



Gwasanaeth Ynni  
Energy Service

# Health and Social Care Climate Emergency National Funding Scheme

Evaluation report

July 2023



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## About the Welsh Government Energy Service

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**The Welsh Government Energy Service (the Energy Service) can help progress your energy efficiency, renewable energy, and low-emission vehicle projects.**

The Energy Service supports community and public sector organisations in Wales to develop energy efficiency, renewable energy and low-emission vehicle projects that will lower carbon emissions and provide cost savings, income generation and wider community benefits.

We offer technical, commercial and procurement support through a team of experts with extensive experience in developing energy projects in Wales.

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# 1. Executive summary

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The Welsh Government (WG) appointed the Welsh Government Energy Service (the 'Energy Service') to create an evaluation toolkit that would enable a consistent assessment of the impact of projects that were funded over 2022/23 as part of the first year of the Health and Social Care (H&SC) Climate Emergency National Funding Scheme. The first year of the scheme was designed to help the National Programme learn lessons from the successes and challenges of the scheme and the funded projects. This report presents the evaluation method, tool, summarised results, and conclusions. Evaluations of the 25 projects and project lead case studies are provided in the appendices, together with the evaluation toolkit questionnaire, a glossary, and a worked evaluation example.

The key objectives of this project were to:

- Provide the National Programme Board with a consistent, overarching approach to evaluating the funded projects so that the Programme Board can determine whether the projects have created the intended impact.
- Complete an evaluation of the 25 projects using the evaluation toolkit.
- Support WG in adopting the evaluation toolkit by summarising the method and results in a report and presenting to the National Programme Board to support dissemination of the evaluation approach, results and learnings.

## Evaluation toolkit

The evaluation toolkit consists of a questionnaire that feeds into a Red-Amber-Green (RAG) table and is introduced in Section 3. The questionnaire, detailed in Appendix A, is structured into two parts. A.1 covers the basic context of the project as part of a data collection exercise and is not part of the evaluation. A.2 assesses each project across three categories: carbon impact, value for money, and organisational impact.

## Findings

The Summarised results of the toolkit are presented in Section 4 and demonstrate the variety of activities funded, with the majority of projects addressing communication, engagement, and behavioural change, followed by decarbonisation or mitigation activity, innovation activity, adaptation or resilience planning, and 'other'. The evaluation highlighted the challenge of achieving significant carbon reductions in the healthcare sector through small-scale, localised, and time-bounded projects. Many projects emphasised that, due to their small size or the fact that they were limited to a single organisation, their decarbonisation impact was limited, and further investment and resources would be required to scale up. Project leads also

highlighted the challenges of gathering data on carbon reductions due to limited capacity and carbon expertise among local level staff. Organisational impact, particularly engagement with projects, was an area in which many leads reported green or amber results, suggesting much willingness to drive change and great enthusiasm from individual staff and volunteers. However, many project leads also noted that further support would be needed to convert enthusiasm into measurable carbon reductions.

### **Carbon Impact**

- Projects that achieved high or medium reductions in carbon impact focused on waste reduction, switching out high carbon medicines, or driving systems change. These carbon reduction plans were more immediately calculable than other types i.e., the effect of a reduction in annual medical waste is more easily quantified than the results of a behaviour change campaign.
- The necessity of increasing funding and resource availability was evident, as projects with low/negligible impact were often limited by the lack of available personnel and funding.
- Most projects did not calculate their carbon impacts, citing reasons such as lack of access to information, limited resources, and some projects not having quantifiable impacts e.g., educational campaigns seeking to target emissions indirectly over the long-term.

### **Value for Money**

- Cash release was achieved through material changes and reducing consumption of items, while no release responses indicated early-stage projects that expected cash release with scaling up or more resources.
- Capacity release was seen in projects that freed up staff time and improved efficiencies, whilst not applicable or no release responses were due to this metric not being initially considered.
- Cost avoidance was observed in projects streamlining resources or taking proactive actions that avoided costs, while no avoidance responses were due to financial savings not being the project's goal or expected only in the future.

### **Organisational Impact**

- Most projects cited that they were closely aligned with relevant strategies and policies related to decarbonisation, demonstrating strong organisational and strategic alignment.
- Projects with high scalability and minimal barriers had the potential for replication in multiple organisations, with known barriers including access to finance, experts, and integration into wider sustainability infrastructure.
- All projects had high or some potential to increase engagement with the decarbonisation agenda across the health and social care sector.

- Many projects noted a positive correlation between delivering on environmental goals and achieving better patient outcomes, while limited delivery or not applicable responses indicated a focus on environmental outcomes without a direct patient connection.

## 2. Introduction

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### Welsh Government background and context

The Health and Social Care (H&SC) Climate Emergency National Programme was created to address the challenges and identify opportunities that the climate emergency creates for the health and social care sector. The H&SC Climate Emergency National Funding Scheme was established in early 2022/23 to finance projects that help reduce emissions or support the sector in adapting to climate change. All NHS organizations were invited to apply for funding of up to £60,000 in the scheme's first year.

The 2022/23 scheme's primary objective was to provide initial financial support to projects that will contribute to the Welsh public sector's ambition to be net zero by 2030 and increase resilience to the impacts of climate change. This will require a range of actions and the fund focused on:

- communication, engagement, or behavioural change activity
- decarbonisation or mitigation activity
- adaptation or resilience planning activity
- innovation activity

All funded projects needed to show both ambition and scalability, not only within their own organisation but also across NHS Wales and the Social Care sector.

## Evaluating the funding scheme

The H&SC National Programme Board requested the creation of a consistent, overarching approach to evaluating funded projects, combining relevant quantitative and qualitative evidence to measure how projects have delivered against the scheme criteria, expected outcomes and overarching aims of the National Programme.

The evaluation approach was required to:

- have potential for further iteration (e.g., if/when new methods to capture carbon emission impacts become available)
- be applicable to any future funding rounds and the evaluation of those projects
- support organisations to self-evaluate their own climate-related projects in future, through development of a stand-alone tool or guidance
- adopt learnings on the go, where the evaluation approach would consider how to support continuous improvement to funding small to medium sized projects.



### 3. Method

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#### Overview



Figure 1: Breakdown of the key steps taken to deliver the project.

To **establish the evaluation approach**, we worked with WG to review the approach taken by organisations engaged in the H&SC Climate Emergency National Funding Scheme. The Energy Service was specifically commissioned to:

- review selected materials relevant to the Funding Scheme, including:
  - relevant H&SC Climate Emergency National Programme and Funding Scheme materials (e.g. progress reports, quantitative and qualitative evidence from projects, scheme criteria)
  - Energy Service 'What Works' report
  - NHS Wales Decarbonisation Strategic Delivery Plan
  - Decarbonising Social Care in Wales
  - Green Primary Care Framework
  - Welsh Public Sector Net Zero Reporting Guide
  - Resources from the Centre for Sustainable Healthcare

- engage with key stakeholders, including the Finance Planning and Delivery department in the NHS Wales Executive; Welsh Value in Health Centre; Welsh Government Climate Change and Environmental Public Health Division, and select project managers of funded projects.
- design an evaluation toolkit to evaluate funded projects, incorporating feedback from WG.

To **evaluate the 25 funded projects**, we:

- reviewed project progress reports against the evaluation toolkit criteria
- sent a survey to all project stakeholders with the questionnaire that feeds into the RAG evaluation table
- designed questions to develop case studies for WG
- shared the results with WG for feedback.

We **supported WG to adopt this evaluation approach** by:

- presenting the results to stakeholders from across the National Programme, including Programme Board members, in June 2023
- providing training to WG on using the evaluation tool
- producing this report, including guidance on using the evaluation tool and feedback that may be considered as part of future funding rounds.

## The evaluation toolkit

The evaluation tool (shown on the next page) was created to consistently evaluate the impact of funded projects under [the Health and Social Care Climate Emergency National Programme](#) to help assess the overall effectiveness of the funding scheme and the development of future projects and funding schemes.

WG submitted the questionnaire (to project leads, who were asked to fill out the information. For the initial round, the questionnaire was submitted by the Energy Service in a survey format via Microsoft Forms.

The questions in Section A.1 serve as a **data gathering exercise** to understand the types of projects funded.

The questions in Section A.2 aim to **measure the success** of the project according to a Red-Amber-Green (RAG) rating through nine questions in three categories: carbon reduction, value for money, and organisational impact. Only Section A.2 informs the evaluation tool, and the following table is structured according to the three categories and corresponding questions. Project leads self-evaluating projects can choose answers from a multiple-choice format. Each answer corresponds to a RAG rating.

The questions in Section B inform a project case study.

This evaluation tool is intended to be applicable to any future rounds of funding while also having the potential to be iterated upon. It is also hoped that the tool and the case studies that have stemmed from it can be used by organisations to self-evaluate and further develop their own climate projects.

## Evaluation tool

	No.	A.2. Measuring success	Green	Amber	Red	Grey
Carbon impact	1	Direct carbon reduction	High impact (0.5-3%)	Medium impact (up to 0.5%)	Low / negligible impact	N/A
	2	Wider potential carbon impact	High impact (0.5-3%)	Medium impact (up to 0.5%)	Low / negligible impact	N/A
Value for money	3	Cash release	High release	Limited release	No release	N/A
	4	Capacity release	High release	Limited release	No release	N/A
	5	Cost avoidance	High avoidance	Limited avoidance	No avoidance	N/A
Organisational impact	6	Strategic alignment	Close alignment	Partial alignment	Limited alignment	N/A
	7	Scalability	Highly scalable	Partially scalable	Limited scalability	N/A
	8	Engagement potential	High potential	Some potential	Limited potential	N/A
	9	Sustainable healthcare	Strongly delivers	Partially delivers	Limited delivery	N/A

## 4. Summarised results of the tool

Projects are listed alphabetically by organisation.

			Project categories					Evaluation results								
	Project title	Organisation	Communication	Decarbonisation	Adaptation	Innovation activity	Other	Direct carbon reduction	Indirect carbon reduction	Cash release	Capacity release	Cost avoidance	Strategic alignment	Scalability	Engagement potential	Sustainable healthcare
1	<b>Ecological Study</b>	Aneurin Bevan University Health Board			X	X		N/A	R	N/A	N/A	N/A	G	A	G	R
2	<b>Clinical Fellow in Sustainability</b>	Aneurin Bevan University Health Board	X	X				R	R	G	G	G	G	G	G	G
3	<b>Let's Not Waste</b>	Bevan Commission	X			X		N/A	R	N/A	N/A	N/A	A	N/A	A	A
4	<b>Air Quality Project</b>	Cardiff and Vale University Health Board	X	X				N/A	N/A	R	R	R	A	A	G	G
5	<b>Clinical Lead for Decarbonisation and Sustainability</b>	Cardiff and Vale University Health Board	X	X	X	X		N/A	N/A	N/A	G	N/A	G	G	G	G

			Project categories					Evaluation results								
	Project title	Organisation	Communication	Decarbonisation	Adaptation	Innovation activity	Other	Direct carbon reduction	Indirect carbon reduction	Cash release	Capacity release	Cost avoidance	Strategic alignment	Scalability	Engagement potential	Sustainable healthcare
6	<b>Nitrous Oxide and Entonox Reduction</b>	Cardiff and Vale University and Health Board		X				N/A	A	A	N/A	A	G	G	G	G
7	<b>Reusable Speculums</b>	Cardiff and Vale University Health Board		X		X		R	R	A	R	N/A	R	A	A	A
8	<b>The Green Health Wales Network</b>	Cardiff and Vale University Health Board/Green Health Wales	X	X	X	X		N/A	G	N/A	A	N/A	G	A	G	G
9	<b>Developing Sustainable Innovation</b>	Cwm Taf Morgannwg University Health Board	X	X	X	X		N/A	N/A	N/A	N/A	N/A	A	A	G	G
10	<b>Educational Resource Development</b>	Cwm Taf Morgannwg University Health Board	X					N/A	N/A	N/A	N/A	N/A	G	G	G	N/A
11	<b>Faculty of Sustainable Healthcare</b>	Health Education and Improvement Wales	X					N/A	N/A	N/A	N/A	N/A	A	A	G	N/A
12	<b>Sustainability Fellowship within Value-based Healthcare</b>	Hywel Dda University Health Board	X			X		N/A	A	N/A	N/A	N/A	G	A	G	A

			Project categories					Evaluation results								
	Project title	Organisation	Communication	Decarbonisation	Adaptation	Innovation activity	Other	Direct carbon reduction	Indirect carbon reduction	Cash release	Capacity release	Cost avoidance	Strategic alignment	Scalability	Engagement potential	Sustainable healthcare
13	<b>Biodiversity Enhancement &amp; Protection</b>	Powys Teaching Health Board					X	R	A	R	N/A	G	G	G	G	A
14	<b>Carbon Literary Programme</b>	Powys Teaching Health Board	X	X	X	X		N/A	N/A	R	R	A	A	A	G	A
15	<b>Carbon Reduction Pharmacy Campaign</b>	Powys Teaching Health Board	X			X		G	G	R	R	R	G	G	G	G
16	<b>Develop a Package of Training and Capacity Building Resources</b>	Public Health Wales	X					N/A	N/A	N/A	A	N/A	G	G	G	N/A
17	<b>Greener Primary Care Wales</b>	Public Health Wales	X	X		X		N/A	N/A	N/A	N/A	A	G	A	G	A
18	<b>Reducing Waste/Microbiology Service Area</b>	Public Health Wales	X	X				A	A	R	R	R	A	G	G	R
19	<b>Enabling Sustainable Travel</b>	Swansea Bay Health Board	X	X				N/A	N/A	R	R	R	G	G	G	G

			Project categories					Evaluation results							
Project title	Organisation	Communication	Decarbonisation	Adaptation	Innovation activity	Other	Direct carbon reduction	Indirect carbon reduction	Cash release	Capacity release	Cost avoidance	Strategic alignment	Scalability	Engagement potential	Sustainable healthcare
20	<b>Green Labs</b>	Swansea Bay University	X				N/A	N/A	R	R	N/A	A	A	A	A
21	<b>Green Team Competition</b>	Swansea Bay University Health Board/Hywel Dda University Health Board	X	X		X	A	A	G	N/A	A	G	A	G	G
22	<b>Inhaler Recycling</b>	Swansea Bay University Health Board	X	X			N/A	N/A	R	R	R	G	A	G	A
23	<b>EV Network Development</b>	Welsh Ambulance Service Trust		X			N/A	N/A	N/A	N/A	N/A	G	N/A	G	N/A

The project 'Turning Red Tape Green: Sustainable Transformation Fellowships', run by organisation Betsi Cadwaladr University Health Board and the project 'Sustainable Procurement Communication Materials', run by Swansea Bay University Health Board were also part of this funding scheme but were unavailable to complete the evaluation questionnaire.



## 5. Conclusions

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The evaluation toolkit was tested after the H&SC Climate Emergency National Funding Scheme concluded for 2022/23. The toolkit, which consists of the questionnaire and RAG table outlined in Section 3, was used by all project leads from H&SC organisations that received funding. The Energy Service shared high level findings of the survey process and results to stakeholders from across the National Programme in June 2023, organised by WG. This section presents high-level findings and some potential future improvements.

### High level findings

#### Data collection

- **Project categories**
  - From the Summarised results of the tool in Section 4, it was noted that 19 projects targeted or contained work relating to communication, engagement or behavioural change, which was the most frequently selected category in the data collection section. This was followed by 14 projects that included actions in mitigation activity, 11 projects that engaged in on innovation activity, 5 projects on adaptation or resilience planning, and 2 listed 'other'.

#### Carbon impact

- **Direct carbon impact**
  - Projects that were able to achieve high or medium reduction in carbon impact related to reducing waste, switching out high carbon medicines, or achieving a systemic change.
  - For projects that scored 'low/negligible impact', their limited impact was due to the limited resources available to projects, including cash, capacity, and timeline. This demonstrates the difficulty faced by small, local organisations in reducing emissions at the scale of the NHS Wales (~1,000,000 tCO<sub>2</sub>e/yr) or social care in Wales (~460,000 tCO<sub>2</sub>e/yr) baseline footprint. Small-scale projects with restricted timelines will have limited impact on carbon reduction unless they are scaled up or act as catalysts for change at national level.
- **Wider potential carbon impact**
  - Similar results are visible in the estimates of wider potential carbon impact, where only three projects selected high impact, two selected medium impact, five selected low/negligible impact, and 13 respondents selected that wider potential carbon impact was not calculated.

- Project responses suggested that greater wider potential carbon reduction impact could be achieved through extending project timescales, increasing the number of organisations and hospital sites participating, and providing projects with the resources required to carry on pursuing objectives and improving methods.
- **Overall** - most projects were not able to calculate their carbon impacts with 17 responses stating this to be the case for the direct carbon calculations and 13 responses stating this for the wider potential carbon impact. The main reasons for this were:
  - Lack of access to this information (across various organisations/people) – 4 projects.
  - No time/money or support to calculate (lack of knowledge from clinical staff) – 2 projects.
  - Not all projects had quantifiable impacts (projects related to education, setting up groups) – 11 projects.

## Value for money

- **Cash release**
  - Projects that achieved a high cash release related to material changes (reduction in nitrous oxide wastage and reducing the consumption of items).
  - No release responses highlighted that projects were mostly in an early stage and would expect that cash could be released with project scale up or calculated with more resources at a later stage.
  - Not applicable responses were due to cash release not initially being considered as a project objective.
- **Capacity release**
  - High or limited release was identified in projects that supported the freeing up of resources such as staff time or increasing efficiencies through access to resources.
  - Not applicable or no release responses were often due to this metric not being considered as part of the initial project scope or funding brief.
- **Cost avoidance**
  - Costs were avoided in projects that facilitated action on meeting legal requirements or streamlined educational resources.
  - No avoidance was chosen when projects did not aim for financial savings as part of the goal, or it was expected that there may be potential to avoid costs in the future but not over the duration of the project.
  - Similar responses to no avoidance suggest that a further distinction could be made between no avoidance and not applicable.

## Organisational impact

- **Extent of alignment with strategy/policy**
  - Most responses indicated that their projects closely align, referencing the 'Environment Act'; 'NHS Decarbonisation Strategic Delivery Plan'; the 'Well-being of Future Generations Act'; organisational 'Decarbonisation Action Plans', or Net Zero Reporting requirements.
  - This result is encouraging, but is also expected, as the initial bids were assessed against their strategic alignment during the initial funding allocation stage.
- **Scalability**
  - Projects that have high scalability with minimal barriers have the potential to spread to multiple organisations, with existing positive impacts, and have access to or do not require further material resources.
  - Most respondents felt that there were some known barriers, which largely consisted of access to finance, experts, and barriers around integrating the project into wider sustainability infrastructure as it would need involvement from other organisations, cities, or regions. It will be key to ensure that local organisations are enabled to help integrate their projects with wider NHS structures.
- **Engagement potential**
  - All responses indicated that their projects have high or some potential to increase engagement with the decarbonisation agenda across the wider health and social care sector.
  - Respondents described the wider community of organisations they engaged with and who the work could be relevant to in the future.
- **Delivering on sustainable clinical practice**
  - Most projects noted a positive correlation between delivering on environmental goals and achieving better patient outcomes.
  - For projects that noted limited delivery or were not applicable, project teams were not connected to patients in their work or had focused on environmental outcomes more than measurable clinical improvements.
  - Some projects did not have access to the information they needed to respond.

## Future improvements

The discussion with Programme stakeholders and feedback from survey responses are summarised into the following key points and considerations for immediate future improvements.

### **Capture process improvements**

For future rounds, lessons on successful strategies that created strong collaboration, communication, and coordination among project stakeholders could be collated for future project leads. It was noted that project success sometimes relied on enthusiastic volunteers or individuals, which suggests improvements are needed to ensure institutional support for tackling climate change. There is potential to expand the evaluation process in a way that better supports project leads to capture improvements and incorporate feedback into organisational changes.

### **Integrate the evaluation process into the whole fund lifecycle**

Feedback from the evaluation demonstrates that there is a need for both top down and bottom-up approaches to further shape the evaluation process. Project leads would have benefitted from clearer criteria at the outset of what would be evaluated to ensure they track the necessary metrics. Nevertheless, it was recognised that the fund allowed flexibility and took on feedback from grassroots organisations, who would be best placed to identify what evaluation criteria are needed to demonstrate progress in their project areas. Integrating the evaluation process into the whole fund lifecycle would allow project leads to discuss evaluation approaches, while also allowing an opportunity to agree on what data will be most meaningful to measure progress and success.

### **Incorporate adaptive management**

It was recognised that projects often require adjustments and contain learnings along the way. The evaluation toolkit could include mechanisms for capturing lessons learned and making necessary adaptations. This could involve regular feedback sessions, evaluation checkpoints, and documentation of project adjustments to improve future implementation.

### **Iterative development**

Following this initial round of development, it would be beneficial for the toolkit to undergo further iteration, taking feedback from project leads into account. Iterations should be underpinned by climate science as this helps decision makers prioritise critical areas for action by identifying high-emission sectors and vulnerable activities. This may support effective allocation of resources and targeted efforts in addressing climate challenges. Another improvement would be to further discuss the terminology and evolving explanations of the evaluation criteria. For example, project leads interpreted the meaning of multiple-choice answers differently where subjective wording such as 'limited' or 'partial' was used. This means that RAG ratings could differ depending on who fills in the survey.

### **Include third party or neutral evaluators and integrate into existing evaluation processes**

WG may wish to increase the rigour of the assessment by introducing a second round of evaluations from a neutral evaluator in addition to the self-assessment process undertaken this round. There was also feedback suggesting that the evaluation process could be aligned with existing processes in place within some organisations.

## **Digitalisation**

In line with common evaluation approaches used at local level, creating an online evaluation platform may increase efficiencies so that data can be captured and analysed digitally at any stage of the project. Improving digital processes may enable the evaluation to be more accessible, e.g., by third-party evaluators.

## **Further considerations for future development**

The development of the evaluation toolkit has offered an opportunity to assess projects consistently against common criteria. The feedback on the toolkit has demonstrated that, whilst ambition and commitment are high, measuring impact in quantifiable and meaningful ways is challenging. This evaluation tool should be considered a first iteration and we would encourage further feedback and consideration of:

- What is the most effective way of prioritising projects to receive funding? What metrics should be used?
- How can the diversity of NHS and social care organisations and projects be reflected in project selection and evaluation?
- How can findings from the funded projects be scaled up? For example, the NHS Executive Financial and Planning Delivery Unit in the NHS is working on 'VAULT'. This work is being developed in collaboration with the Programme Team and is a scheme that gathers information on projects that could be spread and scaled across NHS Wales, with a focus on environmentally friendly schemes that may deliver on value for money objectives. Further exploration is needed to determine how this evaluation can be used to identify small to medium scale initiatives that may become linked to other schemes and build on each other.
- How can learnings from the 2022/23 funding round be actively shared between organisations so that the project reach can increase, possibly creating a catalytic effect through engagement activities?
- How should this evaluation toolkit interact and align with an organisation's existing evaluation processes?
- Can the evaluation be a springboard to further action and collaboration opportunities between organisations that may wish to discuss common challenges and successes?
- How can the evaluation process continue to focus on outcomes that identify the impact of projects on sustainability goals?
- How can future project leads get the necessary support and resource to implement and sustain change, for example, through greater system leadership?

# Appendix A: Evaluation toolkit questionnaire

This evaluation tool has been created to help project leads capture learnings from their projects that can help inform the development of future projects. The tool particularly seeks to explore what types of projects are most effective in delivering different types of carbon reduction.

## A.1. About your project

### Basic Input and Activity Monitoring

Section A.1 'About your project' aims to understand the basic context of the project through a data collection exercise and does not have any impact on how the project is evaluated. This information could help inform the design of future projects by establishing the reasoning behind a project's implementation.

#### A.1.1. Project name and organisation

.....

#### A.1.2. What priority areas does your project target?

The following priority areas were laid out in the Net zero carbon status by 2030: A route map for decarbonisation across the Welsh public sector, which is accessible online [here](#). Please tick all the emission areas that your project tackles or intends to tackle.

- Buildings (e.g. electricity, heating fuel, water)
- Fleet and other assets
- Business travel, commuting, homeworking
- Land use
- Waste

- Supply chain
- Renewables
- Other (please state) .....

**A.1.3. Which of the following statements best describes your project?**

Supporting the process of decarbonisation will require a range of actions acting across different areas. Please indicate which of the following areas your project is active in. If the project delivers actions in more than one area, please indicate this.

- Communication, engagement, or behavioural change
- Decarbonisation or mitigation activity, including supporting the implementation of organisation-level Decarbonisation Action Plans
- Adaptation or resilience planning activity, including supporting the implementation of organisation-level Adaptation Action Plans
- Innovation activity, including supporting grass-roots initiatives (for example activities led by ‘Green Groups’ within organisations)
- Other (please state) .....

**A.1.4. Which carbon footprint does this project impact?**

It is important to understand how the project may contribute to reducing emissions according to an established baseline. One or several of the following footprints are expected to be relevant.

- [NHS Wales](#) (~1,000,000 tCO<sub>2</sub>e/yr)
- [Social care in Wales](#) (~460,000 tCO<sub>2</sub>e/yr)

Primary care (currently not estimated in the NHS Wales or Social Care footprint)

Please include an explanation in the box below of how your project relates to primary care and how it is outside the scope of the NHS Wales and Social care in Wales footprint.

None of the above

.....

Please include an explanation of how your project is outside of the scope of the NHS Wales, Social care in Wales footprint and primary care.

### Explanation

### A.15. What stage is your project at?

Projects will have been at different stages in their development when they received funding. Please indicate what stage your project has now reached.

Concept stage – your project assessed feasibility for your organisation

Early stage – your project had not previously existed in your organisation

Developed stage – the activity had previously existed, and your project increased the scale, pace or impact of the activity



**Comments (optional)**

## A.2. Measuring success

Section A.2 applies the evaluation tool, which uses a red, amber, green (RAG) framework to evaluate the project across three categories: **Carbon Reduction**, **Value for Money**, and **Organisational Impact**. These categories will have varying levels of relevance across different projects. For each applicable question, please indicate the project's impact.

### A.2.1 Carbon reduction

#### Carbon impact calculation method

For each project, we would like to understand both the direct carbon impact, and the wider potential for carbon impact (e.g. if this project is replicated / scaled up in future), quantified in tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e) - even if this is just an estimate.

If the project does not have an existing carbon impact calculation, [the Welsh public sector carbon reporting methodology and spreadsheet](#) can be used to give an estimate.

Note: the Welsh public sector carbon reporting methodology and spreadsheet are designed for completion by entire organisations for a whole year of data, so a modified approach will be necessary to assess the carbon impact of an individual project.

Before starting your carbon impact calculation, please consider:

- Indicators / metrics relating to the project
- Emissions categories influenced by the project
- Other interacting changes in the organisation that may impact the indicators / metrics, and accuracy or even the appropriateness of calculating the carbon impact
- Timescales of the project i.e. whether a pro-rata approach is required where less than a year's worth of data is available

If you are using the [public sector net-zero carbon reporting spreadsheet](#):

- You do not need to complete the 'Introduction' tab.
- Choose the relevant tab for your project type:
  - Buildings, fleet & other assets
  - Business travel, commute, home
  - Land use
  - Waste

- Supply chain
- Renewables
- Identify all the emission sources influenced by the project.
- Follow the methodology to carry out a calculation based on the available indicators / metrics available to align with the spreadsheet inputs.

**To calculate the direct carbon impact:**

- Complete an entry (line in the spreadsheet) for each emissions source to calculate the carbon footprint before the project was initiated, over one year.
- Complete an entry (line in the spreadsheet) for each emissions source to calculate the carbon footprint after the project was initiated, over one year.
- Subtract the carbon footprint after the project from the carbon footprint before the project, to determine the carbon impact over one year.
- This result will be in kgCO<sub>2</sub>e – in order to understand the comparison against your selected baseline, convert this number into tCO<sub>2</sub>e:
  - $\text{kgCO}_2\text{e}/1000 = \text{tCO}_2\text{e}$ .

**To calculate the wider potential carbon impact:**

- Using the data captured, please estimate the effect that scaling your project up might have e.g., if you have replaced a certain number of halogen bulbs with energy efficient solutions, please estimate the impact of replacing more bulbs.
- Record the key assumptions you have made in this calculation i.e., to what extent the project has been scaled up, how many times it has been replicated etc.

**2.1.1. What was the direct carbon impact of your project over one year?**

If your project targeted direct carbon reduction, please indicate to what degree this was accomplished in relation to the relevant carbon footprint (NHS Wales or social care in Wales; if primary care, please consider if there is data from your organisation).

Divide your project’s direct carbon impact (see calculation above) by the relevant carbon footprint to estimate the percentage reduction in carbon achieved:

High impact (0.5 - 3.0% footprint reduction)

- Medium impact (up to 0.5% footprint reduction)
- Low / negligible impact
- Carbon impact not calculated (please state reason) .....

**Justification**

**2.1.2 What is the wider potential carbon impact of your project over one year (e.g. if this project is replicated / scaled up in future - please state key assumptions)?**

Please judge the extent to which the project enables the potential for reducing carbon emissions in the desired target area.

Divide your project's wider potential carbon impact (see calculation above) by the relevant carbon footprint to estimate the percentage reduction in carbon possible:

- High impact (0.5 - 3.0% footprint reduction)
- Medium impact (up to 0.5% footprint reduction)
- Low / negligible impact
- Carbon impact not calculated (please give reason)

**Justification**

**A.2.2. Value for money**

**2.2.1 To what extent did your project release cash?**

Please assess the extent to which the project released cash. If your project released cash, please also note how much cash was released.

- High release – cash released was greater than the cost of your project (amount released) .....
- Limited release – cash released was the same as or less than the cost of your project (amount released) .....
- No release – no cash was released by your project
- Not applicable (please give reason) .....

**Explanation**

**2.2.2 To what extent did your project release capacity?**

Please mark below the extent to which your project released capacity.

- High release – capacity released was greater than the capacity invested in your project
- Limited release – capacity released was the same as or less than the capacity invested in your project
- No release – no capacity was released by your project
- Not applicable (please give reason) .....

**Explanation**

**2.2.3 To what extent did your project avoid costs?**

Please mark below the extent to which your project avoided costs.

- High avoidance – costs avoided were greater than the cost of your project
- Limited avoidance – cost avoided were the same as or less than the cost of your project
- No avoidance – no costs were avoided by your project
- Not applicable (please give reason) .....

## Explanation

### A.2.3. Organisational impact

#### 2.3.1 How closely does your project align with a relevant strategy / policy?

This question asks how your project fits into the wider decarbonisation strategies such as: [NHS Wales Decarbonisation Strategic Delivery Plan](#); [Decarbonising Social Care in Wales](#); [Greener Primary Care Framework Wales](#); your organisation's decarbonisation / climate change strategy. There may be other strategies or policies, so please indicate which strategies your project aligns with. If your project does not connect to a strategy, please select 'limited alignment' or 'not applicable' depending on the project outcomes.

- Close alignment (please reference the specific strategic / policy area that your project closely aligns with)  
.....
- Partial alignment (please reference the specific strategic / policy area that your project partially aligns with)  
.....
- Limited alignment (please give reason) .....
- Not applicable (please give reason) .....



**2.3.2 How readily scalable is your project, either across your own organisation or the wider health and social care sector?**

The goal of this question is to identify potential opportunities to expand projects across the health and social care sector.

**Highly scalable** is defined as easily and efficiently expanded or replicated on a larger scale, with very few obstacles or challenges expected.

**Partially scalable** is defined as having the potential to be expanded or replicated on a larger scale, but it is expected to face some known obstacles or challenges that could limit its scalability. These barriers could include things like resource constraints, limited funds, or organisational barriers.

**Limited scalability** is defined as having little potential to be expanded or replicated on a larger scale due to significant obstacles or challenges. These barriers could include things like high costs or lack of resource, which make scaling up unfeasible.

Please indicate the extent to which your project is scalable.

- Highly scalable, with minimal barriers (please describe) .....
- Partially scalable, some known barriers (please describe) .....
- Limited scalability, significant barriers (please give reason) .....
- Not applicable (please give reason) .....

**2.3.3 What is the potential for this project to increase engagement with the decarbonisation / climate change agenda across your organisation or the wider health and social care sector?**

The goal of this question is to understand your project’s engagement goals.

**High potential** is defined as engaging more than one large audience group, e.g. hospital staff and patients.

**Some potential** is defined as engaging only one audience group, e.g. local grassroots organisations.

**Limited potential** is defined as engaging no groups beyond the project team.

- High potential, your project engages a broad audience beyond your immediate project team (please describe) .....

- Some potential, your project engages an audience beyond your immediate project team (please describe) .....
- Limited potential, your project is unlikely to increase engagement beyond your immediate project team (please give reason) .....
- Not applicable (please give reason) .....

### 2.3.4. To what extent does your project deliver on the principles of sustainable clinical practice?

This question seeks to assess how the project facilitates better patient outcomes by pursuing activities that complement patient health and environmental objectives while pursuing a reduction in the sector’s carbon footprint. According to the [Centre of Sustainable Healthcare](#), sustainable value in healthcare refers to delivering high quality care without damaging the environment that is affordable now and in the future and delivers positive social impact. Sustainable value is presented as:

$$\frac{\text{Outcome for patients and populations}}{\text{environmental+social+financial impacts (the 'triplebottom line')}} = \text{Sustainable value}$$

**Strongly delivers** is defined as the project achieving healthcare objectives that are designed and implemented in a way that minimises negative environmental impacts, reduces financial impacts and promotes positive social impacts.

**Partially delivers** is defined as implementing measures that promote sustainable value but have room for improvement, such as needing further integration into operations.

**Limited delivery** is defined as the project having little impact on promoting sustainability in healthcare delivery.

- Strongly delivers, your project can demonstrate sustainable value according to the SusQI framework, where health outcomes are delivered or even improved through minimised environmental, social, and financial impacts (please describe) .....
- Partially delivers, your project demonstrates a positive outcome for patients but may not minimise all impacts; alternatively, it may demonstrate minimised impacts but have minimal improvements to patient outcomes (please describe) .....

Limited delivery, your project delivers limited positive in change for patients, nor does it reduce impacts on the triple bottom line (please give reason)

.....

Not applicable (please give reason) .....

# Appendix B: Glossary

Key terms	Definition
<b>Direct carbon reduction</b>	The reduction of carbon emissions that can be measured as a result of the project over one year.
<b>Wider potential carbon impact</b>	The potential for reducing carbon emissions beyond the direct reduction achieved by the project, i.e., where the project could be scaled up or replicated across different departments or organisations. Where direct reduction has not been achieved, the wider carbon reduction potential could refer to the expected carbon reduction which could be enabled by the project.
<b>Cash release</b>	A cash release saving is one where the intervention delivers a physical cash saving which can be recovered and spent elsewhere. An example of a cash saving would be an intervention that results in a patient no longer requiring the use of certain resources.
<b>Capacity release</b>	A capacity release saving is one which delivers an efficiency saving. It relates to the potential for freeing up resources or improving processes as a result of a specific intervention or action. If an intervention delivers enough of a capacity release it may well eventually become a cash release saving. E.g. if the intervention stops 50% all the patients attending the ward, it may be possible to turn the saving to cash.
<b>Cost avoidance</b>	A cost avoidance scheme is one which mitigates a future cost pressure. It does not deliver a cash saving but prevents a future cash investment being required. E.g. it can be predicted today that due to growth in the elderly population we will need more care home capacity over the next few years, an intervention that allows more patients to be cared for at home may prevent this new cost pressure from materialising.
<b>Strategic alignment</b>	The extent to which the project can demonstrate alignment with broader strategic objectives, goals, or priorities. This may include alignment with sustainability targets, corporate social responsibility goals, or broader policy priorities.
<b>Scalability</b>	The potential for a specific intervention or action to be scaled up or replicated in other contexts or settings. This may include the potential for wider adoption or application of the intervention or action.
<b>Engagement potential</b>	The potential that the project has for engaging stakeholders or communities on the decarbonisation / climate change agenda. This may include opportunities for public engagement, education, or awareness-raising about sustainability issues.
<b>Sustainable healthcare</b>	According to the Centre of Sustainable Healthcare, sustainable value in healthcare refers to delivering high quality care without damaging the environment that is affordable now and in the future, and delivers positive social impact.

## Appendix C: Case study feedback and project evaluations

### 1. Case study: Ecological Study – Aneurin Bevan University Health Board (ABUHB)

#### **The problem or task that your project is aiming to accomplish:**

Lack of understanding of the current state of Biodiversity across sites, the potential opportunities available to the Health Board and understanding the scope of capital investment required in biodiversity across ABUHB sites to improve and make an impact to the environment.

#### **The objective and target outcome for your project:**

To understand the biodiversity, ecological baseline and opportunities for improvement across 5 major ABUHB sites.

To help support capital investment projects to improve ecological outcomes of wider programmes.

#### **How successful your project was in meeting its objectives and targets:**

Very successful. The reports produced surpassed the content of the original specification / scope of work. For example, identification of key species and opportunities for changing land management practices.

#### **An aspect of your project that was particularly successful:**

Content and depth of the reports. This has provided a greater understanding and information regarding key species and habitats on ABUHB sites.

#### **An aspect of your project that was most challenging:**

Issues around contract and the Service Level Agreement (SLA) with the contractor as a result of the procurement framework ABUHB & Powys Teaching Health Board (PTHB) utilised. Also, such studies are seasonal with best results likely in summer months.

#### **The most important factor that influenced the success of your project:**

The H&SC funding to initially conduct the project was key in facilitating this. Also, the tender and evaluation process in ensuring the most suitable contractor was awarded the project.

**Project evaluation – Ecological Study – ABUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated – this project seeks to inform the health board about opportunities to develop further biodiversity / ecological projects.

**Indirect carbon reduction**

Low impact – this project could be scaled up to include more health boards undertaking such studies.

**Cash release**

Not applicable – project undertaken by a consultancy practice, so not cash releasing.

**Capacity release**

Not applicable – consultancy reports were the output, developed by a third party.

**Cost avoidance**

Not applicable – there may be future opportunities that will produce savings, subject to further review e.g., reducing contract pricing for shortened mowing on sites.

**Strategic alignment**

Alignment – links to the Land Use Planning section of the Decarbonisation Strategic Delivery Plan, and relevant to the Net Zero Reporting data requirement.

**Scalability**

Partially scalable – biodiversity studies could be scalable to other health boards, as ABUHB did to collaborate with Powys Teaching Health Board.

**Engagement potential**

High potential – potential to engage with staff, patients, the public and third sector to develop and implement projects.

**Sustainable healthcare**

Limited delivery – outcomes for patients will be determined by the projects undertaken because of the recommendations made by the study report.

## **2. Case study: Clinical Fellow in Sustainability – ABUBH**

### **The problem or task that your project is aiming to accomplish:**

Mitigate against environmental impact of waste from nitrous oxide manifolds. Reduce energy consumption within theatres across the whole of the ABUHB estate.

### **The objective and target outcome for your project:**

Decommission nitrous oxide manifolds and reduce purchasing (data from the gas company 'BOC' and pharmacy).

Show a measurable reduction in energy consumption within theatres across ABUHB.

### **How successful your project was in meeting its objectives and targets:**

Nitrous oxide manifolds decommissioned in 2 sites (Royal Gwent Hospital and Nevill Hall Hospital). Working groups in place to decommission 2 other sites.

Theatre shutdown across 2 sites, with working groups and significant progress at another 2 sites.

### **An aspect of your project that was particularly successful:**

Education and wider staff engagement through ABUHB Decarbonisation Programme Board. Being the first health board in Wales to decommission the manifolds has supported wider staff engagement and ideas as well as raise awareness of the Programme and clinically led success.

### **An aspect of your project that was most challenging:**

Continued engagement with key stakeholders, interdependencies to meet the project deadlines, and sustainable funding for new equipment acquisition.

### **The most important factor that influenced the success of your project:**

Communication and engagement with services across ABUHB; the many interdependencies to make this project successful across divisions and clinical and management teams.

## Project evaluation – Clinical Fellow in Sustainability – ABUBH

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Low/negligible impact – having decommissioned 2 sites calculated savings of 301,482 kg CO<sub>2</sub>e per year. Which is less than 1% of 1,000,000 tonnes.

### Indirect carbon reduction

Low/negligible impact – potential total savings with decommissioning nitrous oxide manifold at other 2 sites is calculated at 856,494 kg CO<sub>2</sub>e per year.

### Cash release

High release – potential financial savings of £43,000 energy savings from shutting of scavenging systems out of hours, plus costs of repairing scavenging pumps.

### Capacity release

High release – free up time of portering staff and maintenance staff of a manifold that is not required. Savings of estates staff by no longer testing nitrous oxide pipelines.

### Cost avoidance

High avoidance – savings on maintenance of scavenging pumps.

### Strategic alignment

Close alignment – it fits with reduction in direct emissions by anaesthetic gases and energy use.

### Scalability

Highly scalable – this work has been undergone within health boards across Wales and the wider NHS.

### Engagement potential

High potential – these projects have been the driver for change for many other projects through staff education and training.

### Sustainable healthcare

Strongly delivers.



### **3. Case study: Let's Not Waste – Bevan Commission**

**The problem or task that your project is aiming to accomplish:**

Reduce inappropriate waste across health and care.

**The objective and target outcome for your project:**

Increase awareness of waste in health and care, inspires culture change among professionals and wider community. Reduce waste across key domains, medication, single use plastic, etc.

**How successful your project was in meeting its objectives and targets:**

Too early to comment, project just moving into implementation phase.

**An aspect of your project that was particularly successful:**

Too early to comment, project just moving into implementation phase.

**An aspect of your project that was most challenging:**

Too early to comment, project just moving into implementation phase.

**The most important factor that influenced the success of your project:**

Too early to comment, project just moving into implementation phase.

**Project evaluation – Let’s Not Waste – Bevan Commission**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated – due to project being in first stage, planning and preparation.

**Indirect carbon reduction**

Low/negligible impact – this is based on current expected outcomes.

**Cash release**

Not applicable – due to project stage, being in early planning and preparation stage.

**Capacity release**

Not applicable – due to project stage, being in early planning and preparation stage.

**Cost avoidance**

Not applicable – due to project stage, being in early planning and preparation stage.

**Strategic alignment**

Partial alignment – related to Decarb plan, initiatives 39, 44, and 45.

**Scalability**

Not applicable – too early in project to determine.

**Engagement potential**

Some potential – project aims to have impact across H&SC.

**Sustainable healthcare**

Partially delivers – project aims to have impact across H&SC.

#### **4. Case study: Air Quality Project – Cardiff and Vale University Health Board (CAVUHB)**

**The problem or task that your project is aiming to accomplish:**

The Project Team has indicated they will contribute to a case study once the monitoring is complete and the team have engaged with the organisation and key stakeholders with the findings.

**The objective and target outcome for your project:**

As above.

**How successful your project was in meeting its objectives and targets:**

As above.

**An aspect of your project that was particularly successful:**

As above.

**An aspect of your project that was most challenging:**

As above.

**The most important factor that influenced the success of your project:**

As above.

## Project evaluation – Air Quality Project – CAVUHB

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Not calculated - we are currently in the initial data gathering stage, to understand air quality. The intention is that this will have impacts on travel planning within the organisation, which will reduce CO2 emissions.

### Indirect carbon reduction

Not calculated - as above, this has not been formally calculated yet as it will depend on the interventions proposed.

### Cash release

No release – not intended to be cash releasing.

### Capacity release

No release – not intended to release capacity.

### Cost avoidance

No avoidance – not intended to avoid costs - though if subsequent action improves air quality on site then there will be eventual costs released through reduced illness.

### Strategic alignment

Partial alignment – modal shift is a key part of the NHS Wales Decarb strategic delivery plan.

### Scalability

Partially scalable – measuring NO2 through diffusion tubes is relatively straightforward and cheap; however, interpreting the and acting on the data correctly is complex.

### Engagement potential

High potential – if communicated effectively, knowledge of air quality on hospital sites has the potential to engage a number of different audiences in understanding the impact of transport behaviour on the environment.

### Sustainable healthcare

Strongly delivers – air pollution is a known risk factor for illness, distributed unequally, so this has the potential to improve environmental and social outcomes as well as outcomes for patients and populations.

## 5. Case study: Clinical leadership for decarbonisation and sustainability - CAVUHB

### **The problem or task that your project is aiming to accomplish:**

Create clinical leadership within sustainable healthcare in CAV and beyond.

### **The objective and target outcome for your project:**

Grow, develop and begin the embedding of sustainable healthcare into healthcare values and daily life.

### **How successful your project was in meeting its objectives and targets:**

The organisation has committed to funding this post internally moving forwards.

The role has long term objectives that cannot be solved in within 1 year, so the project lead is hugely encouraged that the UHB are investing in these longer-term roles.

### **An aspect of your project that was particularly successful:**

Widening of the walking aids amnesty. Creation of sustainability agenda within monthly therapies leadership meetings.

### **An aspect of your project that was most challenging:**

Lack of time. This could easily be a full-time role. The project only had the equivalent of 1/7 to meet with people to create relationships and then drive work forward, which results in slow progress.

### **The most important factor that influenced the success of your project:**

Creating relationships and trust with people.

**Project evaluation - Clinical lead for decarbonisation and sustainability - CAVUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated - focused on leadership within the organisation.

**Indirect carbon reduction**

Not calculated - focused on strategy and future planning.

**Cash release**

Not applicable.

**Capacity release**

High release – senior staff have taken the lead to invest in this role with the organisation and to also invest in a full-time clinical leadership fellow.

**Cost avoidance**

No avoidance.

**Strategic alignment**

Close alignment - Audit Wales decarbonisation public sector, NHS Wales decarbonisation plan, CAV sustainability plan.

**Scalability**

Highly scalable - could readily re-create the organisational structure within CAV and then create networks which help feed Green Health Wales network.

**Engagement potential**

High potential - the project team could readily re-create the organisational structure within CAV to other health boards and then create networks amongst the leads for each area and create nodal points which help feed Green Health Wales network too.

**Sustainable healthcare**

Strongly delivers - sustainable value is at the heart of everything.

## 6. Case study: Nitrous Oxide and Entonox Reduction - CAVUHB

### **The problem or task that your project is aiming to accomplish:**

In Cardiff and Vale UHB, The Nitrous Oxide Project has worked to reduce the Health Board's nitrous oxide consumption and will save around 1 million litres of nitrous oxide per year, equivalent of 535 tonnes of CO<sub>2</sub>. CAVUHB's aim is to spread this across Wales and ensure a culture shift away from N<sub>2</sub>O use.

### **The objective and target outcome for your project:**

To reduce the use of nitrous oxide via an alternative delivery method i.e. smaller cylinders. Entonox to introduce new 'cracking' technology.

### **How successful your project was in meeting its objectives and targets:**

We closed two nitrous oxide manifolds and this year decommissioning two remaining ones this financial year. One Entonox manifold is to close this year and the cracking technology is adopted on a trial basis in maternity.

### **An aspect of your project that was particularly successful:**

The engagement of all teams and the joint aim to reduce emissions and the patient feedback is the 'cracking' technology is positive and strongly aligns with patient values.

### **An aspect of your project that was most challenging:**

Time of staff within the project.

### **The most important factor that influenced the success of your project:**

Clinical leadership and funded clinical time.

## Project evaluation - Nitrous Oxide and Entonox Reduction - CAVUHB

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Not calculated – measuring Entonox release is not possible. Nitrous oxide: the project team have reduced deliveries of large cylinders therefore a reduction in use.

### Indirect carbon reduction

Medium impact – to be monitored as two nitrous oxide manifolds have closed two will follow. Work has been

undertaken to stop Entonox pipeline leaks. This could potentially be a 70% reduction but needs clarifying.

### Cash release

Limited release – reduction in gas cylinder rental.

### Capacity release

Not applicable – no time saved through project.

### Cost avoidance

Limited avoidance – reduction in gas purchase and waste.

### Strategic alignment

Close alignment – net zero unachievable unless this work is undertaken.

### Scalability

Highly scalable – barrier is time capacity, but all agreed that this is way forward.

### Engagement potential

High potential – this project was at the forefront on the agenda and now other projects been identified - sustainable healthcare culture being adopted and promoted.

### Sustainable healthcare

Strongly delivers – meets all the criteria - social, environmental, and financial benefits (no cost to project resource).



## **7. Case study: Reusable speculums - CAVUHB**

### **The problem or task that your project is aiming to accomplish:**

This project aimed to embrace the principles of a circular economy which is vital in sustainable healthcare by reducing the use of single-use plastic devices in exchange for reusable metal ones.

### **The objective and target outcome for your project:**

This project's target outcome was to reduce the carbon footprint associated with single use plastic specula as well as reducing waste streams whilst maintaining good clinical care.

### **How successful your project was in meeting its objectives and targets:**

The project has resulted in a reduction in greenhouse gas generation whilst maintaining or improving staff and patient experience and reducing plastic waste production.

### **An aspect of your project that was particularly successful:**

The implementation of the project has been met with good feedback from patients and staff and the change has been embraced by the service.

### **An aspect of your project that was most challenging:**

The major challenges were purchasing the metal specula with regards to costs and procurement challenges, and the logistics of implementing the change with regards to sterilisation and changing internal procedures.

### **The most important factor that influenced the success of your project:**

Good communication with clinicians and patients as to the reasons for the change and gathering feedback through implementation from both groups has helped the project be a success.

## Project evaluation – Reusable speculums - CAVUHB

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Low/negligible impact - estimated carbon impact of this change over 1 year is 1.5 tCO<sub>2</sub>e, which corresponds to a negligible % of the total NHS CO<sub>2</sub>e.

### Indirect carbon reduction

Low/negligible - even if this project were scaled up to include all specula used within the organisation, this would still have a negligible impact on the overall NHS footprint.

### Cash release

Limited release - cash is released by the decreased need to purchase single use plastic specula. However, the cost of this is balanced out by the increased cost of sterilisation of reusable specula.

### Capacity release

No release.

### Cost avoidance

Not applicable – no costs were avoided by this project.

### Strategic alignment

Limited alignment - this project aligns with the activity stream of decarbonising procurement, with a focus on the supply chain for medical devices.

### Scalability

Partially scalable - the main barriers are upfront costs of purchasing reusable instruments and logistical barriers with regards to sterilisation.

### Engagement potential

Some potential - this project is engaging for all areas that utilise single use plastic specula and other medical devices in the organisation.

### Sustainable healthcare

Partially delivers - this project delivers on reducing the environmental impacts, with minimal improvement in patient outcomes or reduction in financial and social impacts.

## 8. Case study: The Green Health Wales Network - CAVUHB

### The problem or task that your project is aiming to accomplish:

With prominent levels of workforce burnout, long waiting times for patients, financial burden and the delivery of healthcare negatively contributing to the climate and ecological emergency, the current model of the NHS is unsustainable. The aim of Green Health Wales (GHW) is to assist the transformation of healthcare through the lens of planetary health.

### The objective and target outcome for your project:

Gaining vital tacit knowledge through the development of intrinsic networks within the NHS, connecting with extrinsic networks and organisations, we aim to embed the concept of sustainable value into business as usual, contributing greatly towards the NHS Wales decarbonisation targets.

The target outcome is to create an umbrella network to enable advocacy and action on decarbonisation, to transform the delivery of healthcare to be climate smart.

### How successful your project was in meeting its objectives and targets:

We were able to further develop networks, develop a new website and the GHW's communication/engagement strategy will soon commence. We have been able to collate a wide variety of decarbonisation and transformation projects to showcase and bring multidisciplinary teams together via the formation of health board green groups.

### An aspect of your project that was particularly successful:

The GHW Network has been able to demonstrate leadership in sustainable healthcare.

### An aspect of your project that was most challenging:

The time scale of 6 months was very short and with very limited paid staff. Much work is still being achieved on good will alone and this is unsustainable moving forward.

Specifically, challenges include no administrative staff, meaning that senior clinical staff were completing administrative roles, which is not the best use of their skills.

### The most important factor that influenced the success of your project:

Sheer passion, determination and core values of the staff undertaking these novel roles. An enormous thank you to them and to the support of the CAVUHB strategy team and the Dragons Heart Institute.

## Project evaluation – The Green Health Wales Network – CAVUHB

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Carbon impact not calculated.

### Indirect carbon reduction

High impact - Green Health Wales' reach is vast. If managed properly GHW could achieve outstanding results.

### Cash release

No release - GHW work has been focused on social movement and a culture change. With large culture shift will come significant savings.

### Capacity release

Limited release - GHW is an entirely new project with huge scope to scale decarbonisation efforts but also enormous opportunity to empower and escalate adaptation efforts.

### Cost avoidance

No avoidance - this would come with scaling projects. The GHW project shares case studies and information, saving time, effort and funding for all health boards when implementing similar aims.

### Strategic alignment

Close alignment - aligns with the NHS decarbonisation strategy and health programme boards' aims, the Future Generations Act, Welsh audit office and CAVUHB sustainability action plan.

### Scalability

Partially scalable - main barrier is financial. If the team had the funding, then they feel GHW would be an igniting force for sustainable healthcare nationally and as a replicable model internationally.

### Engagement potential

High potential - GHW is an entirely new project with huge scope to spread and scale decarbonisation and adaptation efforts.

### Sustainable healthcare

Strongly delivers.

## **9. Project title and organisation: Developing Sustainable Innovation - Cwm Taf Morgannwg University Health Board (CTMUHB)**

### **The problem or task that your project is aiming to accomplish:**

Developing a series of projects to increase sustainability through 6 Green Scholars.

### **The objective and target outcome for your project:**

The 6 projects had separate objectives and outcomes. Projects focused on: inhaler use; food waste; cardboard recycling; adaption planning; active travel and office based biopsy clinic.

### **How successful your project was in meeting its objectives and targets:**

Successful – wide variety of projects delivered, and learning will inform future decarbonisation work.

### **An aspect of your project that was particularly successful:**

This programme has overseen the development of six scholars in a wide variety of healthcare settings. Whilst most scholars are still to complete the full PDSA cycle as the programme ends, there is commitment by these individuals to do so and to share their learning. Protected time was seen as a key contributor to scholar progress.

### **An aspect of your project that was most challenging:**

Timescales to deliver the projects.

### **The most important factor that influenced the success of your project:**

The extent to which they were able to apply all their learning and deliver a full PDSA cycle has been a challenge within the 6 months, but each scholar has plans to develop the work after the programme came to an end.

**Project evaluation – Developing Sustainable Innovation - CTMUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Across some, but not all projects.

**Indirect carbon reduction**

Across some, but not all projects.

**Cash release**

Across some, but not all projects.

**Capacity release**

Not applicable.

**Cost avoidance**

Across some, but not all projects.

**Strategic alignment**

Partial alignment - inhaler, education and waste management are all included within the CTMUHB decarbonisation plans.

**Scalability**

Partially scalable – cardboard waste; barriers will include existing contracts in place with disposable firms.

Active travel - engagement with multi agency partners in the Public Service Board.

Food - staff education.

Inhalers - staff capacity / staff education.

Ears, Notes and Throat - change management.

**Engagement potential**

High potential.

**Sustainable healthcare**

Strongly delivers.

## 10. Case study: Educational Resource Development - CTMUHB

### **The problem or task that your project is aiming to accomplish:**

This project aims to raise awareness of climate change across NHS Wales and provide staff with an understanding of the role we all play in protecting the environment for future generations.

### **The objective and target outcome for your project:**

Ultimately, the target outcome for this project is to evidence a raised awareness of the climate change/ decarbonisation agenda across NHS Wales. To do this, we aim for a large portion of NHS Wales staff to complete the module via ESR.

### **How successful your project was in meeting its objectives and targets:**

In terms of the educational resource itself, anecdotal feedback from the working group and other Health Boards/ trusts demonstrates that the module effectively meets the objective of providing an engaging tool to raise awareness of climate change/ decarbonisation.

### **An aspect of your project that was particularly successful:**

This project has demonstrated an approach for developing educational materials in collaboration with other stakeholders and NHS organisations to create a final product that not only aligns with wider policies and best practice, but also with specific policies within other organisations.

### **An aspect of your project that was most challenging:**

The biggest challenge followed the design and launch of the module. Across NHS Wales, staff are under pressure to complete their Core Learning (statutory/ mandatory training) and many if not all Health Boards / Trusts struggle to hit their targets. As this module rightly sits outside of the core subjects that staff have to legally complete, we rely on staff being proactive and interested in the subject in order to complete the learning.

### **The most important factor that influenced the success of your project:**

The most important factor has been the project lead's ability to use this project as a means to creating a unified and innovative approach to educating an entire system on the climate change/ decarbonisation agenda.

**Project evaluation – Educational Resource Development - CTMUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated – as this is an educational resource, it is impossible to calculate the direct carbon impact.

**Indirect carbon reduction**

Not calculated – as per the above comments and due to the nature of this project, it is not possible to calculate this.

**Cash release**

Not applicable – as per the above comments and due to the nature of this project, it is not possible to calculate this.

**Capacity release**

Not applicable – as per the above comments and due to the nature of this project, it is not possible to calculate this.

**Cost avoidance**

Not applicable – as per the above comments and due to the nature of this project, it is not possible to calculate this.

**Strategic alignment**

Close alignment – the module is designed to align directly with both local and national strategy/policy.

**Scalability**

Highly scalable – this project is being scaled across NHS Wales with the delivery of replicated modules specific to each Health Board/ Trust. With some amendments, this could also be scaled out to the wider system.

**Engagement potential**

High potential – as an educational resource, this project is designed specifically to engage all NHS staff in the decarbonisation/ climate change agenda.

**Sustainable healthcare**

Not applicable - due to the nature of this project, it is not possible to calculate this accurately, although the project may indirectly impact patient outcomes in the longer term.



## 11. Case study: 'Faculty of Sustainable Healthcare' – Health Education and Improvement Wales (HEIW)

### The problem or task that your project is aiming to accomplish:

To undertake early action to support the longer-term development of a Welsh Faculty of Sustainable Healthcare. The purpose of the faculty is to embed the latest decarbonisation knowledge and research into healthcare leadership, practice, training and education, supporting a Welsh approach to Sustainable Healthcare.

### The objective and target outcome for your project:

The key objectives of the Faculty of Sustainable Healthcare are to:

- Establish a faculty of sustainability champions (agents of change) who can work across Wales and professions and on behalf of HEIW to share best practice, support local teaching and awareness raising and collate case studies from within both operational settings and clinical training settings.
- Develop education programmes and packages to promote and highlight best practice for sustainable healthcare across Wales.
- Develop a wider network of sustainability champions across Wales to share best practice and case study examples within the region.
- Embed sustainable practice within students, trainees and trainers and establish Wales as a leader in sustainable healthcare provision.

### How successful your project was in meeting its objectives and targets:

Some objectives were delivered, others are in ongoing development. Project lead provided greater detail in questionnaire response.

### An aspect of your project that was particularly successful:

The number of expressions of interest exceeded expectations; the target was to train 35 champions, but to date (24/5/2023), HEIW has received 166 expressions of interest and trained 71 champions.

### An aspect of your project that was most challenging:

Initial scoping for a Welsh Faculty of Sustainable Healthcare proved insufficient for HEIW to determine an appropriate model of delivery and this work is now in its second phase, with further work being undertaken by a Sustainability Fellow from April 2023 (0.2 FTE for two years).

### The most important factor that influenced the success of your project:

While attendance is voluntary, anecdotal feedback is that the course content is significantly compelling and, again anecdotally, we understand that attendees have been expressing this in feedback to employers and networks.

## Project evaluation – ‘Faculty of Sustainable Healthcare’ – HEIW

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Not calculated - the project is concerned with providing climate-smart education to staff across NHS Wales. It is intended to motivate staff to change their behaviour and take action to deliver healthcare in a sustainable way.

### Indirect carbon reduction

Not calculated.

### Cash release

Not applicable – focus was behaviour change.

### Capacity release

Not applicable – capacity could be released as a result of future innovation due to increased knowledge and understanding of the issues delivered via education.

### Cost avoidance

Not applicable – in the same way as capacity.

### Strategic alignment

Partial alignment – the project partially aligns with the NHS Wales Decarbonisation Strategic Delivery Plan (Initiative 39). The nature of the offering has not yet been fully determined across projects focusing on carbon literacy.

### Scalability

Partially scalable – the project has the potential to be expanded or replicated on a large scale. The main barrier associated with establishing a network of trainers is trainers having time available in existing roles to deliver the training on a regular basis.

### Engagement potential

High potential – the ‘Introduction to Sustainable Healthcare’ course has been made available to all staff in NHS Wales and has been promoted by HEIW internally.

### Sustainable healthcare

While the project itself does not directly deliver sustainable healthcare, hence, not applicable was selected, the content of the training is focused on practical delivery of sustainable healthcare.

## **12. Case study: Centre for Sustainable Healthcare Sustainability Fellowship within Value-Based Health Care – Hywel Dda University Health Board (H DUHB)**

### **The problem or task that your project is aiming to accomplish:**

Embed sustainability and decarbonisation into the Value-Based Health Care (VBHC) process to ensure that the consideration of how resources are utilised includes the environmental as well as social and financial impact.

### **The objective and target outcome for your project:**

To evaluate proposed service change through an educational programme using sustainability and decarbonisation as a key element. To consider the development of an evaluation toolkit to enable this form of evaluation to be undertaken more routinely.

### **How successful your project was in meeting its objectives and targets:**

In evaluating the projects through the VBHC Advanced Practitioner Programme, the project has been successful, however work remains to develop consistent evaluation toolkits to use prospectively.

### **An aspect of your project that was particularly successful:**

The application of this approach to multiple projects in an educational setting.

### **An aspect of your project that was most challenging:**

The amount of time required for the Sustainability Fellow to undertake the required training courses alongside other work commitments.

### **The most important factor that influenced the success of your project:**

Collaborative working with the Centre for Sustainable Healthcare, the National Value in Health Team and the local Value Based Health Care Team.

**Project evaluation – Centre for Sustainable Healthcare Sustainability Fellowship within Value-Based Health Care – HDUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated - work was designed to embed sustainable measurement and consideration at all stages of a range of Value Based Health Care projects and initiatives.

**Indirect carbon reduction**

Medium impact - approaches are being used in many priority service areas.

**Cash release**

Not applicable - in considering service change, both cash and non-cash releasing savings are considered along with sustainability and outcomes that are important to patients.

**Capacity release**

Not applicable – same as above.

**Cost avoidance**

Not applicable – same as above.

**Strategic alignment**

Close alignment – directly applicable to NHS Wales Decarbonisation Strategy and Hywel Dda University Health Board Decarbonisation Delivery Plan.

**Scalability**

Partially scalable – some tension may exist between the sustainability of services and the outcomes that are important to patients.

**Engagement potential**

High potential.

**Sustainable healthcare**

Partially delivers – while the triple bottom line is understood in principle, the focus on resources (financial and human) consumed in providing outcomes for patients and populations may still overshadow the environmental and social impacts.

### **13. Case study: Biodiversity Enhancement & Protection – Powys Teaching Health Board (PTHB)**

#### **The problem or task that your project is aiming to accomplish:**

In support of delivering against biodiversity resilience commitments, PTHB have engaged a specialist consultant for the surveying, evaluation and reporting of biodiversity enhancements and protection across a number of hospital sites.

#### **The objective and target outcome for your project:**

To provide objective expert advice for the best match of enhancing biodiversity and green environment for patients and staff whilst maintaining safe habitats for wildlife and not negatively impacting operational duties within a healthcare environment.

#### **How successful your project was in meeting its objectives and targets:**

The project has fully met the brief for the commissioned work.

#### **An aspect of your project that was particularly successful:**

The level of detail conducted in the assessment and evaluation phase of the project which has been very well illustrated in a series of drawings which plot out the best areas for improvement and conservation.

#### **An aspect of your project that was most challenging:**

Obtaining procurement and governance signatories on project.

#### **The most important factor that influenced the success of your project:**

Competence and technical capabilities and manpower available to draw on by the selected contractor, Mott MacDonald.

**Project evaluation - Biodiversity Enhancement & Protection - PTHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Low/negligible impact.

**Indirect carbon reduction**

Medium impact - scheme will deliver on S6 Environment (Wales) Act, protect and enhance biodiversity levels, which will have the indirect result in maintaining and improving carbon sequestration levels and ecology.

**Cash release**

No release – project was designed to save biodiversity and had no cash-releasing targets.

**Capacity release**

Not applicable - unrelated to project scope.

**Cost avoidance**

High avoidance - predictive work around biodiversity is likely to reduce the need for reactive work.

**Strategic alignment**

Close alignment – project aligns with PTHB Biodiversity Action plans, S6 Duty of Environment (Wales) Act, plans published within the Health Board’s 3-yr Biodiversity Report, and IMTP Strategic Priority 20 to ‘Implement ambitious commitments to Carbon Reduction, Biodiversity Enhancement and Environmental Wellbeing’.

**Scalability**

Highly scalable.

**Engagement potential**

High engagement potential.

**Sustainable healthcare**

Partially delivers sustainable value - the benefits of the environment on patient health and recovery are well-known. This project is the primary enablement piece to support the Health Board’s desire to secure and enhance biodiversity across its estate and lead on to community, staff and patient engagement sessions within green spaces.

## **14. Case study: Carbon Literacy Programme – PTHB**

### **The problem or task that your project is aiming to accomplish:**

Climate change awareness and action from wider members of staff.

### **The objective and target outcome for your project:**

Delivery of Carbon Literacy training to the next cohort of staff and lead to creating Train the Trainer opportunities to key staff wishing to engage and take forward carbon literacy across their directorate.

### **How successful your project was in meeting its objectives and targets:**

The toolkit creation through this project will enable other healthcare providers in Wales to utilise the bespoke training material provided through Cynnal Cymru. The training material and delivery has been praised by candidates for its informative nature and Wales-specific data.

With the availability of the revenue funding it has been able to deliver to our second cohort of staff members more pertinent carbon literacy training.

### **An aspect of your project that was particularly successful:**

The creation of the aforementioned NHS Wales Healthcare Toolkit.

### **An aspect of your project that was most challenging:**

Identifying and getting commitment to attend the training by staff.

### **The most important factor that influenced the success of your project:**

Full engagement and drive from the (former) Director of Environment to engage with service teams and coalesce the individuals to the training.

**Project evaluation - Carbon Literacy Programme - PTHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Carbon impact not calculated – training does not provide calculable decarbonisation until plans are actioned.

**Indirect carbon reduction**

Carbon impact not calculated.

**Cash release**

No release – was not an objective for this project.

**Capacity release**

No release – was not an objective for this project.

**Cost avoidance**

Limited avoidance - enabled the next cohort of staff to receive carbon literacy training without financial impact on the health board.

**Strategic alignment**

Partial alignment – initiatives 1, 2 & 3 of the NHS Wales Decarbonisation Strategic Delivery Plan.

**Scalability**

Partially scalable - faces barriers from revenue implications from conducting the training with Carbon Literate Organisations, as well as from registration and certification costs. Clinically, it has been problematic to have attendance due to staff shortages.

**Engagement potential**

High potential - representatives were sought and secured from each service directorate.

**Sustainable healthcare**

Partially delivers - overall deliverability not yet quantified until local decarbonisation action plans are developed following the training.



## 15. Case study: Carbon Reduction Pharmacy Campaign - PTHB

### **The problem or task that your project is aiming to accomplish:**

Reduce the use of inhalers that we know have a high carbon footprint and replace them, wherever possible, with inhalers that have a much lower carbon impact.

Raise awareness of the impact of pharmaceutical waste on the environment

### **The objective and target outcome for your project:**

Reduce the carbon footprint by using more environmentally friendly inhalers and by reducing medicines waste.

### **How successful your project was in meeting its objectives and targets:**

Evidence of good reduction in the carbon footprint associated with the inhaler work. There is no evidence of

the impact that the waste reduction work has had on the project's carbon footprint as the project is still only at the increasing awareness stage.

### **An aspect of your project that was particularly successful:**

Tackling this issue through the inhaler project.

### **An aspect of your project that was most challenging:**

Getting an understanding of the impact of the waste reduction work.

### **The most important factor that influenced the success of your project:**

Collaborative working with the communication and engagement team.

**Project evaluation – Carbon Reduction Pharmacy Campaign – PTHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable Healthcare</b>

**Direct carbon reduction**

Calculations show a 13.75% reduction in the indicative carbon footprint. Overall, we are currently unable to calculate reduction in carbon footprint relating to medicines waste, as this has been an awareness campaign.

**Indirect carbon reduction**

Although some practices have made significant improvement in reducing their use of Metered Dose Inhalers (MDIs) and increased the use of Dry Powder

Inhalers (DPIs) and Soft Mist Inhalers (SMIs), there is still considerable scope for improvement.

**Cash release**

No release - encouraged the use of more environmentally friendly inhalers. These inhalers tend to be more expensive than MDIs and so the project has created a cost pressure.

**Capacity release**

No release - switching patients from MDIs to DPIs or SMIs is not a simple switch. Individual patient focussed consultations are required which can be time consuming.

**Cost avoidance**

No avoidance - if we encourage patients to only order the medicines that they need, we will see costs being avoided.

**Strategic alignment**

Close alignment – the project closely aligns with the NHS Wales Decarbonisation Strategic Delivery Plan.

**Scalability**

Highly scalable - both the respiratory work and the waste reduction work are highly scalable with resource support.

**Engagement potential**

High potential – Medicines Management Projects have been positively reviewed decarbonisation meetings.

**Sustainable Healthcare**

Strongly delivers - patient care is not compromised in any way by these initiatives and there is a positive impact on the environment through waste reduction.

## **16. Case study: Develop a package of training and capacity building resources on sustainability, climate change and health - Public Health Wales (PHW)**

### **The problem or task that your project is aiming to accomplish:**

To build capacity and confidence across the organisation to act on climate change.

### **The objective and target outcome for your project:**

The objective of the project is to educate staff to understand the link between their role and the climate and health emergencies, identify actions they can take to reduce their impact and also to understand how climate change could impact their role / service area in the long-term.

### **How successful your project was in meeting its objectives and targets:**

The project has made significant progress in addressing overall aims and objectives. It is however a long-term commitment, and ongoing focus and support will be needed to reach a more significant number of PHW colleagues.

### **An aspect of your project that was particularly successful:**

The Development session (delivered by the Centre for Sustainable Healthcare) with Board and Executives was very well received, with a high degree of interest, enthusiasm and ideas shared. The long-term strategy was also being reviewed around the same time and the approval of climate change as a new strategic priority is a positive step.

### **An aspect of your project that was most challenging:**

Understanding current levels of understanding to inform what's needed, as well as engaging more widely than the 'usual suspects' who are already bought into the agenda.

### **The most important factor that influenced the success of your project:**

It's very difficult to choose just one factor - a number of important factors that contributed to its success included:

- support and enthusiasm from colleagues (including senior leadership) both to support and attend sessions
- engagement with external colleagues and training providers was really positive.

The project lead feels that the team made considerable progress in the last 9 months. The lead is keen to continue with the momentum (although they don't have funding to support) and also to continue to work with external partners to coordinate their efforts, share learning / resources and develop a 'Once for Wales' approach.

**Project evaluation – Develop a package of training and capacity building resources on sustainability, climate change and health - PHW**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated - training and capacity building doesn't fit into any of the reporting themes identified above and doesn't have specific emissions data to support the activity.

**Indirect carbon reduction**

Not calculated - it's difficult to estimate but training and educating staff about the climate crisis will help everyone to make more informed decisions.

**Cash release**

No release.

**Capacity release**

Limited release - funding to enable external experts to deliver training meant that internal capacity wasn't needed; however, the capacity required to plan these sessions meant that it more-or-less balanced out.

**Cost avoidance**

No avoidance.

**Strategic alignment**

Close alignment - NHS Wales Decarbonisation Strategic Delivery Plan Initiative #39 on Health Education.

**Scalability**

Highly scalable - resources that the team has developed can be made available to use to deliver similar sessions.

**Engagement potential**

High potential – the team will be working with Learning & Development staff to explore opportunities to make the climate change offer more mainstream and not stand-alone from PHW's L&D programmes. The project has also engaged closely with external partners including HEIW and Green Health Wales.

**Sustainable healthcare**

Not applicable.

## 17. Case study: Greener Primary Care Wales Yearbook - PHW

### The problem or task that your project is aiming to accomplish:

A digital bilingual 'Yearbook' for 2022 celebrating successes from Year 1 of the Greener Primary Care Wales Framework and Award Scheme via the inclusion of real-life case studies. Facilitate sharing to encourage action in practice.

### The objective and target outcome for your project:

Objectives – Development of a bilingual digital [Yearbook](#) and supplementary [animation](#) relating to the Greener Primary Care Wales Framework and Award Scheme.

Outcomes - To demonstrate what PHW are doing to help the wider system to enable behaviour change activity that helps embed the climate change agenda within primary care practices. To encourage primary care practices to take action.

### How successful your project was in meeting its objectives and targets:

Fully successful. Resource delivered on time and to budget. Overwhelmingly positive feedback received from a wide range of internal and external stakeholders.

### An aspect of your project that was particularly successful:

Broad range of actions included as case studies, from multiple different primary care settings across the whole of Wales.

### An aspect of your project that was most challenging:

Managing timelines to take account of multiple iterations/revisions of the Yearbook.

### The most important factor that influenced the success of your project:

Buy-in from case study participants to provide the Yearbook with the richness of information that was needed, and the ability of the commissioned designer to manipulate this information into an engaging and easily accessible document.

## Project evaluation - Greener Primary Care Wales Yearbook - PHW

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Carbon impact not calculated – they are planning to commission a piece of work this year / early next year, funding dependent, on the carbon savings for all the actions and therefore the case studies within the yearbook.

### Indirect carbon reduction

Carbon impact not calculated.

### Cash release

Not applicable - the Yearbook itself was designed to celebrate the success of practices and motivate others to participate.

### Capacity release

Not applicable - the Yearbook provides hints/tips and advice to other practices wishing to undertake climate friendly actions.

### Cost avoidance

Limited avoidance - case studies within the yearbook may help new practices avoid making the same mistakes.

### Strategic alignment

Close alignment - case studies taken from year 1 of the Greener Primary Care Wales Scheme. The team have also mapped the actions within the framework to key policies.

### Scalability

Partially scalable – requires funding to repeat the exercise, team capacity, and ability to source more case studies from primary care.

### Engagement potential

High potential - the main purpose of this resource was to engage with primary care contractors across Wales.

### Sustainable healthcare

Partially delivers - example of enhanced management of chronic obstructive pulmonary disease and asthma through clinical consultations to switch to dry powder inhalers.

## **18. Case study: Reducing Waste/ Microbiology Service Area - PHW**

### **The problem or task that your project is aiming to accomplish:**

Research suitable sustainable alternatives to single use plastic, high waste items and personal protective equipment (PPE).

### **The objective and target outcome for your project:**

Identify specific items that can be switched, where possible along with their emission and cost savings. Identifying materials that cannot be switched and their emission impact and life cycle costs.

### **How successful your project was in meeting its objectives and targets:**

Worked with current suppliers to identify opportunities for more sustainable materials and to capture detail on future plans (this is ongoing).

Highlighted the challenges of accurately calculating emissions associated with specific materials due to the lack of accurate data, transport choices, pack sizes etc.

The study also highlighted that, while we focus on emissions we can get caught up in the small detail and potentially lose sight of the bigger picture.

### **An aspect of your project that was particularly successful:**

Developed a Master Table spreadsheet that labs can use to calculate potential emission reductions by switching specific materials and/or changing the procurement process to accommodate reduced packaging, sustainable transport etc.

### **An aspect of your project that was most challenging:**

Accurately calculating emissions associated with specific materials due to the lack of accurate data, transport choices, pack sizes etc. and lack of available data regarding procurement.

### **The most important factor that influenced the success of your project:**

Engagement and enthusiasm from laboratory staff and staff within the Microbiology Service area.

**Project evaluation – Reducing Waste/ Microbiology Service Area - PHW**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Medium impact.

**Indirect carbon reduction**

Medium impact - opportunity to embed the recommendations of the project within all labs in Wales.

**Cash release**

No release - this was not the overall aim of the project. There might be cost savings associated with the recommendations or there might be cost implications.

**Capacity release**

No release - the focus was on emission reduction and waste reduction, with no impact on capacity.

**Cost avoidance**

No avoidance - the project looked at emission reduction, but, the team included aspects of procurement the data wasn't readily available to include cost savings / impacts.

**Strategic alignment**

Close alignment - this project aligns with the NHS Wales Decarbonisation strategic Delivery Plan and PHW's Decarbonisation Action Plan.

**Scalability**

Partially scalable - the project found that a reduction in emissions from single use laboratory consumables is possible across the board. There are challenges/ barriers faced for individual labs, which where feasible can be overcome.

**Engagement potential**

High potential - the project engages with laboratory staff initially, but the findings can be shared across other teams within health boards and trusts.

**Sustainable healthcare**

Limited delivery - associated impacts around health protection and reduced impact on climate change and associated issues (reduced pollution levels etc.).



## **19. Case study: Enabling Sustainable Travel – Swansea Bay University Health Board (SBUHB)**

### **The problem or task that your project is aiming to accomplish:**

Improving sustainable travel options for workforce and local population.

### **The objective and target outcome for your project:**

Improved health of population and staff by encouraging health transport/travel options.

### **How successful your project was in meeting its objectives and targets:**

Evaluation is yet to be completed.

### **An aspect of your project that was particularly successful:**

Public relations around starting to encourage sustainable travel.

### **An aspect of your project that was most challenging:**

The consensus of opinion amongst the project team. Many different ideas which need to reach a mutually acceptable conclusion.

### **The most important factor that influenced the success of your project:**

Dedication and the willingness to make a difference.

**Project evaluation – Enabling Sustainable Travel – SBUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated – evaluation yet to be completed.

**Indirect carbon reduction**

Not calculated – evaluation yet to be completed.

**Cash release**

No release – the project was to encourage sustainable travel.

**Capacity release**

No release – evaluation yet to be completed.

**Cost avoidance**

No avoidance – evaluation yet to be completed.

**Strategic alignment**

Close alignment – this project is part of the travel/transport Decarbonisation Action Plan.

**Scalability**

Highly scalable – there has only been support for the project and is easily transferable.

**Engagement potential**

High potential – this project could benefit all staff and patients and any other person who passes or uses the hospital sites.

**Sustainable healthcare**

Strongly delivers – evaluation yet to be completed but the benefits of delivering this project can be anticipated.

## **20. Case study: Green Labs - SBUHB**

### **The problem or task that your project is aiming to accomplish:**

Improve laboratory practice in terms of waste disposal, equipment use and sample and chemical management in order to improve laboratory efficiency and reduce carbon emissions.

### **The objective and target outcome for your project:**

Procurement and completion of two green laboratory certification programmes - My Green Lab and the Laboratory Efficiency Assessment Framework (LEAF).

### **How successful your project was in meeting its objectives and targets:**

The project team successfully completed the bronze-level certification criteria for the LEAF project. This involved critically reviewing current practice against the criteria and implementing changes, for example, establishing a Laboratory Medicine Sustainability Group. The project team completed a sustainability-related team activity and improved access to recycling bins. The My Green Lab project is ongoing, but to date, laboratory staff across 3 hospital sites have contributed to a 45-minute survey on existing laboratory practice and we have received a list of actions to implement before re-assessment in 6-9 months' time.

### **An aspect of your project that was particularly successful:**

We worked as a team to complete actions for the LEAF bronze-level certification, for example, we introduced sustainability into the induction checklist for new members of staff and updated signage on recycling bins.

### **An aspect of your project that was most challenging:**

It was challenging to reach a 50% response rate for the My Green Lab survey on existing laboratory practice. This was due to limited staff availability and competing pressures. The survey itself was also challenging to complete in terms of time required and complexity of questions.

### **The most important factor that influenced the success of your project:**

We would not have reached the required response rate for the My Green Lab survey had it not been for teamwork and support from management. We are a busy department consisting of 100+ staff members across 3 hospital sites and encouragement from senior management helped to engage more staff members.

**Project evaluation – Green Labs - SBUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Not calculated – it is difficult to calculate the exact carbon impact of this project as it involved making multiple small-scale changes.

**Indirect carbon reduction**

Not calculated – it is difficult to calculate the exact carbon impact of this project as it involved making multiple small-scale changes.

**Cash release**

Limited release – the LEAF certification programme was free, and the My Green Lab programme cost a total of \$2,250, for which the team received a grant.

**Capacity release**

Limited release – no additional capacity was released.

**Cost avoidance**

No avoidance - the team received a grant to cover the cost of signing up to the My Green Lab project and this cost was unavoidable.

**Strategic alignment**

Partial alignment - carbon management initiative 2, approach to healthcare (education) initiative 39.

**Scalability**

Partially scalable – both green laboratory certification programmes (My Green Lab and LEAF) offer silver-level and gold-level initiatives, which, if implemented, could lead to a significant improvement in laboratory sustainability. However, limited staffing presents a challenge.

**Engagement potential**

Potential to engage with laboratory suppliers and other clinical laboratories.

**Sustainable healthcare**

Partially delivers – during the projects the team engaged in discussions with clinicians on reducing unnecessary blood testing in patients.

## 21. Case study: Green Team Competition – SBUHB/HDUHB

### The problem or task that your project is aiming to accomplish:

Supporting staff to introduce initiatives that can address emissions reductions, whilst considering wide impacts on social, financial and clinical outcomes.

### The objective and target outcome for your project:

1. Recruitment of six teams in each Health Board,
  - Each team completing a SusQI project, with 6 case studies written up per UHB.
  - All case studies demonstrating carbon, financial and/or, staff time savings.
2. One showcase event with one award per UHB.
3. Embedding of SusQI into UHB.
4. Scale up of successful projects.

### How successful your project was in meeting its objectives and targets:

Very successful, all six projects were completed within the competition timeframe. The Showcase had over 100 attendees and support from Welsh Government.

### An aspect of your project that was particularly successful:

Engagement and empowering staff as well as getting an opportunity to thank the teams directly during the Green Team showcase and awards event on 3rd February 2023.

### An aspect of your project that was most challenging:

- Length of competition: The 10-week length of the project limited some teams ambition as they wanted an outcome within that timeframe.
- Project capacity: This is dependent on staff having time to undertake additional work.
- Spread and scale: Sharing projects in the right places to the right people is challenging. Teams have been encouraged to share but there are issues around capacity to do this.

### The most important factor that influenced the success of your project:

Finding passionate staff - one area was down to 50% of staff and still completed. Support was available when they needed it through the Centre for Sustainable Healthcare.

**Project evaluation – Green Team Competition – SBUHB/HDUHB**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Medium impact.

**Indirect carbon reduction**

Medium impact – huge potential in replicating, not just the projects but the model.

**Cash release**

High release - Cost of Green Team Competition was £24,600. Savings from the project are estimated at £33,794.65.

**Capacity release**

Not applicable.

**Cost avoidance**

Limited avoidance – total came to £33,794.65. Reports are available for each project from: hayley.beharrell@wales.nhs.uk

**Strategic alignment**

Close alignment - the project supported the Health Board's decarbonisation strategy by enabling staff to make changes in their own space, as well as being innovative.

**Scalability**

Partially scalable – key barriers include embedding in QI, longevity, carbon foot printing training & support.

**Engagement potential**

High potential - can engage and support staff to make real changes in their area. This supported wider work by the Swansea Bay Green Group.

**Sustainable healthcare**

Strongly delivers - varied benefits across the multitude of projects delivered in the competition.

## 22. Case study: Inhaler Recycling – Upper Valleys Pilot Project – SBUHB

### **The problem or task that your project is aiming to accomplish:**

To recycle inhalers within community pharmacies with the view to roll out across all clusters within the HB if successful, this is part of SBUHBs Decarbonisation Action Plan with the aim of recycling 80% of all inhalers prescribed by 2025.

### **The objective and target outcome for your project:**

To ensure that we encourage appropriate inhaler disposal through the recycling scheme aligned to SBUHBs Decarbonisation Action Plan of recycling 80% of all inhalers prescribed by 2025.

Also encouraging behavioural change ensuring patients always return inhalers to pharmacies for appropriate disposal.

### **How successful your project was in meeting its objectives and targets:**

Project is still ongoing.

### **An aspect of your project that was particularly successful:**

Project is still ongoing; however, it has been encouraging to see the positive uptake and patient engagement.

### **An aspect of your project that was most challenging:**

Project is still ongoing.

### **The most important factor that influenced the success of your project:**

Project is still ongoing.

## Project evaluation – Inhaler Recycling – Upper Valleys Pilot Project – SBUHB

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

### Direct carbon reduction

Carbon impact not calculated - awaiting information from Grundon Waste Management to assess this.

### Indirect carbon reduction

Carbon impact not calculated - awaiting information from Grundon Waste Management to assess this.

### Cash release

No release - funding was for recycling services that could not have been funded via the health board due to lack of funding opportunities.

### Capacity release

No release - the project focused on behavioural changes that meant staff members had to educate patients to ensure that the inhalers were returned.

### Cost avoidance

No avoidance.

### Strategic alignment

Close alignment - NHS Wales Decarbonisation Strategic Delivery Plan and SBUHBs Decarbonisation Action Plan to recycling 80% of inhalers by 2025.

### Scalability

Partially scalable - Engagement from Community Pharmacies is key, and securing funding for the recycling scheme itself.

### Engagement potential

High potential - It is applicable across Primary Care, Community Pharmacy and Acute Hospital Sites.

### Sustainable healthcare

Partially delivers – does not reduce financial impacts.



### **23. Case study: EV Network Development - Welsh Ambulance Service Trust (WAST)**

**The problem or task that your project is aiming to accomplish:**

Feasibility of installing large-scale EV Charging infrastructure across Wales for large emergency fleet.

**The objective and target outcome for your project:**

To ascertain feasibility of installing large-scale EV Charging infrastructure across Wales for large emergency fleet. Target was to collate enough information to submit a business case to Welsh Government to achieve the aim.

**How successful your project was in meeting its objectives and targets:**

Yet to be determined.

**An aspect of your project that was particularly successful:**

In depth understanding of the Welsh Ambulance Service estate.

**An aspect of your project that was most challenging:**

External contractors and national bodies, namely Direct Network Operators.

**The most important factor that influenced the success of your project:**

Collaborative working. A collective goal.

**Project evaluation – Electric Vehicle (EV) Network Development - WAST**

<b>Project evaluation</b>
<b>Direct carbon reduction</b>
<b>Indirect carbon reduction</b>
<b>Cash release</b>
<b>Capacity release</b>
<b>Cost avoidance</b>
<b>Strategic alignment</b>
<b>Scalability</b>
<b>Engagement potential</b>
<b>Sustainable healthcare</b>

**Direct carbon reduction**

Carbon impact not calculated - this was feasibility works to identify estate requirements for the installation of a large-scale EV Charging Network for front-line Operational Fleet.

**Indirect carbon reduction**

Carbon impact not calculated - dependent on the procurement of Electric Vehicles/Ambulances.

**Cash release**

Not applicable - project was not about releasing cash immediately.

**Capacity release**

Not applicable - project was feasibility works.

**Cost avoidance**

Not applicable - project was feasibility works.

**Strategic alignment**

Close alignment - closely aligned with the NHS decarbonisation strategic delivery plan, initiative 22.

**Scalability**

Not applicable – electrical capacity and electric vehicle infrastructure feasibility is very specific to each organisation and their own requirements.

**Engagement potential**

High potential - already lots of interest from all stakeholders regarding front-line EV Fleet and the associated EV Charging Network.

**Sustainable healthcare**

Not applicable - patient transport and hospital conveyancing. Generally, converting from fossil fuel fleet reduces WAST's environmental impact relating to emissions to air, and in turn, public health.

# Appendix D: Worked example

## About your project

The text in italics presents a worked example of the evaluation toolkit process to give users a better understanding of how the questionnaire can be completed.

Our worked example will be a fictional transport emissions reduction initiative. This “Low Emission Transportation Programme” will take a two-pronged approach to emissions reduction: 1. Investment into electric vehicle charging infrastructure in conjunction with electric vehicle additions to the fleet and 2. A behaviour change initiative will encourage the use of petrol engine alternatives where possible.

**Project name and organisation**...Low Emission Transportation Programme, Hospital Example.....

## What greenhouse gas emission areas does your project target?

This project is targeting transportation emissions and is working to reduce the carbon footprint of the fleet, therefore, the following boxes are ticked:

- Buildings
- Fleet and Other Assets
- Business Travel, Commute, Home
- Land Use
- Waste
- Supply chain
- Renewables
- Other (please state) .....

### Which of the following categories best describes your project?

This program is working to support internal behavioural change by encouraging low emission transportation choices among staff. It is also driving the implementation of organisation-level decarbonisation through investment in electric vehicle infrastructure. It is not working in support of grass-roots initiatives or innovation activities, nor does it include adaptation or resilience planning activity. Therefore, the following statements are selected:

- Communication, engagement, or behavioural change
- Decarbonisation or mitigation activity, including supporting the implementation of organisation-level Decarbonisation Action Plans
- Adaptation or resilience planning activity, including supporting the implementation of organisation-level Adaptation Action Plans
- Innovation activity, including supporting grass-roots initiatives (for example activities led by 'Green Groups' within organisations).
- Other (Please state) .....

### Which carbon footprint does this project impact?

Our project is being implemented at an NHS Wales hospital in the west of Wales, which is managed by Hywel Dda Health Board, and therefore, this project impacts the carbon footprint of NHS Wales as this organisation contributes to the NHS Wales footprint.

- NHS Wales (~1,000,000 tCO<sub>2</sub>e/yr)
- Social care in Wales (~460,000tCO<sub>2</sub>e/yr)
- Primary care (currently not estimated in the NHS Wales or Social Care footprint)  
Please include an explanation in the box below of how your project relates to primary care and how it is outside of the scope of the NHS Wales and Social care in Wales footprint.

## What stage is your project at?

This project had passed the concept stage; operational plans had been completed and the initiative’s feasibility was assessed and understood. The project had previously lacked the funding necessary to begin operation and so did not exist before our successful bid. Therefore, the following is selected:

- Concept stage – your project assessed feasibility for your organisation
- Early stage – your project had not previously existed in your organisation
- Developed stage – the activity had previously existed, and your project increased the scale, pace or impact of the activity

## Measuring success

### Carbon reduction

In line with the priority areas identified earlier, this project will calculate carbon reductions in the following tabs:

- Building, fleet & other assets
- Business travel, commute, home

First, the tabs are filled in, following the directions in the document, with information from before the beginning of the project:

*Fleet and equipment - fuel*

No errors in this table

Type	Fuel	Category 1	Methodology	RSD	Data	Units	Converted data	Standard units	Total EF (kgCO <sub>2</sub> e/u)	Total emissions (kgCO <sub>2</sub> e)
Van	Petrol	100% mineral petrol	Tier 2	8%	12,000	litres	116,220 kWh		0.3038	35,307.64
Pool car	Petrol	100% mineral petrol	Tier 2	8%	6,000	litres	58,110 kWh		0.3038	17,653.82
HGV	Diesel	100% mineral diesel	Tier 2	8%	2,500	litres	26,695 kWh		0.3121	8,331.24

*Business travel*

No errors in this table

Emission source	Category 1	Category 2	Methodology used	RSD	Data	Units	Converted data	Standard units	Total EF (kgCO <sub>2</sub> e/uni)	Total emissions
Private car	Average	Diesel	Tier 2	13%	35,000	Vehicle km	35,000	Vehicle km	0.21186414	7,415.24
Van	Average	Diesel	Tier 2	8%	10,000	Vehicle km	10,000	Vehicle km	0.29052	2,905.20

Having completed entries for each emission source, we can calculate that the total emissions before the project started sum to: 71,613.14 kgCO<sub>2</sub>e.

Now we do the same thing again with the emission sources after the project:

**Fleet and equipment - fuel**

No errors in this table

Type	Fuel	Category 1	Methodology	RSD	Data	Units	Converted data	Standard units	Total EF (kgCO <sub>2</sub> e/uni)	Total emissions (kgCO <sub>2</sub> e)
Van	Grid electricity	Consumption based	Tier 2	5%	1,000	kWh	1,000	kWh	0.3766	261.55
Van	Petrol	100% mineral petrol	Tier 2	8%	11,000	litres	106,535	kWh	0.3038	32,365.33
Pool car	Grid electricity	Consumption based	Tier 2	5%	500	kWh	500	kWh	0.3766	130.78
Pool car	Diesel	100% mineral diesel	Tier 2	8%	5,500	litres	58,729	kWh	0.3121	18,328.73
HGV	Diesel	100% mineral diesel	Tier 2	8%	2,500	litres	26,695	kWh	0.3121	8,331.24

**Business travel**

No errors in this table

Emission source	Category 1	Category 2	Methodology used	RSD	Data	Units	Converted data	Standard units	Total EF (kgCO <sub>2</sub> e/uni)	Total emissions
Private car	Average	Diesel	Tier 2	13%	24,500	Vehicle km	24,500	Vehicle km	0.21186414	5,190.67
Van	Average	Diesel	Tier 2	8%	10,000	Vehicle km	10,000	Vehicle km	0.29052	2,905.20
Public Transport	Bus	Average local bus	Tier 2	15%	10,000	Passenger km	10,000	Passenger km	0.12144	1,214.40
Private car	Average	Battery Electric Vehicle	Tier 2	13%	500	Vehicle km	500	Vehicle km	0.06566	32.83

Our project’s impact on electric vehicle infrastructure, behaviour change, and fleet upgrades have reduced total emissions to: 68,760.73 kgCO<sub>2</sub>e. Thus, there has been a reduction of 2,852.41 kgCO<sub>2</sub>e.

To compare this to the NHS Wales baseline, we will now convert this reduction in kgCO<sub>2</sub>e to tCO<sub>2</sub>e:

$$2,852.41/1000 = \mathbf{2.85\ tCO_2e}$$

Measured against the NHS Wales baseline of 1,000,000 tCO<sub>2</sub>e/year, the project has resulted in a reduction in fleet and travel carbon emissions of **0.000285%**. This corresponds with a negligible impact:

**What was the direct carbon impact of your project over one year?**

If your project targeted direct carbon reduction, please indicate to what degree this was accomplished.

- High impact (0.5 - 3.0% footprint reduction)
- Medium impact (up to 0.5% footprint reduction)
- Low / negligible impact
- Carbon impact not calculated (please state reason)

**What is the wider potential carbon impact of your project over one year (e.g. if this project is replicated / scaled up in future - please state key assumptions)?**

This project replaced two vehicles of the fleet with electric vehicles. If this project were scaled up to replace the entire

fleet, as well as to expand this project to replace diesel vehicles across NHS Wales the impact could be greatly increased. If two hundred further diesel vehicles were replaced with electric vehicles, this could lead to a carbon reduction of 285 tCO<sub>2</sub>e, a percentage reduction of 0.0285% against the baseline. The continues to correspond to a negligible impact.

Please judge the extent to which the project enables the potential for reducing carbon emissions in the desired target area.

- High impact (0.5 - 3.0% footprint reduction)
- Medium impact (up to 0.5% footprint reduction)
- Low / negligible impact
- Carbon impact not calculated (please state reason)

**Justification**

*Our estimate for scaling up this project assumes that changes in fleet composition would result in the same impact across different organisations. Given that this project replaced two vehicles of the fleet with electric vehicles, a scaled-up project expanded to replace two hundred diesel vehicles with replaced with electric vehicles could lead to a carbon reduction of 285 tCO<sub>2</sub>e, a percentage reduction of 0.0285% against the baseline. This continues to correspond to a negligible impact.*

## Value for money

### To what extent did your project release cash?

A project releases cash when it reduces recurring costs. This project reduces the amount spent on fuel through its introduction of electric vehicles to the fleet. However, despite these savings, the total costs of replacing the fleet and installing electric vehicle infrastructure are higher than the costs released. Over the long-term, our savings on petrol will amount to more than the cost of the project, despite these savings not being fully materialised yet. Therefore, the project has resulted in limited cash release.

High release – cash released was greater than the cost of your project (amount released) .....

Limited release – cash released was the same as or less than the cost of your project (amount released)

This is due to the project potentially leading to money savings in the longer term.....

No release – no cash was released by your project

Not applicable (please give reason) .....

### To what extent did your project release capacity?

Releasing capacity means freeing up or increasing the efficiency of resources, improving internal processes and increasing the flow of patients. This project releases a limited amount of capacity by replacing some of the fleet's cars with vans, increasing transportation capacity. Electrical charging infrastructure also facilitates onsite recharging, freeing up staff time that would have been spent previously refuelling vehicles.

High release – capacity released was greater than the capacity invested in your project

Limited release – capacity released was the same as or less than the capacity invested in your project

No release – no capacity was released by your project

Not applicable (please give reason) .....



### To what extent did your project avoid costs?

Projects avoid costs by avoiding planned one-off expenditures. In the case of this project, many vehicles in our fleet were already earmarked for repair and maintenance. By replacing those vehicles, we have avoided the costs associated with their upkeep. The replacement cost was higher than the maintenance costs, therefore, this project allowed for limited cost avoidance.

- High avoidance – costs avoided were greater than the cost of your project
- Limited avoidance – cost avoided were the same as or less than the cost of your project
- No avoidance – no costs were avoided by your project
- Not applicable (please give reason) .....

### Organisational impact

#### How closely does your project align with a relevant strategy / policy?

This project is closely aligned with several initiatives in the NHS Wales decarbonisation strategic delivery plan.

- Close alignment (please reference the specific strategic / policy area that your project closely aligns with)  
This project is aligned with ‘NHS Wales decarbonisation strategic delivery plan’ Transport initiatives, numbers 17, 18, 19 and 21.
- Partial alignment (please reference the specific strategic / policy area that your project partially aligns with) .....
- Limited alignment (please give reason) .....
- Not applicable (please give reason) .....

#### How readily scalable is your project, either across your own organisation or the wider health and social care sector?

Implementing low carbon transport is a scalable activity, however, significant investment would be needed to undertake an expansion of this project. This is a notable barrier. However, this barrier is not highly specialised and would broadly allow for a ‘one-size-fits-all’ approach. This is a mitigating factor for the complexity of the project’s scalability.

- Highly scalable, with minimal barriers (please describe) .....

- Partially scalable, some known barriers (please describe) ...Significant investment would be required to expand fleet and infrastructure investment within our organisation or across the wider sector.
- Limited scalability, significant barriers (please give reason) .....
- Not applicable (please give reason) .....

**What is the potential for this project to increase engagement with the decarbonisation / climate change agenda across your organisation or the wider health and social care sector?**

The behavioural change component of this project generates the most engagement with decarbonisation. It goes beyond the immediate project team, working to engage the organisation’s whole staff. However, it does not engage a broad audience – our behaviour change initiative is targeted only at organisation staff. Therefore, we mark:

- High potential, your project engages a broad audience beyond your immediate project team
- Some potential, your project engages an audience beyond your immediate project team
- Limited potential, your project is unlikely to increase engagement beyond your immediate project team
- Not applicable

**To what extent does your project deliver on the principles of sustainable clinical practice?**

The project partially delivers on the principles of sustainable clinical practice as it seeks to reduce vehicle emissions when serving patients and staff, however, it does have financial implications in the short to medium term. Therefore, we mark:

- Strongly delivers, your project can demonstrate sustainable value according to the SusQI framework, where health outcomes are delivered through minimised environmental, social and financial impacts
- Partially delivers, your project demonstrates a positive outcome for patients but may not minimise all impacts; alternatively, it may demonstrate minimised impacts but have minimal improvements to patient outcomes
- Limited delivery, your project delivers limited positive in change for patients nor does it reduce impact
- Not applicable

## Demonstration of how the results of 'the Low Emission Transportation Programme' feed into the evaluation

	No.	Measuring success	Green	Amber	Red	Grey
Carbon impact	1	Direct carbon reduction	High impact (0.5-3%)	Medium impact (up to 0.5%)	Low / negligible impact	N/A
	2	Wider potential carbon impact	High impact (0.5-3%)	Medium impact (up to 0.5%)	Low / negligible impact	N/A
Value for money	3	Cash release	High release	Limited release	No release	N/A
	4	Capacity release	High release	Limited release	No release	N/A
	5	Cost avoidance	High avoidance	Limited avoidance	No avoidance	N/A
Organisational impact	6	Strategic alignment	Close alignment	Partial alignment	Limited alignment	N/A
	7	Scalability	Highly scalable	Partially scalable	Limited scalability	N/A
	8	Engagement potential	High potential	Some potential	Limited potential	N/A
	9	Sustainable healthcare	Strongly delivers	Partially delivers	Limited delivery	N/A



## Gwasanaeth Ynni Energy Service

The Welsh Government Energy Service (“**WGES**”) is funded by the Welsh Government with the aim of developing energy efficiency and renewable energy projects that contribute to public sector decarbonisation and national energy targets. The WGES is delivered by the Carbon Trust, Energy Saving Trust and Local Partnerships (the “**Delivery Partners**”). This report (the “**Report**”) has been produced by the Delivery Partners and, whilst the views expressed in it are given in good faith based on information available at the date of this Report:- (i) these views do not necessarily reflect the views of the Welsh Government, which accepts no liability for any statement or opinion expressed in the Report; (ii) the Report is intended to provide general guidance only, rather than financial, legal or technical advice for the purposes of any particular project or other matter, and no-one in receipt of the Report should place any reliance on it in substitution for obtaining their own advice from an appropriate third party advisor; and (iii) any person in receipt of this Report should therefore obtain their own financial, legal, technical and/or other relevant professional advice insofar as they require specific guidance on what action (if any) to take, or refrain from taking, in respect of any project, initiative, proposal, involvement with any partnership or other matter to which information contained in the Report may be relevant; and (iv) the Delivery Partners accept no liability in respect of the Report, or for any statement in the Report and/or any error or omission relating to the Report.