

SUSTAINABILITY ACTION PLAN

SUBJECT TO ENGAGEMENT



GIG
CYMRU
NHS
WALES

Bwrdd Iechyd Prifysgol
Caerdydd a'r Fro
Cardiff and Vale
University Health Board

Foreword

Climate Change is the single biggest issue facing humanity. With a warming earth, rising water levels and increased incidence of extreme weather events leading to flooding, Cardiff is predicted to be impacted heavily as we move towards the end of the century. With the certain health impacts of a more extreme climate, the time to act has run out.

We're pleased that Cardiff & Vale UHB has had a strong track record of reducing our environmental footprint and thanks to Welsh Government funding through the Re:Fit programme, have a pipeline of projects planned to make further improvements. We need to build on this and do more however.

It is estimated that 4% of all the UK's greenhouse gases are as a result of healthcare. Whilst we have passionate people who have been pioneering in the adoption of sustainable healthcare practices, we must look at all aspects of our operation as a health system and deliver improvements, whether that is in reducing single use plastics used in clinical care or re-imagining our services in ways that positively impact our patients as well as the environment.

This Sustainability Action Plan sets out what we'd like to achieve in the short term and act as a springboard to going further and faster as we develop our plans to realise our Shaping Our Future Wellbeing aims and re-provide University Hospital Wales. The action plan is necessarily broad and seeks to prove concepts in clinical care in particular which can act as pathfinders for further advancement.

Our Cardiff & Vale UHB colleagues and Board are passionate about our improving our impact on the environment so this plan builds on what has been achieved and we look forward to future iterations which sets the goals and ambitions ever higher.



Charles Janczewski

Chair, Cardiff and Vale University Health Board



Abi Harris

Executive Director of Strategy and Planning

What is sustainability?

Sustainability and sustainable development is most commonly described as 'development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987).

Why take action now?

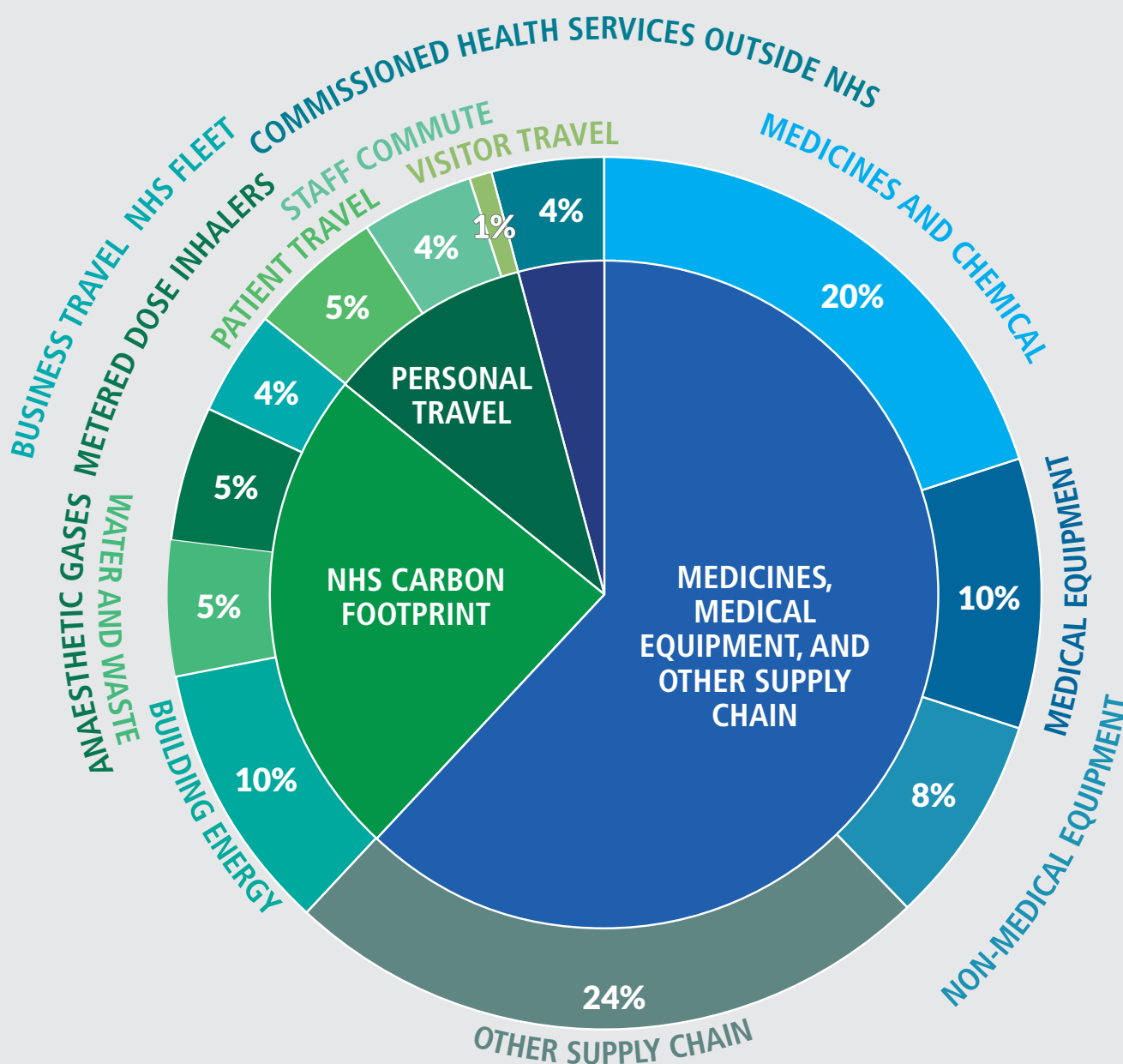
There is incontrovertible evidence from scientific community that climate change is taking place due to man-made emissions of green house gases. The impact of climate change is visible already – extreme weather, rising sea levels, mass species loss and extinction – and is impacting on our daily lives.

Like many countries around the world, the Welsh Government has declared a climate emergency and has been taking action as a globally responsible Wales for many years.

In an emergency, we have to behave and act differently and swiftly. Therefore if the Health Board is to meet and exceed the existing requirements, we need to take action urgently to accelerate reduction in our carbon impact, and take other action to embed sustainable development into everything that we do.



In lieu of expected data from NHS Wales, the following diagram depicts the sources of NHS England's carbon emissions to illustrate the extent of the challenge.



NHS England's Sources of Carbon Emissions by Proportion of NHS Carbon Footprint
(Source: "Delivering a Net Zero National Health Service")

Without targeted action and a significant and deliberate commitment to responding to the climate emergency, the Health Board will not meet the current targets set by the Welsh Government, as set out overleaf.

In response to Covid19, we have radically changed the way we delivery services – there is an opportunity to embed and accelerate new ways of working which contribute to a more sustainable future.



What has been done so far in Wales?

In 2015 the Welsh Government enacted the Wellbeing of Future Generations (Wales) Act (2015) – world-leading landmark legislation now being replicated in other countries across the world. This is followed by a number of other important legal requirements agreed by the Welsh Government including the Environment (Wales) Act (2016) requires Welsh Government to reduce emissions of greenhouse gases (GHGs) in Wales by at least 80% for the year 2050.

In 2019, the Welsh Government published Prosperity For Wales: A Low Carbon Plan for Wales – public sector to be carbon neutral by 2030. The plan is very detailed and sets out the actions required across all sectors in Wales to deliver on the targets set.

What Have We Done So Far

The Health Board is already taking action in a number of areas and benchmarks well on a number of key measures.

External review has confirmed that we are progressing well with embedding the Wellbeing of Future Generations requirements, having adopted the strategic objectives in our ten year strategy (Shaping our Future Wellbeing) as our wellbeing objectives.

In January 2020, Board committed to responding urgently to the climate emergency, confirming a desire to be an exemplar organisation. The Board also agreed the Biodiversity Action Plan at its meeting in January 2020 which commits us to taking action to promote biodiversity on our extensive estate. Some examples of the actions we are already taking are set out below.

- Environment (Wales) Act (2016) requires Welsh Government to reduce emissions of greenhouse gases (GHGs) in Wales by at least 80% for the year 2050
- Welsh Government's Prosperity For Wales: A Low Carbon Plan for Wales (2019)
- The health care sector is a significant consumer of energy and as one of the biggest NHS organisations in the UK, this is true of our Health Board. However we have a proactive energy group and we have already taken significant action to reduce our energy use and we are now the lowest energy usage in Wales.
- Carbon reduction programme in place (Re:fit programme etc.) – although this will not take us the carbon reduction targets set by Welsh Government. This includes participation in the EU Carbon Credit Scheme.
- The NHS is typically a high producer of waste but we have taken a significant amount of action to date to reduce the amount of waste we produce and to eliminate waste going into landfill. To date our Health Board achieves the highest levels of waste reduction of any health board in Wales.

- We are also a big consumer of water, and our ageing estate results in a higher usage of water compared to modern facilities. However, we have taken actions to reduce water usage overall, with the introduction of initiative such as waterless urinals.
- Theatres are a big consumer of energy and potential waste creation. We are leading a Green theatres innovation project looking at how theatres of the future can be designed and run in ways that are carbon neutral and sustainable.
- We ensure that we are building sustainability the design and build of new infrastructure. We have secured extra capital funding for decarbonisation of Maelfa Wellbeing Hub development.
- We know that promoting active travel is good for the environment and good for our health. We have an Active Travel commitment with PSB partners and active travel plans in place but we are not yet on track to deliver the commitments we have made.
- We have a significant amount of estate we can use for promoting sustainability and biodiversity. Orchard at UHL is one of our biggest initiatives in this area.

What is Happening Elsewhere

Within The UK

Within the UK, many NHS organisations are committing formally to take action to respond to the climate emergency. The Centre for Sustainable Healthcare was set up a number of years ago and is providing advice and evidence to support healthcare organisations respond to the need for urgent action to ensure services are more sustainable in the future.

Much of the evidence relates to sustainable models of healthcare which focus on prevention illness and disease, and delivering lean and efficient health care. The Cochrane also references the impact of harm caused by excess medical interventions to patients. This is very much in line with Prudent Healthcare Principles and the objectives we have set out in Shaping Our Future Wellbeing.

The Newcastle Upon Tyne Hospitals NHS Trust stands out as a leading the way in England, with a Director of Sustainability charged with overseeing the delivery of an ambitious sustainability improvement programme called SHINE (Sustainable Healthcare in Newcastle).

They have created an ambitious action plan which articulates how they're going to make a difference. We have referenced what others including Newcastle are doing as inspiration for setting Cardiff and Vale UHB's direction of travel.



Learning from The USA

There is a very proactive approach to delivering sustainable healthcare in the USA with some specific examples set out below.

Go local with food choices

Cafeterias in hospitals serve hundreds of people per day, and the source of their food can have a dramatic effect on a hospital's environmental impact. By contracting with vendors that rely on locally grown fresh produce, hospitals can minimize gasoline consumption required to ship and refrigerate fruits and veggies from distant locations. Hospitals can also work with local composting companies to haul away food waste that can be used as fertilizer in sustainable farming.



Look into ways to conserve water.

One hospital, Virginia Mason Medical Centre in Seattle, saved over 6 million gallons of water per year by replacing a linear accelerator (used in radiation therapy) with a better model; replacing washroom toilets, faucets and showers with water-efficient alternatives; and purchasing high-efficiency dishwashers. On a large scale, less water per flush or shower can make a big difference in water consumption.

Save energy

Reducing energy use and carbon output is particularly tricky for hospitals, but not impossible. Connecticut's Greenwich Hospital saved over [1.7 million kWh](#) and \$303,000 of electricity per year, and reduced its overall energy consumption by 35%. How? The hospital reprogrammed its heating and cooling plants, re-engineered its air handling systems and upgraded its light bulbs, among other changes. And this investment paid for itself – Greenwich Hospital made back its money within six months.

Change waste disposal protocols

Because hospitals produce so much waste, disposing of it in an environmentally friendly way can be challenging. For example, regulated medical waste has to be disinfected before going to the landfill. Disinfection methods like incineration are both energy intensive and known to release noxious fumes. But processes like autoclaving, chemical treatment and microwaving can be more eco-friendly. Ask the company behind your disinfection process about its energy and chemical use, and consider switching if you can find a greener provider.

Practice chemical safety

Dozens of chemicals used in a hospital can be dangerous under the right conditions, but there are some surprising culprits. LCD displays, fluorescent lamps, CRT monitors, flame-retardant mattresses, wheelchair cushions and even baby bottles can contain hazardous chemicals if you buy them from the wrong manufacturer. For your hospital, you can improve



chemical safety by making conscious purchasing decisions and recycling toxic goods, like batteries, properly.

Revamp entire supply chain to be more sustainable

Work with vendors to ensure that all products your hospital purchases are as environmentally friendly as possible, from medical supplies to printer paper.

Making renovations and upgrades greener

There are national [Leadership in Energy and Environmental Design \(LEED\)](#) standards.

Change landscaping techniques

Switching to green landscaping techniques using native plants can help your hospital better manage storm water drainage, reducing waste. Also, incorporating more green space into your hospital's campus is a sustainability practice that can also improve its appearance.

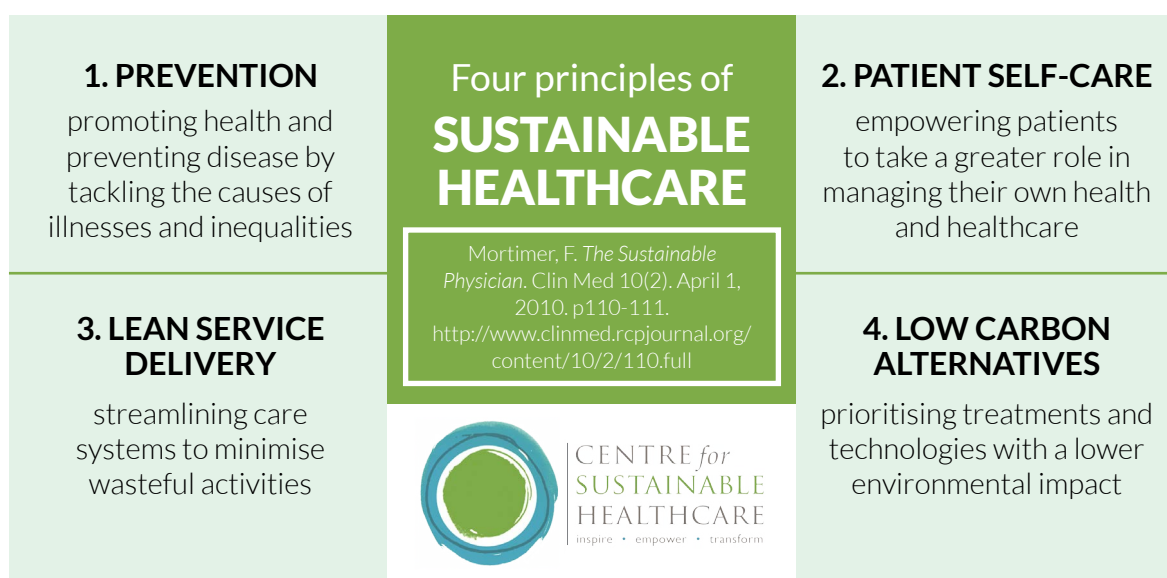


Develop our Sustainability Action Plan (SAP)

Our Sustainability Model

In order to develop our sustainability action plan, a working party was established, sponsored by the Executive Director of Strategic Planning, which looked at the evidence from around the world and identified the areas we should focus our actions. Membership of the Sustainability Action Plan Working Group is set out in Annex 1 – the working group was drawn from people across corporate departments and in clinical areas already acting as champions for climate change and proactively working to deliver sustainable health care.

The group decided to adopt the four pillars advocated by the Centre for Sustainable Development. Linking to these pillars we have aligned our strategic objectives (or wellbeing objectives) and have developed a proposed set of actions against eight themes using some of the learning from Newcastle's SHINE Programme.



Centre for Sustainable Healthcare 4 Pillars

Our Sustainability Action Plan

For each theme, a series of commitments have been set out, with ambitious targets for the level of improvement we aspire to deliver, and confirmation of where the leadership for the action sits within the organisation.

Both Public Service Boards have identified climate change/sustainability as a priority. Cardiff and Vale have signed up to the Vale of Glamorgan's Climate Emergency Charter, which is set out in Annex 2. Cardiff Council has just launched consultation on its response to the Climate Emergency - The One Planet Strategy Consultation (<https://www.oneplanetcardiff.co.uk/>). Members of the SAP Working Party are attending the launch event.

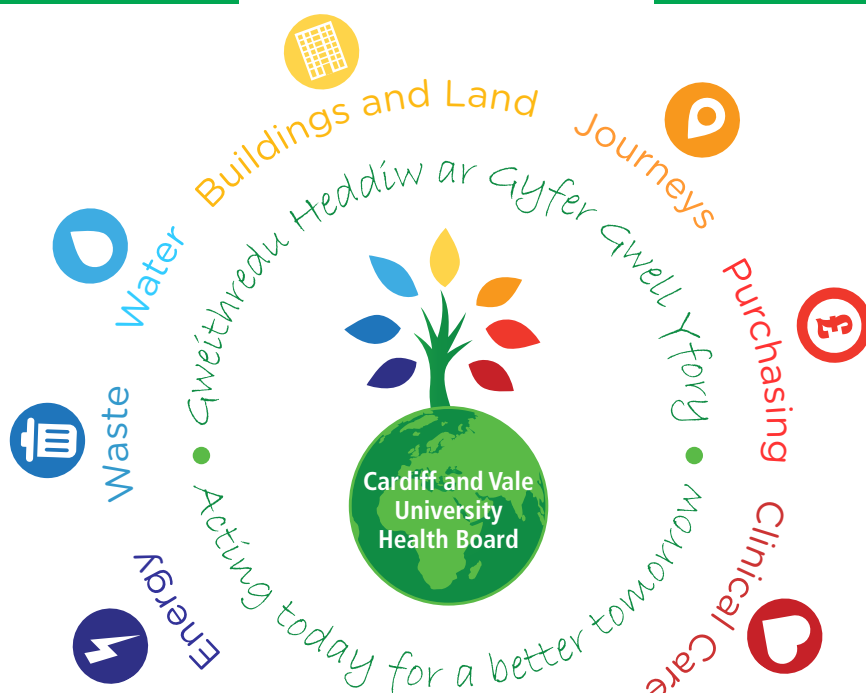
The Working Party has recognised the opportunities presented by the Covid19 crisis to do things differently as we reset a new normal post C19 and there is a real opportunity to embed sustainability into our 'recovery', reflecting the Welsh Government's signal around a 'green recovery' approach to the reconstruction work.

Lean Service Delivery

- ✓Home first
- ✓Sustainable services

Low Carbon

- ✓Avoid harm, waste and variation



Prevention

- ✓Outcomes that matter

Patient Self-Care

- ✓Empower the patient

Proposed Targets

Theme	Objective	Key Success Measures	Actions	Lead	Date	Metrics
Energy	Use less energy year on year increase use of renewable to maintain ISO14001 accreditation	Carbon emissions reduction 3% y/y Maintain consumption 100% renewable electricity.	Implement our pipeline of phase 1a Re:Fit energy saving projects	CEF	31/3/21	tCo2e
			Develop proposal for a combined heat and power plant at UHL by 31/3/21			ISO14001 recertification
Waste Food	Reduce waste through our operations	Zero waste to landfill Reduction in waste generated	Maintain zero waste to landfill	CEF	31/3/21	Total waste in tonnes segregated
			Halve food waste by 2025 from a 2007 baseline			Tonnes waste incinerated with energy recovery
			Maximise waste incinerated with energy recovery			% waste recycled as proportion of total
			Encourage recycling amongst staff and patients/visitors			
Water	Reduce water usage, promote the importance of keeping hydrated	To accurately measure water usage and seek reduction strategies	Increase number of water refill stations across our estate by 5, funded by Health Charity.	CEF	31/3/21	Num new water fountains - 31/3/20 and 31/3/21
			Update water/sewage reporting to reflect use/costs as part of EFPMS returns.			
			Encourage service improvement programmes related to waster/sewage.			Water use m3
Procurement	Integrate sustainable ethical procurement practices into policy	All CV controlled procurement activity > £25k carries out an NHS SS sustainability risk assessment	Apply NHS SS risk assessment to all upcoming new and contract retenders, to ensure all opportunities for maximising sustainability/carbon reduction are included/prioritised	Head Procurement	31/3/21	Number sustainability assessments carried out

Theme	Objective	Key Success Measures	Actions	Lead	Date	Metrics
People	Staff patients aware of commitment to sustainability Eco-literate org	Staff recognise our commitment to sustainable healthcare service delivery and have a role to play	Communicate successes and plans	Sustainability Action Group	31/3/21	Impact measures through staff surveys
Built Environment, Green Infrastructure Biodiversity	Increase sustainable healthcare building design and healthy, green, bio-diverse external spaces	All new builds and major refurbishments include sustainable design features as standard and our external space is healthy, green and biodiverse.	BREEAM Excellent EPC Rating of A for all new builds. Built using 15% of recycled materials.	CEF	31/3/21	Business cases signed off.
			Express the UHW2 opportunity before the end March 2021 with an aspirational set of sustainability characteristics.	PD UHW2	31/3/21	UHW2 Programme Business Case signed off by Management Exec



Theme	Objective	Key Success Measures	Actions	Lead	Date	Metrics
Transport	Reduce the number of cars brought to our sites, encourage active travel and homeworking	Increased use of active travel Increased number of ULEVs in our fleet	Comply with the Cardiff Vale Healthy Travel Charter: reduced car usage to commute, more cycle usage to commute, more staff using ULEVs during the day, increased bus usage.	Dr Tom Porter	31/3/21 31/12/22	Healthy Travel Survey
			Promote home working to reduce commuting journeys in aggregate	ALL CV UHB	31/3/21	
			Consider ULEVs when fleet vehicles need replacing	CEF	2025	All light vehicles to be ULEV
			Increase bike locking facilities across our sites and provide bike maintenance help across our sites.	CEF/Health Charity	31/3/22	Number new bike locking schemes
Clinical	Develop low carbon/ low waste care for our patients. Sustainability embedded in CV strategy investments Promote: Prudent health care/self care/ prevent-prehab-rehab/	To be recognised as a benchmark/case study health system for sustainable health policy and practice Sustainability is embedded into our service planning arrangements.	50% of non f2f consultations by 31/3/21 (using digital platforms)	COO	31/3/22	% of total consultations in March 2022
			Test lean, green pathways as part of the UHW2 PBC and Clinical Services Plan.	Hunt/Le G/ Masani	31/3/21	Developed Clinical Services Plan
			Address metered dose inhaler (MDI) use by using low carbon inhalers	Clinical Fellow (CF)	30/9/21	Mt CO2e
			Searching for further opportunities transforming anaesthetic practices.	Clinical CF	30/9/21	Mt CO2e
			To advocate the work of the Centre for Sustainable Healthcare	CF	30/9/21	Evidence engagement cut through.
			Gather together a community of interested clinicians who are promoting sustainable healthcare and understand their impact. Climate Smart Clinician Network.	Dr Fiona Brennan CF	30/9/21	Community practicing sustainability improvement.
			Explore opportunities to use more sustainable devices and create a framework for further schemes.	Sustainability Action Group	31/3/21	At least 2 business cases created.

Progress Highlights

Since the working group has been meeting the following initiatives have come forward:

■ Net Zero

- WG and NHS Wales to set new targets to enable to net zero by 2030 to be realised, promote a circular economy and improve air quality– expected in early 2021.

■ Water

- New water fountain in Barry. Health Charity agreed to fund five more: 1 x Rookwood, 1 x Breast Centre, 1 x CRI, 2 x St Davids. Request from clinicians in UHW to be considered on application.

■ Journeys

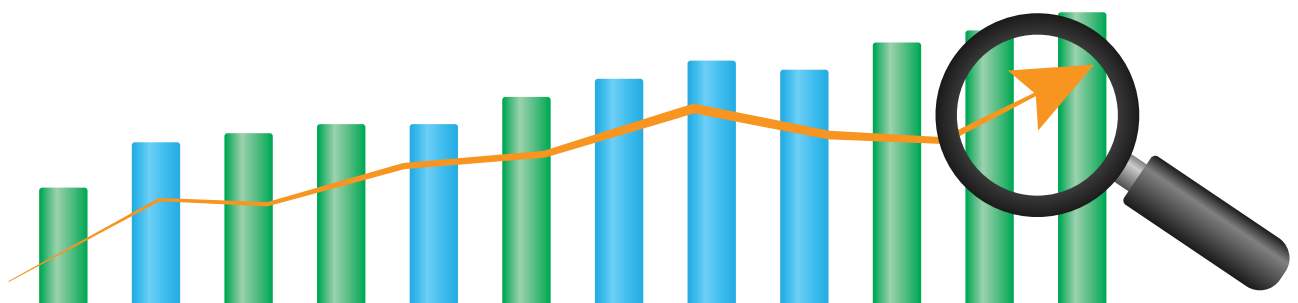
- Application to Health Charity to fund bike maintenance mornings at our sites: basic safety checks and repairs advice
- It is estimated that 85,000 journey miles have been saved as a result of patients receiving video consultations rather than unnecessary face to face visits.

■ Clinical

- Reusable device pilot. Video laryngoscope. A study where trade offs between costs and lifecycle value need to be assessed. Dr Fiona Brennan
- Inhalers. Project setting up to investigate the prescribing of more environmentally friendly inhalers. Simon Barry
- New Clinical Fellow started with remit for progressing 3 sustainability projects: Inhalers, further transforming anaesthetic practices, educating colleagues (and med school) on Sustainable QI: Amarantha Fennell-Wells (supervised by Dan Morris and Fiona Brennan).

■ Partnership

- Since producing our action plan, Cardiff Council have commenced a consultation on their One Planet Cardiff vision for a carbon neutral city by 2030. There are ways emerging for the UHB to work with Cardiff council on their ambitious plans. The UHB will respond positively to the consultation.



Implementation

A lot has been achieved so far with robust management of our energy, waste and water through our ISO 14001 accreditation, having been embedded into business as usual practice for a considerable period of time.

It is recognised that opportunities exist to make sustainability gains in the products we use to provide care. To help achieve this, Cardiff and Vale will fund a Sustainability Project officer to lead on trail blazing schemes to question why we use certain products and whether kinder alternatives are holistically better, not just cheaper. £150k p/a of capital and revenue (combined) will be allocated for project delivery.

In addition, Cardiff and Vale in partnership with HEIW have agreed to fund a Clinical Fellow in Sustainable Healthcare between 2020 and 2023. Projects have been allocated for delivery that make inroads into metered dose inhalers, finding further gains in anaesthetic gasses and educating the next generation of clinicians.

The Sustainability Action Group will monitor and control delivery of our action plan and report to The Board progress.



Annex 1 - Sustainability Action Plan Working Party

Abigail Harris

Executive Director of Strategic Planning

Jared Torkington

*Consultant Colorectal Surgeon and
Associate Medical Director for Clinical Innovation*

Fiona Brennan

Consultant Anaesthetist

Dan Morris

Consultant Ophthalmologist

Jon McGarrigle

Head of Energy

Simone Joslyn

Head of Arts and Health Charity

Mike Jones

Unison Trade Union Conveyor

Ed Hunt

UHW2 Programme Lead

Jonathon Watts

Head of Strategic Planning

Claire Salisbury

Head of Procurement

Tom Porter

Public Health Consultant and Active Travel Lead

Amarantha Fennell-Wells

Clinical Leadership Fellow (Sustainable Healthcare)

Nadia DeLonghi

Natural Resources Wales

Stephen Allen

South Glamorgan CHC

Simon Barry

Respiratory Consultant



Annex 2

Vale of Glamorgan PSB Climate Emergency Charter

Working together across the Vale of Glamorgan we commit to:

Lead by example

- Promote a wider understanding of climate change and how our actions impact on the environment – listen, learn and act
- Embed sustainability within our procurement policies and practices – buy less and buy local
- Value, protect and enhance our biodiversity and the natural environment
- Divest from fossil fuel related industries
- Take action ourselves as local citizens

Take positive action

- ▲ Promote walking, cycling and the use of public transport
- ▲ Plant more trees and create more woodland and hedgerows
- ▲ Increase the number of electric/ low carbon vehicles in our fleet and create a network of EV charging points across the Vale
- ▲ Make our buildings more energy and water efficient and explore opportunities for renewable energy
- ▲ Increase the network of water refill stations
- ▲ Manage peatland and soils to reduce emissions and improve carbon storage
- ▲ Work towards new buildings within our estate being net zero carbon

Reduce our impact

- ▼ Reduce the need to travel
- ▼ Reduce the amount of paper and single use plastics we use
- ▼ Reduce the amount of office space we need
- ▼ Reduce the amount of waste we produce and improve our recycling

By our actions we will:

- Reduce our emissions to mitigate the effects of climate change whilst adapting to its impacts.
- Be kinder to our environment
- Be healthier
- Become a Carbon Neutral Public Sector by 2030





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