

Sustainability at Bangor University

August 2018 - July 2019



Sustainability in a nutshell

Sustainability is the ultimate long-term goal, which is achieved through sustainable development.

Sustainable development has been defined in many ways, but the definition most often quoted is from 'Our Common Future', also known as the Brundtland Report published in 1987:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Put simply, sustainable development means improving our quality of life without damaging the quality of life of future generations. It is important to all of us, that sustainable development is achieved. This involves each of us as individuals, and careful planning at local, regional and global levels.

It also offers many opportunities, as former UN Secretary-General Kofi Annan said:

"Sustainable development is an exceptional opportunity – economically, to build markets and create jobs; socially, to bring people in from the margins; and politically, to give every man and woman a voice, and a choice, in deciding their own future."

Sustainability is the ultimate long-term goal which is achieved through sustainable development.

Wales is leading the way with sustainability, with the **Well-being of Future Generations Act (2015)**, the first legislation of its kind in the World.

About Bangor University's Sustainability Lab

The Sustainability Lab is a high-profile focal point, leading on sustainability within Bangor University. In August 2018 it became part of Corporate Services alongside Planning, Governance and HR, reflecting the importance of sustainability in terms of strategic planning, business intelligence, compliance issues, policy development, operations and partnerships. The Director of Sustainability reports to the Director of Corporate Services who also holds the role of University Secretary. The Campus Environmental Performance Team is co-ordinated by The Sustainability Lab.

The Sustainability Lab aims to:

- Embrace and promote the five ways of working to achieve Wales' well-being goals and the UN Sustainable Development Goals.
- Ensure the highest standards of environmental performance (maintaining our ISO14001:2015 accreditation).
- Contribute to a curriculum that reflects the University's commitment to sustainable development and global citizenship.
- Promote sustainability in research, business and enterprise activities.
- Promote an ethos of 'Welsh is for everyone' and normalising experience of living in a multi-lingual environment.
- Promote integrated reporting to communicate success.
- Collaborate with the other Universities in Wales, leading on the development of RCE-Cymru (the internationally recognised Regional Centre of Expertise for the Well-being of Future Generations).



Long Term



Prevention



Integration



Collaboration



Involvement

Meeting the SEVEN well-being goals

The seven well-being goals show the kind of University (and the kind of Wales/world) we want to see. They are to be viewed in their entirety not as a pick and mix option.

Through our activities the University contribute towards:



A PROSPEROUS University, City, Region, Wales

An innovative, productive and low carbon society, which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.



A RESILIENT University, City, Region, Wales

A University in a nation, which works with others to maintain and enhance a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.



A more EQUAL University, City, Region, Wales

A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic circumstances).



A HEALTHIER University, City, Region, Wales

A Wales in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.



A University, City, Region, Wales of COHESIVE COMMUNITIES

Attractive, safe, viable and well-connected.



A University, City, Region, Wales of VIBRANT SULTURE AND THRIVING WELSH LANGUAGE

A University and society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts and sports and recreation.



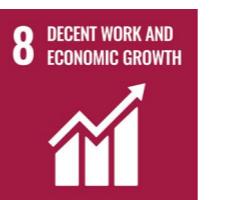
A GLOBALLY RESPONSIBLE University, City, Region, Wales

A University, city and region which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

Contributing to the SEVENTEEN UN Sustainable Development Goals 2030

The discussion around the role of Universities in contributing to the mandate of the [2030 United Nations \(UN\) Sustainable Development Goals \(SDGs\)](#) is intensifying.

A glance at the list of 17 SDGs shows that the involvement of Universities will be critical to achieving goals such as Goal 9: Industry, infrastructure and innovation; Goal 12: Responsible production and consumption; and Goal 13: Climate Action, to name but a few. Our task in the next academic year is to formally document how our activities contribute to some or all of these goals.



Sustainability Statement

2019-2025

Bangor University has around 10,000 students and 2,000 members of staff located within an estate of some 100 buildings across 300+ hectares. Our core business is to provide high quality teaching and research whilst taking good care of our staff, students, community and environment.

We understand that our activities have economic, social, environmental and cultural impacts and that sustainable development is the process of improving well-being in all four aspects. The Well-being of Future Generations Act (Wales) 2015 (WFGA) defines Sustainable Development in Wales as:

"The process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals."

It sets out five ways of working needed to achieve seven well-being goals. Whilst the Higher Education Institutions in Wales are not bound by this law we believe that this approach to sustainability provides an opportunity for innovative thinking, creative action and responsible teaching, learning, research & enterprise, internationalisation and civic engagement. In this way we are also contributing to the United Nations' Sustainable Development Goals 2030.



This Sustainability Statement is valid until 2025 but will be reviewed annually alongside the relevant action plans by the Sustainability Task Group and reported to the University Executive. It has been approved by the President and Vice Chancellor, Professor Iwan Davies and is publicly available on the University's [website](#).

Bangor University will become more sustainable by:



Governance

Embedding integrated thinking and management within its business, incorporating consideration for environmental, social, cultural and financial aspects, facilitated by Integrated Reporting <IR>.



Environment

Ensuring high standards of environmental performance, working towards a low carbon future in a healthy functioning ecosystem and maintaining our ISO14001:2015 accreditation.



Health and Wellbeing

Ensuring high standards of health & wellbeing for our students and staff, giving everyone the opportunity to fulfil their potential regardless of background or circumstances.



Student Experience

Providing students and staff with opportunities to actively participate in sustainability related activities, contributing to their development as global citizens and to wider sustainability goals (Wellbeing goals & UNSDGs).



Curriculum

Maintaining a curriculum that reflects the University's commitment to sustainable development and global citizenship and to wider sustainability goals (Wellbeing goals & UNSDGs).



Research Innovation and Impact

Continuing to engage in research, innovation and impact activities addressing global grand challenges (e.g. climate change) reflecting the University's commitment to sustainable development and to wider sustainability goals (Wellbeing goals & UNSDGs).



Cymraeg i Bawb

Promoting an ethos of 'Welsh is for everyone'; normalising the experience of living in a multi-lingual, diverse cultural environment.



Internationalisation

Collaborating across continents to promote global sustainability.



Sustainable Finance

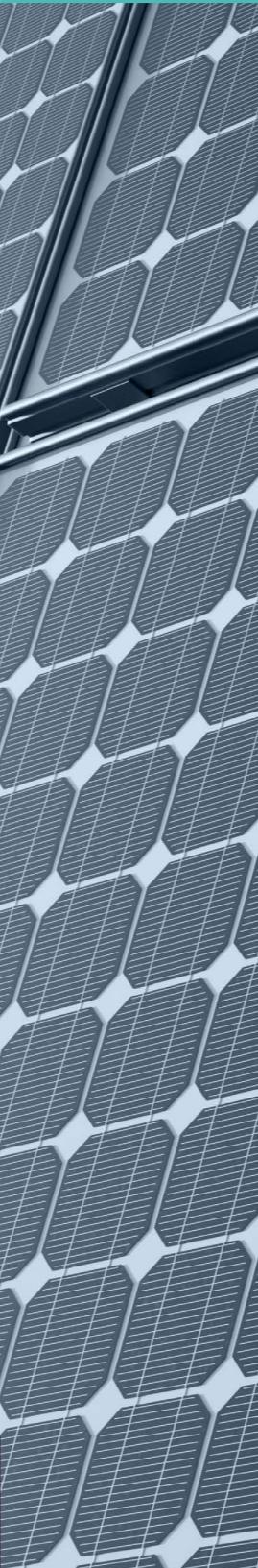
Ensuring sustainable financial management and procedures.



Communication

Communicating our commitment to sustainability widely to all stakeholders.

Environmental Management at Bangor



A Campus Environmental Performance Team (CEPT) co-ordinates environmental management at the University. The team comprises the following roles:

- **Waste co-ordinator (from the Sustainability Lab)**
- **Energy, Water and Transport co-ordinator (from the Sustainability Lab)**
- **Bio-diversity co-ordinator (The Treborth Botanic Garden Curator)**
- **Legal compliance co-ordinators (from H&S)**
- **Communications co-ordinator (from the Sustainability Lab)**
- **Learning co-ordinator (from the Sustainability Lab)**

CEPT also works closely with staff within PACS to ensure a comprehensive and joined-up approach to environmental management across the University estate. We successfully transitioned to the new, updated ISO14001:2015 standard in October 2017.

Since then we have conducted a root and branch review and overhaul of the Environment Management System ensuring that the documentation is fit for purpose.

A wholesale review of our waste management procedures, including reporting of waste data, was initiated during the 2017/18 period and is still ongoing.

A number of other groups are also convened to help promote sustainability initiatives:

- **Sustainability Task Group (STG) is the strategic group, chaired by the University Secretary, which meets quarterly.**
- Following a campus wide review of task groups the STG will be superseded by the Sustainability Strategy Group (SGG) chaired by the Deputy VC.
- The Sustainability Implementation Group (SIG) meets monthly.
- Sustainability Think Tanks, now called 'Putting the world to rights' sessions are held monthly discussing topical issues with students and staff and held in the Students' Union.
- Environmental co-ordination (ENCO) group brings together staff from Property and Campus Services to work with (CEPT).
- Student Waste and Resources Action Group (SWRAG).

What is ISO14001:2015



ISO14001:2015 and Senior Management Commitment

The ISO14001:2015 standard expects the University's top management to understand and engage with the EMS. The expectation is that a good environmental management system takes a more holistic view of the organisation and key stakeholders. This requires a new way of working and new levels of leadership. It is no longer sufficient for us to have a one-page policy that is the sole responsibility of an environmental manager.

To this end, our Executive fully endorses the Standard and the strategic group is led by the Deputy VC and their leadership enables us to maximise the benefits of the standard throughout the University.

The Sustainability Lab collaborates with HR to provide training across campus. An 'Introduction to Sustainability' session will be introduced into the staff development programme 2019/20.

ISO 14001 is the international standard that provides a framework with specific requirements for an effective environmental management system (EMS). It is a voluntary standard that gives internationally recognised certification.

The International Organization of Standardization (ISO) defines an environmental management system as "part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities." The framework in the ISO 14001 standard can be used within a plan-do-check-act (PDCA) approach to continuous improvement.

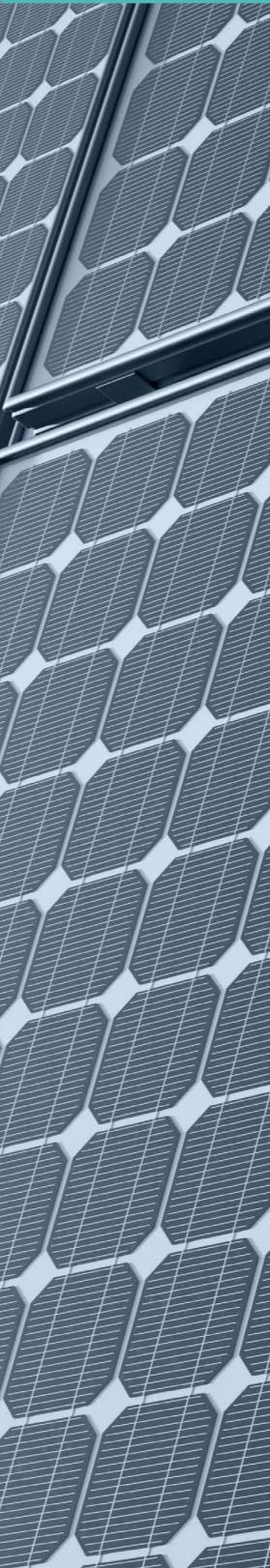
Benefits of ISO 14001:2015 Accreditation

Using ISO 14001:2015 has many benefits. It externally validates our work and helps us to:

- Improve resource efficiency
- Reduce waste
- Drive down costs
- Provide assurance that environmental impact is being measured
- Gain competitive advantage
- Increase new business opportunities
- Meet legal obligations
- Increase stakeholder and customer trust
- Improve overall environmental impact
- Manage environmental obligations with consistency

Environmental Performance Data 2018/19

(full details available on our [website](#))



A series of environmental improvement objectives and targets are set within the EMS in accordance with the ISO14001:2015 standard. These objectives and targets are reviewed, amended as required, and approved by STG on an annual basis as part of the Annual Management Review.

The Objectives and Targets are set according to the environmental management priorities set out in the Environment Policy and cover energy use, carbon emissions, water use, waste production, business travel, procurement, awareness & engagement and biodiversity.



Environmental Objectives and Targets 2018/19

OBJECTIVE	TARGET	STATUS
Remain compliant with relevant legislation and other obligations	T1. Ensure compliance with all relevant legislation and obligations associated with our activities and prevent the pollution of the natural environment and demonstrate compliance	ACHIEVED 
Manage waste through reduction, re-use, energy recovery and the promotion of recycling	T2. Achieve 54% reuse and recycling by July 2019	ACHIEVED 
Minimise resource consumption	T3 a) Reduce energy use by 3% compared to the previous year, as a function of i) m ² useful floor area and ii) FTE students & staff	ACHIEVED 
	T3 b) Reduce water consumption by 2% compared to the previous year, as a function of i) m ² useful floor area and ii) FTE students & staff	NOT ACHIEVED 
Reduce the contribution of University business travel on the environment	T4 a) Update the Sustainable Travel & Transport Plan	PROGRESS MADE 
	T4 b) Achieve an annual reduction in vehicular business travel CO ₂ emissions	UNABLE TO REPORT 
Reduce the University's contribution to global climate change	T5. Achieve year-on-year reductions in greenhouse gas emissions (Scope 1, 2 & 3) associated with University operations as a function of i) m ² useful floor area and ii) FTE students & staff	ACHIEVED 

Environmental Objectives and Targets 2018/19 (continued)

OBJECTIVE	TARGET	STATUS
Enhance biodiversity of the University estate	T6 a) Promote biodiversity conservation & improvement across the University estate	ACHIEVED 
	T6 b) Increase unimproved grassland/wildflower meadow area across the University estate	PROGRESS MADE 
Embed sustainability within the procurement process	T7 a) Conduct Sustainability Risk Assessments for all contracts over the value of £25,000 and use Community Benefit Measurement Tool data for all contracts over the value of £1 million	NOT ACHIEVED 
	T7. b) Where appropriate, ensure contracted suppliers have their own EMS	PARTLY ACHIEVED 
Raise environmental awareness and awareness of the UN Sustainable Development Goals amongst students and staff through improved communication and involvement	T8. Establish a baseline of engagement with University environmental and sustainability actions & activities during 2018/19	ACHIEVED 
Embed the environment and sustainability in the curriculum across the University	T9. Establish the number of courses and modules validated which refer to the environment to obtain a baseline for 2018/19	PARTLY ACHIEVED 
Minimise the impact of the University estate, and any development activities, on the environment	T10. Set environmental objectives for all major construction projects (those over the value of £100,000) and evaluate the effectiveness of these following completion	NO RELEVANT PROJECT UNDERTAKEN 

Energy and Emissions Performance 2018/19

Total Energy consumption	37,545,435.59 kWh	5.5% decrease from 2017/18	36.0% decrease from 2005/06
Total Energy Consumption per m ²	163.7 kWh	8.9% decrease from 2017/18	36.8% decrease from 2005/06
Total Energy Consumption per FTE	3,199.9 kWh	9.3% decrease from 2017/18	15.5% decrease from 2005/06
Greenhouse Gas Emissions (excluding transport)	8,532.33 tCO ₂ e	8.09% decrease from 2017/18	48.36% decrease from 2010/11

ReFit Cymru Energy Efficiency Improvement Programme

During the 2018/19 academic year, the University undertook a major energy efficiency improvement programme across a number of University buildings, funded through the Welsh Government ReFit Cymru scheme.

In addition to 12 academic buildings, works were also conducted to upgrade lighting and heating controls in the Pobl Halls and heating controls within the 1990's Halls of Residence on the Ffriddoedd student village site.

In total, the programme of improvement works is set to reduce electricity consumption by more than 1.68 million kWh and gas consumption by nearly 2.60 million kWh. This would reduce annual energy bills by more than £400,000 and cut carbon emissions by more than 1168 tonnes.

Waste in detail 2018/2019 stats

Total Waste Generated	812.61t	2% decrease from 2017/18
Total Reused Recycled Composted	473.48t 58%	8% increase from 2017/18
Total Energy Recovered	339.13t 42%	26% increase from 2017/18
Total Landfilled	0t 0%	34% decrease from 2017/18
Total Waste Emissions	15.33 tCO ₂ e	84.68% decrease from 2017/18

Environmental Awards 2018/19



First Class Award
20th of 154 institutions



8th in the World
4th in the UK



2019 Green Gown Awards Finalists

Waste related activities 2018/2019



Waste July - August 2018 - 2019

- Waste [website](#) pages created and updated, which include our waste management policy, recycling and non-recycling posters, information about current processes, current performance, objectives, campaigns and initiatives.
- Waste Management/Recycling training sessions delivered to Campus Life Coordinators and to Staff and Student Mentors (formerly known as wardens).
- Halls app reviewed and amended to ensure more informative recycling data is gathered by all Student Mentors regularly.
- [Waste Awareness Week \(#WAW18\)](#) delivered from the 29th September – 5th October 2018.
- Delivered BU Waste Management Think Tank including feedback from #WAW18.
- Became a signatory to the New Plastics Economy Global Commitment (an Ellen MacArthur Foundation initiative).
- Participated waste tender process. Contract awarded with relevant KPIs.
- Attended contractor site visits (Caergylchu MRF and Gwyriad AD).
- Delivered Waste Management & Circular Economy lecture to Project Design Students and assessed final designs.
- **2018/19 student survey revealed that 60% of students were aware of Waste Awareness Week.**

The Sustainability Lab and EU-funded projects

The horizontal principles or cross-cutting themes (CCTs) are issues that touch on general sustainability principles such as democracy, equality, environmental awareness and good governance. They require action in multiple fields and as such need to be integrated into all areas of the European Funding programmes and be addressed in the dialogue on development of the programmes. For the 2014-2020 programmes, the CCTs are Equal Opportunities and Gender Mainstreaming, Sustainable Development (which refers exclusively to the Environment in EU terminology) and Tackling Poverty and Social Exclusion. There are two aspects to the CCT commitments – internal to the operation and external i.e. in relation to anyone else benefiting from the funding.



The Sustainability Lab team has been working with the KESS2 project (and its precursor) since 2012, and sustainability is embedded into the project. This year KESS2 East was added to our portfolio and following reprofile a new programme of work has been co-developed with partners.

Sustainability Workshops for all KESS2 PhD and Masters students are held across the eight HE institutions in Wales, challenging students, their supervisors and company partners to demonstrate how their research contributes to the Well-being of Future Generations Act, the Welsh Government's Grand Challenge Areas and the UN Sustainable Development Goals.

One of the outputs is that Bangor, PhD students have set up a 'Well-being Research Group', a multi-disciplinary group including research staff in Bangor University. The workshops are also offered as part of Bangor University's Doctoral School programme.

Two new projects joined the Sustainability Lab network this year include Dwr Uisce, and Ecostructure.



RCE Cymru

RCE Cymru (the Regional Centre for Expertise on Well-being of future generations) part of a global network run by the United Nations University in Tokyo, relaunched last year continues to thrive.

The following circles of interest are already active:

- The Circular Economy
- Sustainable & Healthy Universities and Colleges
- Resilient Communities
- Teaching and Learning
- Social Prescribing
- Language and Culture
- Communication is a cross-cutting theme

Following on from the two conferences organised in 2018 many events have followed.

We held an international RCE meeting at Swansea University, hosted by the Circular Economy Circle of Interest. Collaboration was the main theme for a group of RCEs based in the UK and Ireland when they met at Swansea University in early July 2019. A key outcome of the meeting was to develop a collaboration charter to facilitate further collaboration and partnership working towards the Sustainable Development Goals. We agreed on the following values and principles as a starting point:



"We are here because we are passionate about working towards the greater good in a transparent, honest and inclusive way. We will listen, respect and value everyone's contribution."

This was followed by the 4th Sustainability in Higher Education Conference hosted by University of Wales, Trinity Saint David was chaired by Dr Carolyn Hayles, RCE Cymru Teaching and Learning Circle of Interest.

In November 2019 the Sustainability Lab, on behalf of RCE Cymru hosted a '**Wales in the world: what would a globally responsible Wales look like**' event in Bangor, with the Welsh Centre for International Affairs and UNA-Menai.

The Healthy Universities and Colleges Circle of Interest has held a number of meetings and produced a framework for the sector.

The Language and Culture Group for example the RCE Cymru Language and Culture Circle of Interest organised events at 'Our Voice in the World' festival as part of the UNESCO International Year for Indigenous Languages 2019.

RCE Cymru is chaired by Bangor University's Director of Sustainability.

Event highlights

THINK BEFORE YOU DRINK

Bangor University's Think Before You Drink Campaign is a set of waste prevention and reuse initiatives encouraging sustainable consumption across all our catering outlets. Similar waste prevention, reuse and recycling initiatives will follow throughout the year.

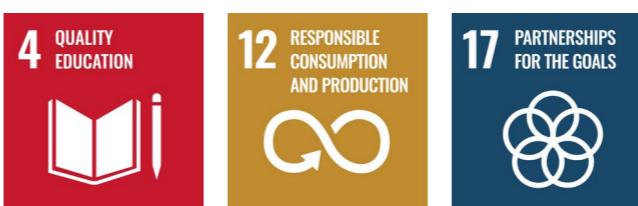
The University wanted to lead by example and empower individuals to understand the consequences of their actions and make sustainable choices in their daily lives. By applying the waste hierarchy and understanding that waste prevention is the most sustainable solution to everyday problems; students, staff and visitors are able to consider the effect of their actions and make efficient use of resources.



Think Before You Drink aims to prevent, or at least reduce, the number of straws used across campus by making them available on request only; prevent unnecessary waste by removing all single-use drink stirrers from our outlets regardless of material and replacing them with reusable metal spoons; promote the water refill scheme thus reducing the need for single-use water bottles; and, promote the use of reusable cups in order to reduce single-use coffee cups.

Think Before You Drink is a collaborative campaign led by the University's Catering team, the Sustainability Lab and the Students Union.

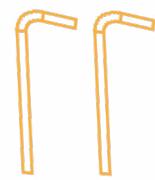
Watch the promotional video [here](#).



100% decrease in single use stirrers



190% increase in reusable cups



46% decrease in straws purchased



9,171 single use items prevented from being used



engaged with 73,190 people online

Event highlights

Sustainability Carnival #Carnival19

Bangor University ran its second ever Sustainability Carnival between February 1st and March 1st 2019. The month-long extravaganza of ordinary events celebrated and drew attention to all the sustainability related activities that are in our calendar during a typical month.

The Sustainability Lab worked in partnership with Campus Life, Halls of Residence, Undeb Bangor, Catering, the International Office, and many Student societies to run an exciting programme of sustainability related activities and events during the month.

These included a Celebrating Africa in Gwynedd Event, various film nights, Campus Clean up, beach cleans, a hike up Snowdonia, Indian cooking sessions, Fairtrade fortnight, Ceilidh with the LGBT+

society, International Twmpath to celebrate St David's day just to name a few.

A total number of 47 events were held during the month, and the #Carnival19 campaign reached and engaged with 736,216 individuals online.

We'll be building on the success of Carnival 2019 and very much looking forward to hosting the 2020 Sustainability Carnival.



Event highlights

Working accross departments and continents to develop sustainable solutions

As a direct result of our links with Makere University, Uganda our colleagues in the BioComposites Centre were able to develop a project to turn a waste product (maize stover) to generate revenue.

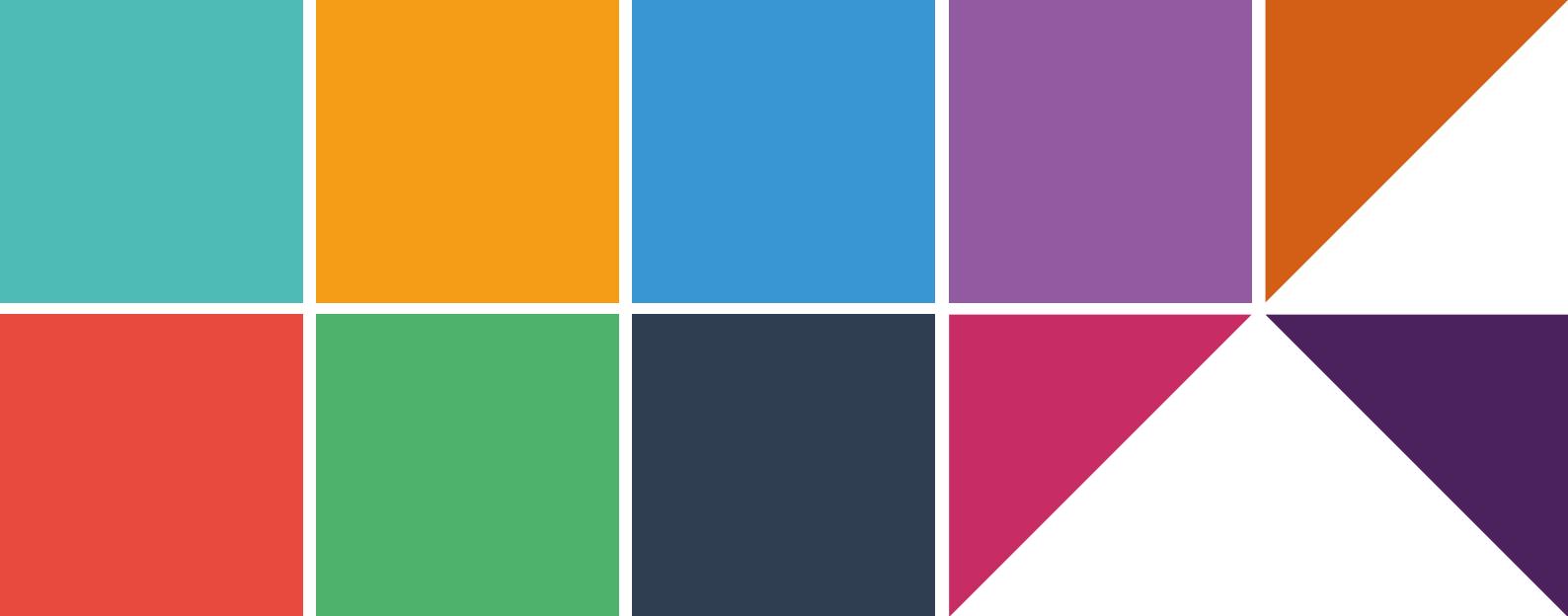
Farmers grow maize as food and as a cash crop. Only 20% is grain, the rest is used as crop mulch (89%), fuel (8%) or animal feed (3%).

Some of the stover used for mulch can be used to produce food packaging creating much welcomed income streams for farmers. Over 80% of people employed in agriculture are mostly rural women.

This fantastic project contributes towards goals 1, 2, 5, 10 and 12

[Read more](#)





The Sustainability Lab

bangor.ac.uk/sustainability

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 TheSustainabilityLab