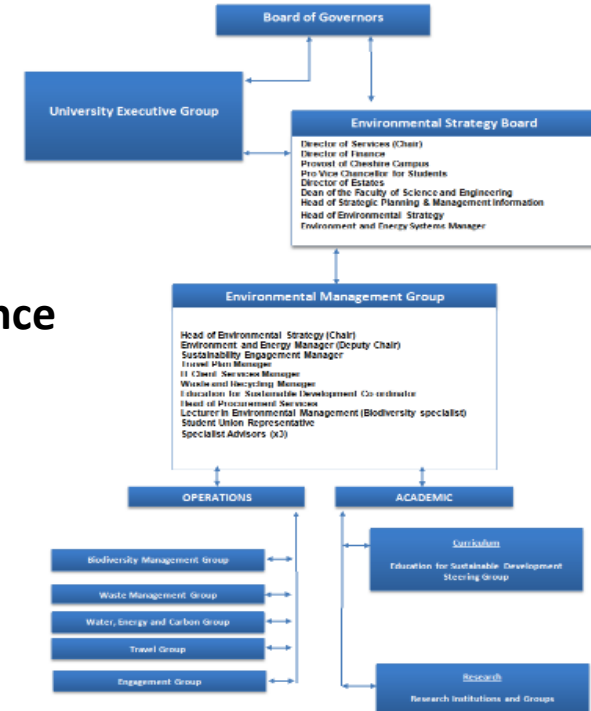
**Director of Professional Services**  
Chair of Environmental Strategy Board



**Director of Finance**  
Member of ESB



**Provost of Cheshire Campus**  
Member of ESB



## 2. Environmental Vision & Policy



Estates and  
Operations

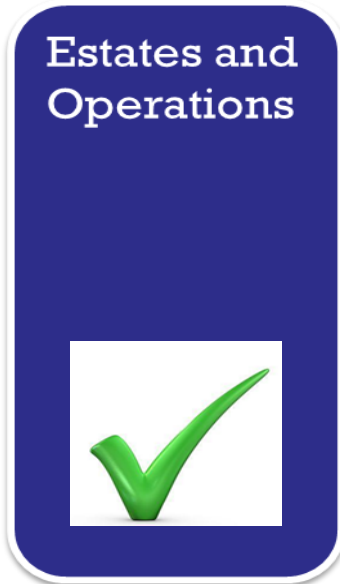


Manchester  
Metropolitan  
University





## 2. Environmental Policy



**DIRECT**



**INDIRECT**

Case Study of Manchester Metropolitan  
University



# 3. Roles & Responsibilities



Estates and  
Operations




POLICY AREA	Person Responsible
EMS and Compliance	Environment & Energy Systems Manager
Learning for a Sustainable Future- Curriculum	ESD Co-ordinator
Sustainability Engagement	Sustainability engagement Manager
Water, energy, carbon & buildings	Environment and Energy Systems Manager
Sustainable Travel	Travel Plan Manger
Sustainable Procurement	Head of Procurement
Waste and Recycling	Waste and Recycling Manager
Biodiversity and Growing Systems	Ecologist in S&E Faculty

# 4. Aspects & Impacts




Estates and  
Operations



 <b>EMS Information Log- Water, Energy, Carbon and Air Emissions</b>							
Version:		6.0					
Completed By:		Environment & Energy Manager					
Date:		20/01/2016					
Aspect and Impact Identification					Significance Testing		
Aspect	Operational Conditions (see comment box)	Impact	Positive or Negative	Legislation and Other Requirements (see comment box)	Significance score	Significant?	Management controls: Compliance and/or Improvement Plan Procedures
Discharge of water to sewer	Normal	Indirect GHG emissions - Water treatment	Negative	<b>WAT3</b> - Water Industry Act		No	The University does not hold any consents to discharge to sewer. See file note for previous trade effluent held for John Dalton Building.
Accidental discharge of hazardous substances to surface and / or water drains	Abnormal	local pollution	Negative	<b>WAT1</b> - Water Resources Act <b>WAT3</b> - Water Industry Act	28	Yes	Small amounts of oil stored inside buildings for Grounds Maintenance work and back up generators. Locations are marked on Emergency Action Plans. <b>Controls are:</b> - Spill kits are provided at these locations - Oil for power back up deliveries are supervised and contractor staff have spill training - Drainage plan available for staff and drains will be marked up - Foul/Surface water or Drainage plan is available
Discharge of water to Groundwater at Business School and Birtley Fields	Normal	Pollution of Groundwater	Negative	<b>IPC2</b> - Environmental Permitting Regs	28	Yes	License places limits on temperature, volume and chemical composition. BMS monitors operation of bore hole - temperature and volume only <b>Operational Control Procedure in place</b>

1. EMS Information Log
2. Significance Assessment Tool
3. Roles&Responsibilities
4. Training Needs

 <b>EMS Significance Assessment</b> Manual Version 1		
<b>Please answer all three of the following questions for each ASPECT:</b>		
	Yes/No	Score
1. Does the management of the aspect have a direct legal or committed voluntary requirement?	yes	15
2. Is the aspect or associated impact(s) recognised as a concern to the University or any stakeholders (internal/external)?	yes	10
3. Is the impact minimal, minor, moderate or major (and whether at a local, national or international scale)?	Moderate environmental damage/enhancement	3
<b>Total score for this aspect:</b>		<b>28</b>



# Life Cycle Approach



**Estates and  
Operations**



Life Cycle Influence Assessment V1 -Jan 2016 Completed by Helena Tinker	Transport	Processing	Manufacture and Construction	Distribution	use	Disposal
<b>Key Products/Services Purchased</b>						
<b>Capital Building Projects</b>	✓	✓	✓	NA	✓	✓
<b>Current Actions</b>	Environmental Design Principles in place (SB)	Environmental Design Principles in place (SB)	Environmental Design Principles in place (SB)		The environmental impacts of buildings in use is covered by the 'Water, Energy and Carbon Group Action Plan' (E&D and EM)	The environmental impacts associated with the disposal of buildings is managed by the Property Services Department. Procedures are in place for decommissioning buildings

Life Cycle Influence Assessment V1 -Jan 2016 Completed by Helena Tinker	Transport	Processing	Manufacture and Construction	Distribution	use	Disposal
<b>Frozen Foods, Groceries, Other food &amp; drink</b>	✓	✓	✓	✓	✓	✓
<b>Current Actions</b>	University has been awarded 2 Stars and excellent rating in the Sustainable Restaurant Association Scheme	University has been awarded 2 Stars and excellent rating in the Sustainable Restaurant Association Scheme	University has been awarded 2 Stars and excellent rating in the Sustainable Restaurant Association Scheme	University has been awarded 2 Stars and excellent rating in the Sustainable Restaurant Association Scheme	Portion size management , buy to demand- Smart Ordering	Food Waste- sent to Anaerobic Digestion Source segregation of food waste
<b>Potential Actions</b>	Continue to work towards 3 Stars - outstanding	Continue to work towards 3 Stars - outstanding	Continue to work towards 3 Stars - outstanding	Continue to work towards 3 Stars - outstanding	Awareness raising with staff & students on food waste reduction	Consider looking at packaging Reduction options

# 5. Compliance Obligations



Estates and  
Operations



newground business services info@legislationupdateservice.co.uk 01254 265163

## Legislation Update Service

















Search:  All Legislation

Home What's New Environmental Health & Safety Users My Account Upload The Hub

**Environmental Legislation**

**All Relevant Environmental Legislation**

Manchester Metropolitan University  Order by

Document Title	Chapter	Reference	Jurisdictions	Status	Comments
EC Directive 2008/1/EC concerning integrated pollution prevention and control	<a href="#">Pollution</a>	<a href="#">IPC1.1</a>	   		0
The Pollution Prevention and Control (Designation of Directives) (England and Wales) Order 2013 (SI 2013/123)	<a href="#">Pollution</a>	<a href="#">IPC1.2.1</a>	 		0
Directive 2010/75/EU on Industrial Emissions (Integrated Pollution Prevention and Control) (RECAST)	<a href="#">Pollution</a>	<a href="#">IPC1.3</a>	   		0
The Environmental Permitting (England and Wales) Regulations 2010 (SI 2010/675) as amended SI 2010/676, SI 2010/2172, SI 2011/2043, SI 2011/2933, SI 2012/630, SI 2013/390, SI 2013/766, SI 2014/255, SI 2014/2852	<a href="#">Pollution</a>	<a href="#">IPC2.1a</a>	 		1
Pollution Prevention and Control Act 1999 (c. 24)	<a href="#">Pollution</a>	<a href="#">IPC2.2</a>	   		0

**Legislation Chapters**

Pollution (8 relevant)
Air (27 relevant)
Water (37 relevant)
Waste (37 relevant)
Land (6 relevant)
Planning / Wildlife (55 relevant)
Hazards (34 relevant)
Safety (0 relevant)
Nuisance (9 relevant)
Standards (17 relevant)
Energy & Climate Change (63 relevant)

**Other**

Other requirements (0 requirements)
Consultations (0 comments)
Additional Legislation

# 6. Objectives, Targets & Action Plans



Estates and  
Operations



## Environmental Sustainability Strategy

2014–2020



# 6. Objectives, Targets & Action Plans

## KEY PERFORMANCE INDICATORS



### Estates and Operations



Sustainability Area	Target and date achieved by (if applicable)	Key Performance Indicator
 Sustainability Engagement	Maintain score of over 80%	Percentage of students who perceive the University to have an 'eco-friendly attitude'
 Sustainability Research, Innovation and Knowledge Exchange	Measure and increase sustainability research	Percentage of staff carrying out sustainability research at the institution
 Learning for a Sustainable Future	Test and achieve the NUS Responsible Futures Accreditation Mark by 2015-16	Responsible Futures Accreditation Mark achieved
 Emissions and Discharges to the Environment	35% less by 2015-16 50% less by 2020-21	Scope 1 & 2 carbon emissions reductions
 Energy Management	Energy use – 35% less by 2015-16 50% less by 2020-21	Gas and electricity consumption
 Sustainable Buildings	Maintain rating of above 'C'	Display Energy Certificate rating of existing estate
 Environmental Management Systems and Legislative Compliance	Eco Campus Platinum (ISO14001) achieved by 2015-16	Level of Eco Campus Environmental Management System
 Waste and Resource Management	60% by 2015-16 85% by 2020-21	Reuse and Recycling rate (excluding capital construction and refurbishment projects)
 Travel Plan Management	37.5% by 2018-19	Single Occupancy Vehicle (SOV)
 Water Management	Water consumption down 25% by 2015-16	Water consumption
 Biodiversity and Growing Systems	Measure and increase	Land area used for biodiversity enhancement and growing food
 Sustainable and Ethical Procurement	Level 3 Flexible Framework achieved by 2014-15	Level of Flexible Framework

# 7. Context Analysis & Risks



Estates and  
Operations

- Workshop with Policy Leaders
- **Internal and External Issues** that could affect us achieving our Objectives and Targets- PESTEL
- **Risks and Opportunities** of these issues
- Actions to **manage the risks**- Action Plans
- Report and input from Mgt Teams across the University for consultation
- Report and consultation with top mgt - Environmental Strategy Board

Case Study of Manchester Metropolitan  
University

Sustainability Area	
	Sustainability Engagement
	Sustainability Research, Innovation and Knowledge Exchange
	Learning for a Sustainable Future
	Emissions and Discharges to the Environment
	Energy Management
	Sustainable Buildings
	Environmental Management Systems and Legislative Compliance
	Waste and Resource Management
	Travel Plan Management
	Water Management
	Biodiversity and Growing Systems
	Sustainable and Ethical Procurement

# 8. Competence & Awareness



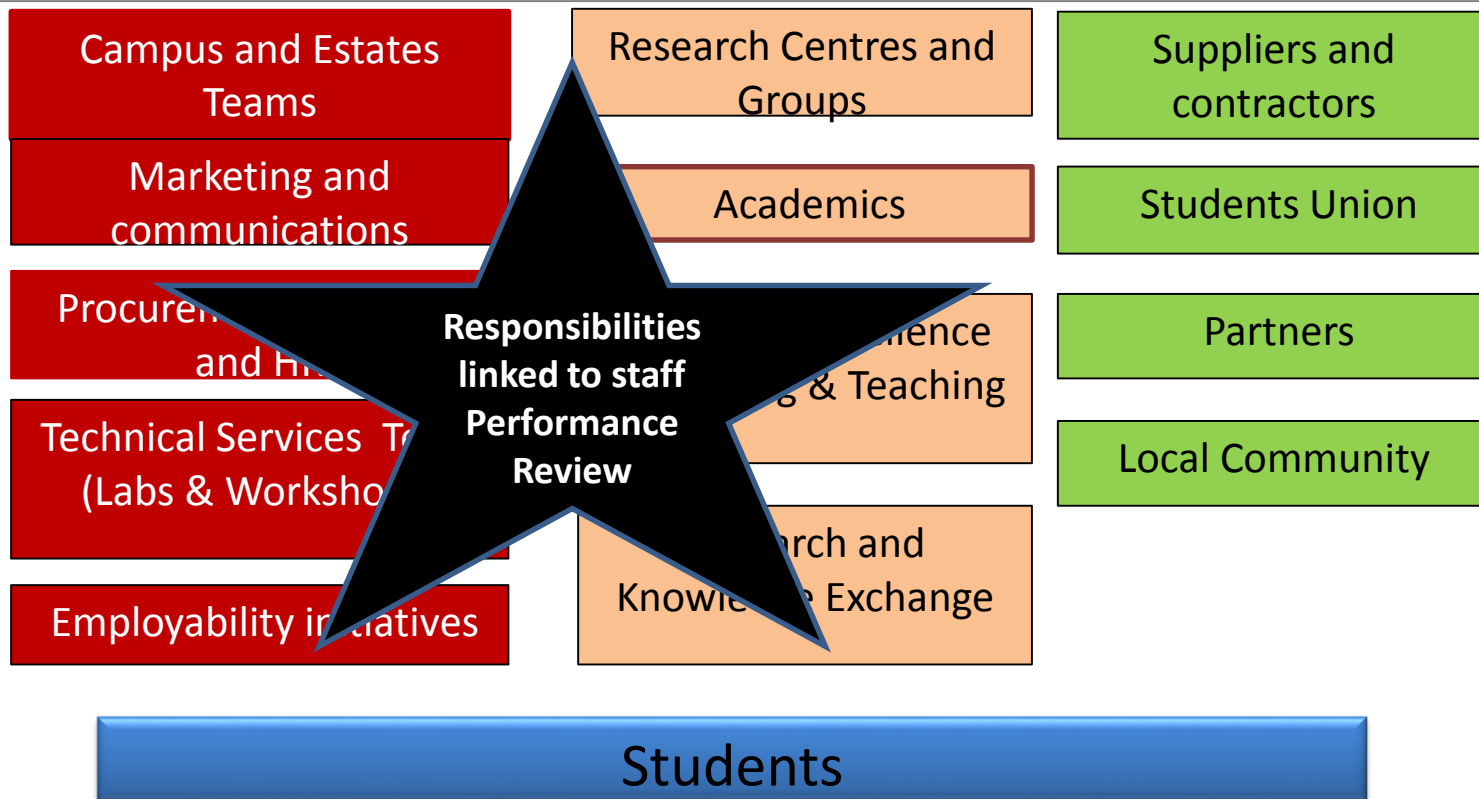
Estates and  
Operations



## 8. Competence & Awareness



Estates and  
Operations



# 8. Communication & Stakeholders



**Estates and  
Operations**



## Interested Parties Matrix

Version 1

Worksheet Version:

1.0

Date:

1/7/2016

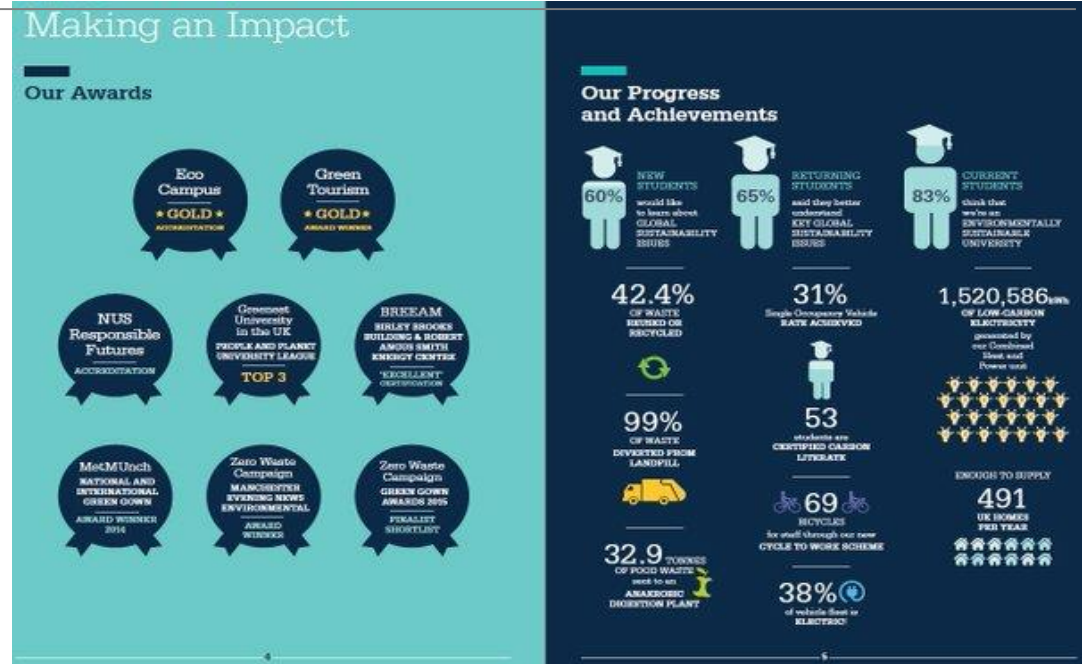
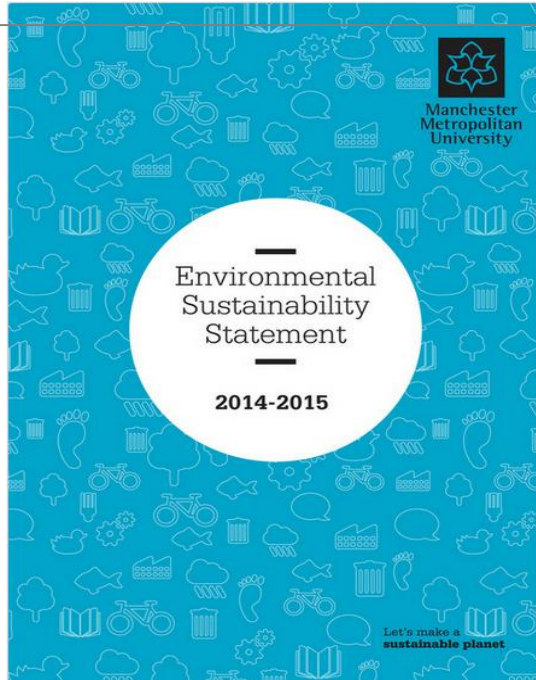
Interested Parties	Needs and/or expectation	Is the need or expectation a compliance issue?	Description of the type of information that should be communicated?	When should the information be communicated?
Environment Agency (EA)	Evidence of compliance obligations (waste, energy, water, planning e.g. site investigations)	✓	Dependent on legislation- Refer to EMS operational control procedures.	Refer to operational control procedures
Higher Education Statistic Agency (HESA)	Environmental Estate Management Report (EMR) information	✓	Environmental estates statistics	Annually (Nov- Feb)
Higher Education Funding Council for England (HEFCE)	Possible environmental information related to funding allocations, environmental sustainability information	X	Dependent on funding award or other relevant issue	Variable
Transport for Greater Manchester (TFGM)	Masterplan, capital developments and infrastructure information, information related to funding allocations, staff and student travel behaviour data.	X	Dependent on funding award or other relevant issue	Variable
Environmental Association for Universities and Colleges (EAUC)	Best Practice and case studies	X	Case studies, award submissions, survey submissions	Variable Green Gown Awards- Annually (May- Sept)



# 9. Communication & Stakeholders



Estates and  
Operations



# 9. Communication & Stakeholders



## Estates and Operations



### Sustainable Buildings

#### Our Aims

We will embed sustainable design principles that minimise the environmental impact of the development and refurbishment the University estate.

#### Our Progress

We have met a number of targets including Display Energy Certificate (DEC) rating, BREEAM and Energy Performance Certificate rating for new buildings.

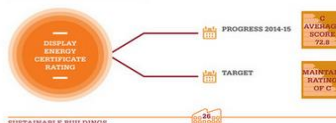
Overall, our average building efficiency rating has continued to improve. Our DEC rating has gone from a 'D' (rated 64.0) to a 'C' (rated 72.8).

We have met our BREEAM target and achieved 'Excellent' rating at the post construction stages for the Brooks academic building and Robert Angus Smith Energy at Birkley Campus. We have also achieved our Energy Performance Certificate target for new

buildings - Brooks academic building, Birkley Student Living and The Union building have been rated 'B'. In 2015, we developed a series of Environmental Design Principles to ensure that our environmental policies and targets are considered at the design and construction stages for new build and refurbishment projects.

The principles will monitor our compliance against project specific environmental targets. They will also support our target to achieve the BREEAM 'Excellent' rating for new build and the use of the SEA framework for refurbishment projects.

#### Performance Targets



SUSTAINABLE BUILDINGS

#### Case Study



#### Find it, Feel it

We have been using Birkley Campus as an open educational resource for local schools and residents in Holmes.

Over the summer of 2015, we engaged a series of visits for local primary school children to discover the wetland area, both garden and different green areas on campus.

Working with academics from the Faculty of Education (Primary Education) and the Walsingham Partnership team, we have developed outreach activities using the sustainability leadership aspects at Birkley Campus.

We recruited 18 students to deliver the activities for 82 children from St. Michael's and St. Wilfrid's primary schools in Holmes, providing valuable experience of working with young people and of delivering environmental education activities.

The activities, which were designed to teach participants about the environment, meant that the children discovered how to measure trees, collect water samples and identify wetland creatures. Identify plants and learn about lifecycle and food chains.

This outreach project demonstrated that the campus provides an incredible tool for engagement, creates positive perceptions amongst local communities, and contributes towards the University's Walsingham Partnership programme.

The activity named 'Find it, Feel it' programme is set to continue over the course of 2015-16, where it will be developed to incorporate newly completed areas such as the Community Orchard.



SUSTAINABLE BUILDINGS

### Environmental Management Systems and Compliance

#### Our Aims

Develop an integrated approach to environmental management and embed environmental issues into all University business operations, facilities and departments.



#### Our Progress

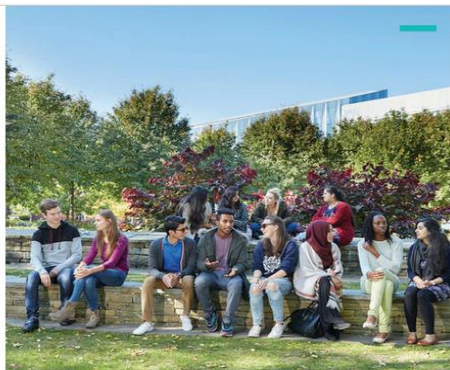
We achieved the EcoCampus Gold accreditation in March 2015, meaning that we are just one step away from achieving the International Environmental Management Standard ISO 14001.

A key aspect of achieving EcoCampus Gold has been to develop a governance and reporting structure for Environment Sustainability. This has included reviewing our strategy and policy, setting SMART targets and monitoring performance.

We have developed an innovative approach to our Environmental Management System, the framework of which covers both the physical sites of the University and integrates sustainability into teaching, learning and research.

Waste and recycling legal compliance and staff development also formed a key part of achieving EcoCampus Gold. We engaged key stakeholders who helped develop waste procedures and identify training needs across the University. As a result, over 70 members of staff have participated in 'Waste Legal Compliance and Pollution Prevention' workshops.

We are now working towards the new ISO 14001:2015 standard, which we hope to achieve in early 2016.



#### Performance Targets



ENVIRONMENTAL MANAGEMENT SYSTEMS AND COMPLIANCE

ENVIRONMENTAL MANAGEMENT SYSTEMS AND COMPLIANCE

# 10. Control of Documents



Estates and  
Operations



Site Actions

Browse

Page

Environmental Sustainability Management » Home

Environmental Sustainability Management

Search this site

Libraries

Governance Structure

Environmental Management Group

Waste Management Group

Water Energy, Carbon, Buildings Group

Education for Sustainable Development Group

Sustainable Travel Plan Group

Biodiversity and Growing Systems Group

Research Innovation and Knowledge Exchange

Sustainable and Ethical Procurement

Sustainability Engagement

Annual Reporting and KPIs

Internal Environmental Sustainability Strategy

EMS Manual and Procedures

Pollution Incident Response Plans

Control Document Tracker

Internal Audits and Schedule

Pollution Incident Response Forms

Carbon Literacy Project

2016 Action Plans

## Environmental Sustainability Management

This SharePoint site supports environmental management at MMU.

The site also serves as a document control system for the Environmental Management System (EMS).

Every Environmental Management Group has its own designated library on the site where meeting agendas and notes are stored.

The library for each group stores a number of documents related to managing the environmental issues e.g. procedures and policies. There are additional procedures located on MMU Environmental Sustainability website pages at the following links: <http://www.mmu.ac.uk/environment/ems/> and <http://www.mmu.ac.uk/environment/policies/>

If you would like to upload documents or have any questions about this SharePoint site, please contact Helena Tinker-[h.tinker@mmu.ac.uk](mailto:h.tinker@mmu.ac.uk) or 0161 2476036

### Shared Documents

Type	Name	Modified	Modified By
There are no items to show in this view of the "Shared Documents" document library. To add a new item, click "New" or "Upload".			
Add document			



# 11. Operational control



Estates and  
Operations



## Operational Control Procedures

Emissions and Discharges to the Environment

Energy Management Compliance

Sustainable Buildings

Travel Management

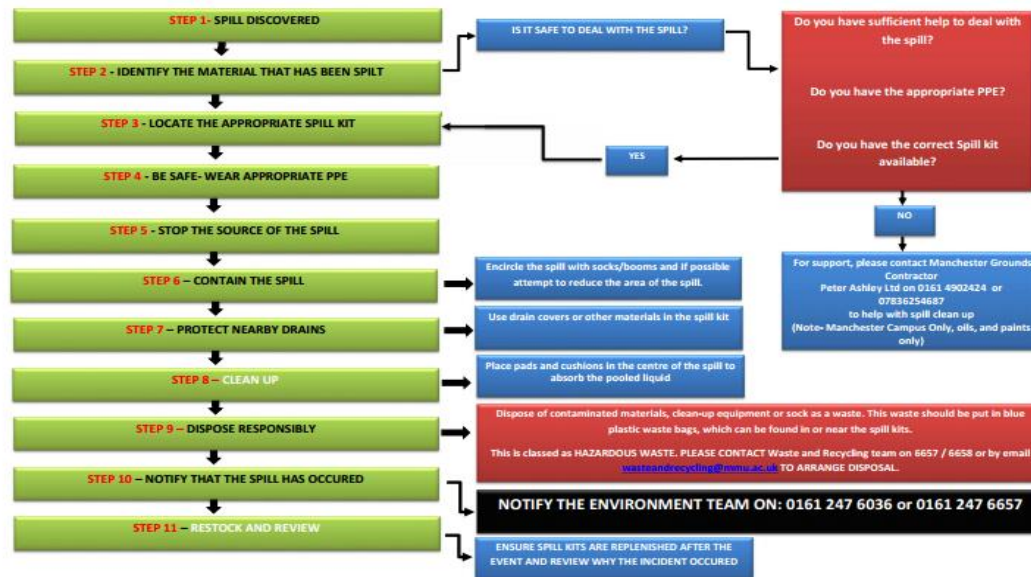
Waste Management

Biodiversity and Growing Systems

### MMU Spill Response Flow Chart

*Please Note* – During normal working hours, the person (s) dealing with hazardous material will manage the spill in their area, should additional manpower be required MMU security are spill response trained and able to provide assistance. (Note Security staff are available 24/7). Contractors working on MMU campus should manage their own spill incidents. The MMU Contract Manager, Environment Team and Security must be informed if a spill occurs.

Version 1 - Approved By Environment & Energy Manager 23/02/2015





# 12. Monitoring & Measurement

## Key Performance Indicators



### Estates and Operations



Sustainability Area	Key Performance Indicator	Target and date achieved by (if applicable)	Baseline year	Progress 2014-15	On-track
Environmental Management Systems and Legislative Compliance	Level of EcoCampus Environmental Management System	EcoCampus Platinum (ISO14001) achieved by 2015-16	N/A	EcoCampus Gold achieved	●●●
Sustainability Engagement	Percentage of students who perceive the University to have an 'eco-friendly attitude'	Maintain score of over 80%	2013-14	83%	●●●
Sustainability Research, Innovation and Knowledge Exchange	Percentage of staff carrying out sustainability research at the institution	Maintain and increase sustainability research	N/A	Not achieved	●●
Learning for a Sustainable Future	Responsible Futures Accreditation Mark achieved	Test and achieve the NUS Responsible Futures Accreditation Mark by 2015-16	2013-14	Responsible Futures Accreditation achieved	●●●
Emissions and Discharges to the Environment	Scope 1 & 2 carbon emissions reduction	35% less by 2015-16	2005-06	-10.7%	●
		50% less by 2020-2021			●●
Energy Management	Electricity consumption	35% less by 2015-16	2005-06	Electricity consumption +0.1%	●
		50% less by 2020-21			●●
	Gas consumption	35% less by 2015-16	2005-06	Gas consumption -34.8%	●●●
		50% less by 2020-21			●●●
Sustainable Buildings	Display Energy Certificate rating of existing estate	Maintain average DEC rating of University buildings of above 'C'	2007-08	Achieved average 'C' rating (72.8)	●●●
Sustainable and Ethical Procurement	Level of Flexible Framework	Level 3 Flexible Framework reached by 2014-15	2011-12	Level 2	●●
Travel Plan Management	Single Occupancy Vehicle (SOV)	37.5% by 2018-19	N/A	31%	●●●
Waste and Resource Management	Reuse and Recycling (excluding capital construction and refurbishment projects)	60% by 2015-16	2007-08	42.2%	●●
		85% by 2020-2021			●●
Water Management	Water consumption	Down 25% by 2015-16	2010-11	-3.2%	●
Biodiversity and Growing Systems	Land area used for biodiversity enhancement and growing food	Measure and increase	2013-14	3%	●●●

# 13. Internal Audit

Environmental Internal Audit Schedule -V6 - Academic year 2015/2016 (August 2015- July 2016)

Auditor	Frequency of Audit	Date (s) of Audit	August																											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Chris Paling	Every 2 years	09/12/2015 16/12/2015																												
Chris Paling	Annual	09/12/2015																												
Jason Smith	Annual	Creve- 16/11/2015 Manchester- 27/11/2015																												
Helena Tinker	Annual	Creve- 16/11/2015 Manchester- 19/11/2015																												
Helena Tinker	Annual	06/10/2016																												
Mark Miles	Annual	03/12/2015																												
Mark Miles	Annual	18/12/2015																												
Callum Donnelly	Every 2 years	17/11/2015																												
Callum Donnelly	Every 2 years	Procedure will be implemented in 2016																												
Alan Dempsey	Annual	Manchester - 04/11/15 Cheshire - 16/11/15																												
Alan Dempsey	Annual	Manchester - 30/11/15 Cheshire - 16/11/15																												
Mark Miles	Annual	18/10/2015																												
		Manchester - 27.11.15																												

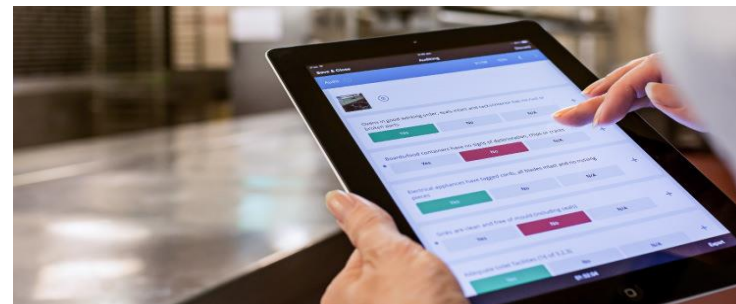


Estates and  
Operations



## Internal Audit Team

- Team of 5 People- **Operational Control Procedure Auditors**
- Internal member of staff from Faculty of Science and Engineering- **System Procedures Auditor**



# 14. Management Review



Estates and  
Operations

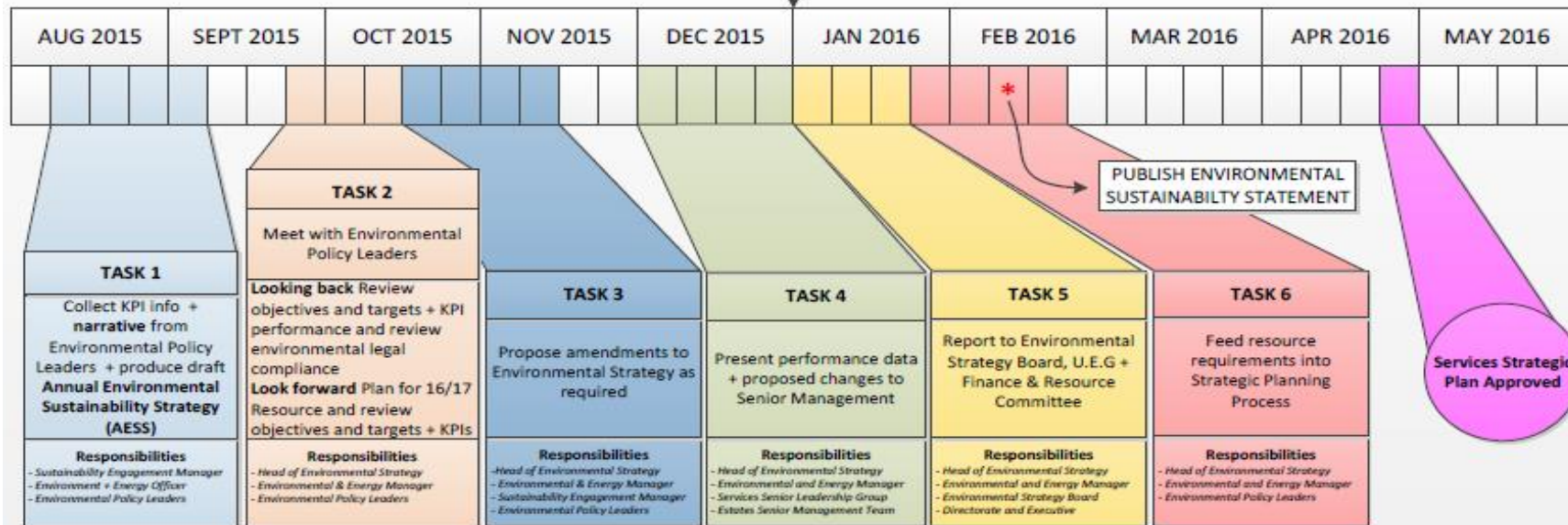


## Strategic Environmental Management Review Process

LOOKING BACK AT PERFORMANCE  
Academic Year 2014 / 2015

ACADEMIC YEAR 2015/2016

LOOKING FORWARD  
Academic Year 2016 / 2017



# 15. Non Conformity and Corrective Action



Estates and  
Operations





# Summary and Benefits



Estates and  
Operations



## *Embedded EMS with shared ownership – Estates and Operations & Teaching & Research*

### Benefits

- Leadership and Commitment
- Indirect aspects- curriculum
- Reputation
- Procurement -Suppliers and Contractors
- Clear internal processes and procedures
- Legally compliant
- Continual Improvement & review
- Measuring Performance – KPIs and Annual Statement

# EMS Advisory Service



Estates and  
Operations



- MMU has established an Advisory Service to support other organisations to implement ISO 14001:2015



- Environment and Energy Systems Manager at MMU
- Implemented environmental management systems in both private and public sector – 15 years' experience
- MMU first University in UK to achieve revised ISO14001:2015 through Helena's leadership
- Project Manager – Climate Change in MMU's Centre for Aviation, Transport and the Environment
- Researcher, lecturer, environmental advisor, internal EMS auditor at MMU
- Implemented ISO14001 at Manchester Airport





Helena Tinker  
[h.tinker@mmu.ac.uk](mailto:h.tinker@mmu.ac.uk)  
0161 247 6036

## Case Study of Manchester Metropolitan University