Retrofitting for the Future:
Nature Based Solutions for Climate Adaptation

Ôl-osod ar gyfer y dyfodol:
Datrysiadau seiliedig ar Natur ar gyfer Addasu i'r Hinsawdd

Project REPAIR: Nature-based solutions for climate adaptation

Year One Highlights

// 2025-2026

Arts and Humanities Research Council

Swansea University Prifysgol Abertawe

Cyngor Abertawe Swansea Council

codi

UCL

HACER

Prifysgol Cymru Y Drindod Dewi Sant University of Wales Trinity Saint David

Cyfoeth Naturiol Cymru Natural Resources Wales

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Foreword

Cities are at the forefront of some of the most urgent challenges of our time. Climate change, biodiversity loss and pressures on health and well-being are increasingly experienced through the places where people live, work and connect. Addressing these challenges requires not only technical solutions, but new ways of thinking, creating and collaborating.

Project REPAIR was established to explore this space. By bringing together expertise from across the arts, humanities and sciences, alongside partners in policy, practice and community settings, the project is helping to reimagine how urban environments can be shaped to support both people and nature.

Over the past year, Project REPAIR has laid strong foundations. It has fostered meaningful partnerships, engaged diverse communities and created opportunities for shared learning and experimentation. Through workshops, creative activity and collaborative research, the project has begun to generate new insights into how biophilic and nature-based approaches can be embedded within the fabric of our cities.

Importantly, this work is rooted in place. Swansea provides a unique context in which to explore the relationship between urban life and the natural environment, and Project REPAIR has contributed to a growing ambition to position the city at the forefront of nature-connected urban innovation. In doing so, the project is not only responding to local priorities but also contributing to wider national and international conversations about sustainable urban futures.

This report captures the progress made during the first year of Project REPAIR. It reflects a project that is delivering on its commitments, while also building momentum, strengthening partnerships and creating new opportunities for impact.

As we look ahead, the challenge and the opportunity is clear: to translate this early progress into lasting change. Project REPAIR will continue to work collaboratively to develop practical, scalable and inclusive approaches that support healthier, more resilient and more connected urban environments.

I would like to thank all Co-Leads, partners, collaborators and participants who have contributed to Project REPAIR so far. Their commitment, creativity and shared vision will be essential as we move into the next phase of this important work.

Professor Kirsti Bohata

Project Lead

Project REPAIR at a Glance:
Year 1

Project mobilisation

In its first year, Project REPAIR successfully established a transdisciplinary team spanning the arts, humanities and sciences, enabling coordinated delivery across all research threads.

- Full transdisciplinary team established
- Coordinated delivery across all research threads
- Strong momentum maintained

Stakeholder engagement and reach

Project REPAIR has engaged widely with stakeholders across Wales and beyond. The team has presented at events such as Green the City and 4theRegion, delivered workshops including the Biophilic City Drift, established links with the FORESEE project at the Université Grenoble Alpes, and secured Swansea's acceptance as a Partner City in the Biophilic Cities Network, joining a global community of nature-connected cities.

- Presentations at Green the City, 4theRegion, and other events
- Workshops delivered, including Swansea Biophilic Drift and It's Your Swansea
- Collaboration with the FORESEE Project (Université Grenoble Alpes)
- Swansea joined the global Biophilic Cities Network

Strategic partnerships

The project has actively collaborated with key stakeholders, including the National Health Service, local authorities and private sector organisations, while strengthening links across policy, practice, and research. These partnerships have enabled cross-sector working, supported knowledge exchange, and ensured that Project REPAIR's activities are grounded in real-world challenges and opportunities, enhancing their potential for meaningful and lasting impact.

- Strengthened collaboration with key stakeholders
- Cross-sector working embedded across policy, practice, and research

Leveraging funding and opportunity

Year 1 saw significant funding success, including EU Seedcorn Funding from Swansea University to scope a New European Bauhaus bid, two Net-Zero Place-Based Impact Acceleration Account submissions, EPSRC Place-Based Impact Acceleration Account funding for the RE²VEAL project, and University of Wales Trinity Saint David Catalyst Funding to co-produce a biophilic respite room prototype at Glangwili Hospital. These achievements position Project REPAIR to scale its impact and attract further investment.

- EU Seedcorn Funding for a New European Bauhaus bid
- Two Net-Zero Place-Based Impact Acceleration Account submissions
- EPSRC Impact Acceleration Account funding for RE²VEAL
- Catalyst Funding for biophilic respite room prototype at Glangwili Hospital

Research and innovation

Project REPAIR is advancing transdisciplinary approaches to biophilic urban transformation through innovative methods, including creative workshops such as the 'Biophilic City Drift', to better understand lived experience. Early research highlights the importance of social value, financial and insurance systems, and how biophilic ambitions translate into practice. The project is beginning to contribute to the academic evidence base, with its first publication and further outputs in development.

- Advancement of transdisciplinary approaches to biophilic urban transformation
- Application of innovative methods such as the Biophilic City Drift
- Early insights into social value, financial/insurance systems, and lived experience
- First paper published, with further outputs in development

Emerging impact

Project REPAIR has made early contributions to policy and practice conversations in Wales, building a robust evidence base for nature-based retrofit at scale. The project is on a trajectory toward national and international leadership in biophilic, place-based approaches.

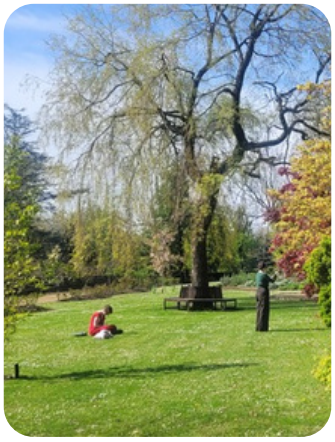
- Early contributions to policy and practice in Wales
- Building evidence base for nature-based retrofit
- Clear trajectory toward national and international leadership

What is Project REPAIR?

Project REPAIR is an Arts and Humanities Research Council funded project exploring how biophilic living can become a practical reality in towns and cities. It focuses on how buildings, neighbourhoods, and communities can be redesigned or retrofitted to better support people, nature, and climate resilience.

At its core, Project REPAIR brings together researchers, practitioners, policymakers, and communities to understand what helps, or prevents, the wider adoption of nature-based approaches in the built environment.

Using Swansea and Wales's first purpose-built biophilic building, the BIOME, as a real-world case study, the project is developing evidence, tools, and insights that can be applied across the UK and beyond.



Core Aims

Project REPAIR aims to:

- Identify barriers and enablers to biophilic design and living.
- Explore how nature-based approaches can improve well-being, biodiversity, and climate resilience.
- Develop practical ways to measure social, environmental, and economic value.
- Test new models of collaboration and co-design that bring together different sectors and communities.
- Create pathways that support wider adoption in policy and practice.

Why it Matters

Cities are facing growing challenges, from extreme weather and climate pressures to declining biodiversity and reduced access to nature. Traditional approaches alone cannot respond at the scale required.

Biophilic design offers a way forward. By integrating nature into the places we live and work, it can improve physical and mental well-being, strengthen climate resilience, support nature recovery, and create more liveable and inclusive urban environments. Despite these benefits, adoption remains limited due to gaps in evidence, policy, skills, and awareness. Project REPAIR addresses this by focusing on what is needed to turn ambition into action.

Flooding at Cwmbwrla Roundabout, Swansea

Flooding at Sandfields, Swansea

What makes Project REPAIR different?

Project REPAIR takes a whole system approach. Rather than looking at design, policy, or community engagement in isolation, it connects them.

What sets the project apart is its:

- **Real world focus**: grounded in a live demonstrator, the BIOME
- **Arts and Humanities-driven Transdisciplinary approach**: bringing together arts, humanities, sciences together with industry, government and communities
- **Emphasis on practice**: producing usable frameworks as well as research outputs
- **Focus on change**: identifying how to move from small scale examples to wider adoption

By combining evidence with lived experience and practical testing, Project REPAIR is helping to define what it takes to deliver biophilic living at scale.

For a visual overview of Project REPAIR's strategic architecture and high-level plan, please see:

Project REPAIR – High-Level Plan*

Project REPAIR – Strategic Architecture*

*View on pages 8 & 9.

Strategic Architecture

Project REPAIR: Retrofitting for the Future: Nature-Based Solutions for Climate Adaptation – Strategic Architecture

Context
- Extreme weather events – floods, storms, heat stress, and drought - are increasing, making people more vulnerable
- Urban areas face escalating climate and nature-related challenges that demand urgent adaptation
- Traditional infrastructure approaches alone cannot address the scale of the climate and biodiversity crises
- Nature loss is accelerating, undermining urban resilience and human wellbeing

Rationale
- Nature-based and biophilic design provide proven solutions that improve wellbeing, increase biodiversity, and strengthen climate resilience
- Biophilic design can mitigate environmental stressors and restore people's connections with nature
- Despite its benefits, adoption remains limited due to cost-value perceptions, low industry awareness, skill gaps, policy constraints, and cultural attitudes towards aesthetics

Vision
Our vision is to support biophilic living for the benefit of climate, nature and people

Mission
Our mission is to deliver evidence-based, replicable pathways to biophilic living

Aim
The project aim is to explore what drives or hinders biophilic living by combining diverse expertise with community insight to codify the journeys to positive change

Research Objectives
1. Identify and analyse the barriers and enablers influencing biophilic design, retrofitting, biophilic living, and stewardship, with a focus on dense urban environments affected by historic public and private underinvestment and their associated social and economic impacts
2. Evaluate how the BIOME building and site can inform UK and international practice in nature-based design and retrofitting, and how it can contribute to climate adaptation, mitigation, nature restoration, and improved human-nature relationships
3. Interrogate concepts of value and cost associated with biophilic living using diverse multidisciplinary measures and evaluation frameworks
4. Develop and test an innovative co-leadership, inclusive governance, and team-convening model that strengthens and advances transdisciplinary research approaches

High-Level Plan

Project REPAIR – High Level Plan

Inputs	Activities	Outputs	Outcomes	Impacts
Funding and Contributions	**People, Place and Wellbeing**: Co-creation workshops, sensory ethnography, narrative and arts-based research, participatory storytelling, documentation of lived experience	**Research Outputs:** Peer-reviewed publications; reports on barriers/enablers; technical and policy reports	**Knowledge, Evidence and Metrics**: Improved understanding of barriers/enablers for biophilic design and stewardship; strong evidence base on ecological, social, cultural, and wellbeing performance; new metrics and evaluation frameworks for wellbeing and ecological outcomes	**Environmental:** Increased biodiversity; improved green infrastructure performance; ecological resilience
Standards and Policy	**Ecological and Physical Performance:** Assess biophilic design outcomes (rainwater capture, biodiversity, microclimate, power consumption); develop metrics for ecological impact; compare socio-economic benefits; create biophilic scorecard	**Creative Outputs:** Co-created art, exhibitions, performances, speculative narratives, creative writing, multi-dimensional interactive exhibition		**Social and Wellbeing:** Improved mental and physical wellbeing through connection with nature
Data and Evidence		**Educational and Training Outputs: C**urriculum materials; citizen science programmes; training modules for professionals and communities	**Governance, Policy and Regulation**: Policy and regulatory shifts enabling wider adoption of nature-based design; demonstrated effectiveness of inclusive governance and co-leadership in transdisciplinary work; expanded valuation systems (wellbeing, ecological, cultural, stewardship) normalised in decision-making	**Cultural:** Biophilic practices integrated into everyday practices
Expertise	**Law, Policy and Governance:** Identify systemic barriers and enablers of biophilic adaptation. Review legal and policy frameworks; analyse governance systems and financial levers (insurance, risk attitudes); recommend reforms; publish policy briefs and legal analysis	**Network Infrastructure:** Biophilic Arts Hub; international Biophilic Living Network; research collaborations		**Educational:** Enhanced ecological literacy and green skills across professions and communities
Communities and Stakeholders	**Skills, Education and Practice:** Identify skills gaps; develop training for designers, horticulturalists, and communities; establish citizen science hubs; create educational resources and upskilling partnerships	**Toolkits and Frameworks:** A biophilic living toolkit for biophilic design and retrofitting; a biophilic evaluation toolkit; valuation framework; stewardship model; governance playbook	**Design, Practice and Built Environment Change**: Increased uptake of biophilic design and retrofit guidance by practitioners, communities, and local authorities; scalable models and sustainable biophilic practices embedded in planning and development; culture change across industry, planning, regulation and wider society	**Economic:** New valuation methods for nature-based solutions; cost-benefit evidence for biophilic retrofitting; reduced long-term climate and health costs
Tools and Methods		**Datasets and Evidence:** Publicly accessible environmental, wellbeing and socio-technical datasets from the BIOME; ecological and performance datasets		**Policy and Governance:** Legal and policy reforms shaping supportive frameworks for nature-based adaptation. Inclusive governance norms
Governance and Collaboration	**Integration and Networks:** Convene partners and build transdisciplinary collaboration; coordinate cross-thread synthesis; operate Biophilic Arts Hub; host Artists-in-Service; develop project website, reports, and co-authored publications	**Policy and Practice Guidance:** Recommendations for UK and international policy makers; reports on law and governance reforms; retrofitting guidance; nature-based design frameworks; application for Swansea Biophilic City Status	**Community, Culture and Stewardship**: Strengthened community identity and place-based engagement through creative practice; enhanced capacity for community-led stewardship and maintenance; growth of a biophilic arts and cultural scene	**Creative and Reflective:** Artistic and narrative approaches generating empathy, imagination, and foresight
		Public Communication Outputs: Film, visual, and narrative media on the building's life and community experiences; public exhibitions		**Futures Thinking:** Expansion of public and institutional capacity to envision and act on regenerative, nature-based futures
Additional Resources	**Reflection and Futuring:** Arts-based co-creation workshops with communities; speculative storytelling and eco-poetics; co-created art and future narratives; publish in cultural and future journals	**Transdisciplinary Learning Outputs:** Reflections on team co-leadership, collaborative processes, and integrated research methodologies	**Collaboration, Partnerships and Networks**: Stronger cross-sector and community partnerships; established networks for on-going innovation and collaboration; international recognition of the BIOME as a model for transdisciplinary biophilic research; equitable, mature transdisciplinary research approaches embedded	**Research and Methodological Impact:** Advancements in transdisciplinary research and co-leadership; replicable model integrating arts, sciences, governance, and community knowledge
		Knowledge Exchange Outputs: International agenda setting symposium; mid project event; final conference		

Meet the **Project REPAIR Team**

Blanche Cameron

Associate Professor at University College London

Penny Gruffydd

Landscape and Green Infrastructure Principle Officer at Swansea Council

Luci Attala

Professor of Anthropology at University of Wales Trinity Saint David and Deputy Executive Director of the UNESCO-MOST BRIDGES

Nia Davies

Research Assistant in Creative Writing at Swansea University

Mike Fowler

Professor of Biosciences at Swansea University

Carwyn Davies

Managing Director of Hacer Developments

Victoria Jenkins

Associate Professor of Law at Swansea University

Andrew Kemp

Professor of Psychology at Swansea University

Kirsti Bohata

Professor of English Literature at Swansea University

Gethin Matthews

Senior Lecturer of History at Swansea University

Chris Pak

Lecturer in Contemporary Writing and Digital Cultures at Swansea University

Becky Cole

Head of Regeneration Codi Group

Lucy Ralph

Communications Lead at Hacer Developments

Yolanda Rendón Guerrero

Architect, ATiC Innovation Fellow at University of Wales Trinity Saint David

Fran Rolfe

Senior Green Infrastructure Officer (Swansea Bay Catchment) at Natural Resources Wales

Lymarie Rodriguez

Lecturer in Psychology at University of Wales Trinity Saint David

Martyna Surma

Research Assistant in Nature-based Solutions for Social Housing at Swansea University

Lowri Wilki

Post-doctoral Fellow in Psychology at Swansea University

Amy Isham

Senior Lecturer in Psychology at Swansea University

Geoff Proffitt

Professor Emeritus (Science and Engineering) at Swansea University

Year One in Focus:
What We Set Out to Do

In Year One, Project REPAIR focused on establishing the foundations for delivery, setting up structures, partnerships, and areas of enquiry to support a complex, transdisciplinary project.

Year One Objectives

To guide this work, Project REPAIR set out four objectives that shaped research, engagement, and creative practice:

1. Identify factors shaping the adoption of biophilic design, retrofit, and living

2. Start generating insights from the BIOME and other case studies to inform wider practice in climate resilience and nature integration

3. Explore emerging ways to understand value and cost across cultural, social, environmental, and economic dimensions

4. Test and refine initial approaches to collaboration, governance, and team working

Key Threads

Project REPAIR is structured around six interconnected Threads that provide a framework for understanding how change happens across people, place, and systems:

Restoration
Exploring how ecological recovery can be supported through the built environment

Adaptation
Identifying the changes necessary to enable the expansion of nature-based solutions

Lived Experience
Understanding how people experience and shape biophilic environments

Integration
Sustains networks of collaboration amongst researchers, partners and communities

Performance
Assessing environmental performance of building and locale

Reflection and Futuring
Developing long-term thinking to guide future change

These threads provide the foundation for all project activity, ensuring a coordinated and systems-based approach to delivery.

REPAIR: Braiding Threads

Restoration

Understanding the nature-based process of design and retrofitting of Biome. Identifying barriers and enablers, skills gaps and training needs. Contextualising Biome in its place.

Experience (Lived)

Centring communities' needs, desires, and daily experiences through co-creation, sensory ethnography, placemaking, creative and narrative methods.

Performance

Assess how building and locale performs (energy, water, biodiversity) across different time-scales (seasonal, annual).

Adaptation

Identifies changes in law, policy, risk, training, finance, health and wellbeing across scales.

Integration

Synthesises insights and contributions across threads. Develops a mycelium of biophilic networks across multiple sectors (arts, health, construction, education, policy and others).

Reflection (Futuring)

Co-create speculative future visions with diverse participants through diverse artistic and creative methods.

Year One in Focus:
What We Delivered

During its first year, Project REPAIR has established a strong foundation for delivery, bringing together research, practice and community engagement through a series of interconnected activities. The project has progressed at pace, delivering across research, partnerships, engagement and creative practice, while building momentum toward longer term impact.

Research and Innovation

Project REPAIR has advanced its core research programme, developing new transdisciplinary approaches to understanding and delivering biophilic urban transformation. This includes the application of innovative, practice-based methods such as the Biophilic City Drift, which combines embodied exploration with creative reflection to generate new insights into how people experience urban nature.

Research activity has progressed across the six interconnected Threads. Early work has included a literature review on green infrastructure retrofit for social housing, stakeholder mapping, a position piece and the development of interview and workshop methodologies. This work is beginning to address a significant gap in academic research, with very limited existing evidence on green infrastructure retrofit in social housing contexts.

Project REPAIR has strengthened its academic impact through the publication of its first article and the submission of two conference abstracts to international conferences on livable cities and nature-based solutions, supporting the project's growing research profile.

Initial findings highlight:

- The importance of **social value** as a driver for green infrastructure retrofit
- The role of **financial and insurance systems** in enabling or constraining delivery
- The need to better understand **how biophilic ambitions translate into lived experience**

Partnerships and Collaboration

Partnership working has been central to Project REPAIR's delivery. The project has established and strengthened collaborations with key stakeholders, including Swansea Council, Hywel Dda University Health Board, and Codi Group.

These partnerships have enabled meaningful cross-sector collaboration, bringing together expertise from academia, policy and practice. The project has worked closely with societal partners to ensure that research is grounded in real-world challenges, with findings shared in real time to inform ongoing development.

Project REPAIR has also extended its collaborative reach through engagement with initiatives such as FORESEE, a €9M EU-funded programme at Université Grenoble Alpes exploring how we are 'living with the consequences of climate change', while building a growing network of individuals, organisations and community groups interested in biophilic futures. This has helped to create new spaces for dialogue and collaboration, including opportunities to challenge traditional power dynamics and support more inclusive approaches to urban transformation.

Engagement and Participation

Engagement has been a defining feature of Project REPAIR's first year. The project has delivered and supported a diverse programme of participatory activities, including workshops, performances, events and site-based engagements that have involved communities, stakeholders, businesses and residents

Key activities have included:

- A Biophilic City Drift workshop and a Biophilic Textiles workshop
- Contributions to events such as Green the City and 4theRegion
- A performance at The Resighting: The Fragility of Idylls exhibition, drawing on Project REPAIR's creative writing practice-based research into biophilic architecture in Swansea
- Public, business and resident engagement around the BIOME and wider Swansea context
- Site visits and community-based activities

Through these activities, Project REPAIR has engaged a wide range of participants, enabling them to reflect on their relationship with urban nature and contribute to conversations about the future of the city. The project has explored how biophilic ideas are understood, experienced and adapted in everyday contexts, revealing both opportunities and tensions in their implementation.

This work has helped to:

- Foster **public engagement with biophilia** as a concept
- Support **greater agency in shaping urban futures**
- Create **new spaces for dialogue** across communities and sectors

Creative and Cultural Outputs

Creative practice has been central to Project REPAIR's methodology, enabling new ways of exploring, understanding and communicating urban transformation.

The project has generated a wide range of creative outputs, including:

- Collective artworks from workshops (e.g. charcoal and chalk drawings)
- Murals co-created with young people and artist Siôn Tomos Owen
- Textile workshops led by Safiyyah Altaf at the Mission Gallery
- Photography documenting the BIOME by Betsan Evans (Photos Betsan Evans)


Biophilic Cities Drift Workshop


Textile workshop


Murals


Betsan Evans Photography

These outputs have supported storytelling, reflection and the generation of multiple perspectives on Swansea's past, present and future. Creative activity has also been used as a tool to prompt discussion, challenge assumptions and make research more accessible to wider audiences.

Voices & Perspectives

“I am very excited by the BIOME as a powerful example of imaginative regeneration… a living embodiment of delivering on multiple objectives linked to Wales’s Well-being of Future Generations Act.”

— Jane Davidson,
Sustainability Leader

This external perspective highlights the significance of the BIOME and REPAIR as a model for inclusive, nature-based urban transformation.

Case Studies & Stories
From the Project

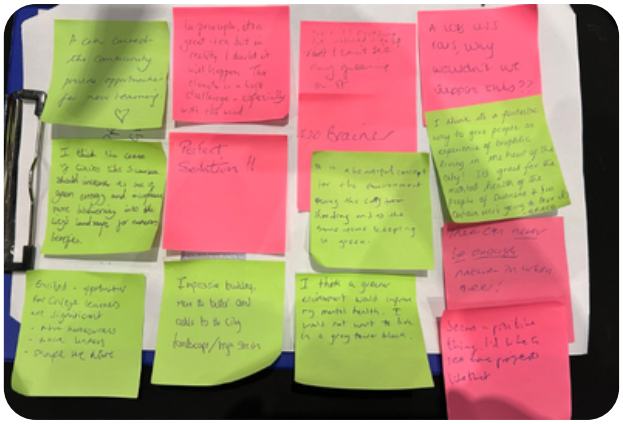
Lived Experiences in Biophilic Urban Regeneration

Project REPAIR's Year One research highlights important insights into how biophilic urban regeneration is experienced in practice.

Engagement with residents, businesses and stakeholders revealed:

- Mixed responses to biophilic developments, with strong support for environmental features but concerns around social equity
- Challenges in adapting to new technologies and eco-design features
- A strong desire for community connection, often constrained by structural barriers
- Limited opportunities for residents to influence design decisions

These findings point to a clear tension between the ambitions of biophilic design and the practices of implementation. They emphasise the importance of early and meaningful engagement, user-friendly technologies, and ongoing support to ensure developments are inclusive, accessible, and responsive to lived experience.



Reimagining Swansea Through Young People's Eyes

As part of REPAIR's community engagement programme, two primary schools took part in a creative exploration of Swansea's past, present and future.

Pupils began with a guided tour of the city, visiting key historical sites and reflecting on how people and nature have shaped Swansea over time. The following day, at the BIOME, they worked with mural artist Siôn Tomos Owen to transform their ideas into collaborative artworks.

Through drawing and storytelling, the children expressed their visions for a greener, more connected and sustainable city. The resulting murals capture their hopes for the future and demonstrate the value of engaging young people in conversations about urban change.

Biophilic City Drift

The Biophilic City Drift, led by artist Simon Whitehead, explored participants' sensory and emotional connections to Swansea through an evening drift across the city.

Inspired by the Situationist dérive, participants responded to prompts and the presence of both human and more-than-human urban life. The workshop concluded with a collective creative session, where participants produced drawings reflecting their experiences and imagining the city's future.

Outputs included:

- Collective artworks
- Photographic documentation
- Participant reflections

These materials form part of Project REPAIR's research impact activity, capturing public perspectives on biophilic urban environments.

Braided Coaching – Building Capacity for Collaborative Working

Project REPAIR has introduced a bespoke programme of Braided Coaching, developed by Emergence (Fern Smith), to support effective transdisciplinary working, continuous learning, and team well-being.

The sessions establish coaching circles tailored to the project, developing skills such as grounding, presence, deep listening, clear communication, and reflexive practice. Launched through an initial face-to-face session and now delivered online, the programme has strong commitment across the full team.

Braided Coaching has strengthened collaboration, improved communication, and embedded reflective ways of working, enhancing the team's ability to navigate complexity and deliver impact.

Year One in Focus:
Impact and Influence

During its first year, Project REPAIR has begun to establish a clear and growing influence across policy, practice and academic communities. While much of this impact is at an early stage, there is strong evidence of the project shaping conversations, informing emerging practice, and contributing to strategic developments at both city and regional levels.

Influence on Policy and Practice

Project REPAIR has contributed to ongoing discussions around urban sustainability, biodiversity and health, particularly in the context of nature-based and biophilic approaches. Through engagement with local authorities, regional stakeholders, Senedd researchers and others, the project has helped to inform thinking around how these approaches can be embedded within planning, design and place-based decision-making processes.

Contribution to City-Level Initiatives

The project has played a supporting role in strengthening Swansea's ambition to become a more nature-connected city. This includes contributing to the wider biophilic city agenda and supporting the city's successful acceptance into the Biophilic Cities Network. Through its activities, Project REPAIR has helped to build momentum and align stakeholders around a shared vision for urban nature and well-being.

Swansea has been officially recognised as a Biophilic City, joining an international network of places such as San Francisco, Singapore, Vancouver and Oslo that are committed to putting nature at the heart of urban life.

The successful designation follows a joint application by Swansea Council, Natural Resources Wales and Swansea University, and reflects the city's long-term work to strengthen green and blue infrastructure, support biodiversity and improve wellbeing through designing and incorporating more nature into our urban spaces.

As part of the global Biophilic Cities Network, Swansea will share learning and best practice with cities around the world, while showcasing local innovation and leadership in nature-led urban regeneration.

Since 2020, around one hectare of greens roofs and walls have been installed in the city centre, designed to capture and hold water, reduce local surface flooding and create 'buzz highways' across the city with food and shelter for pollinators and invertebrates. They also provide summer cooling and winter insulation for buildings, helping reduce energy use and make the city more liveable for residents and businesses.

Cllr Andrew Stevens, Swansea Council's Cabinet Member for Environment and Infrastructure, said: "This recognition reflects the progress already being made in Swansea to put nature at the centre of how the city grows and regenerates. It reinforces our commitment to creating healthier, greener and more biodiverse places that benefit communities now and in the future."

Two projects supporting this approach are already underway: the biophilic-designed Biome building in Swansea city centre - being led by Hacer Developments - and the REPAIR research programme, funded by the Arts and Humanities Research Council (AHRC).

Professor Geoff Proffitt, of Swansea University, said: "The Biome demonstrates how biophilic design can work in practice, while the REPAIR programme will help us better understand how nature-led regeneration impacts people, places and the wider environment."

Fran Rolfe, Green Infrastructure Specialist at Natural Resources Wales, said: "Becoming a Biophilic City recognises Swansea's strong natural assets and the partnerships driving greener, more resilient urban spaces."

The designation marks another step in Swansea's commitment to nature recovery, climate action and healthier communities.

SWANSEA, WALES

Biophilic Cities Partner City Since 2026

Swansea, located on the south coast of Wales, is a city defined by its connection between urban life and the natural environment. The county boasts diverse landscapes, from upland moorland and wetlands to river valleys, woodlands and the internationally recognised Gower coastline. Much of its land remains natural or semi-natural, forming the foundation of Swansea's commitment to biophilic urban development.

Building on its transition from an industrial centre to a regenerating green city, Swansea combines ecological recovery with urban regeneration. Swansea Council, Natural Resources Wales, Swansea University, and local community partners collaborate to address climate impacts and biodiversity loss through nature-based solutions that improve flood resilience, air quality, nature recovery, ecological connectivity, and public wellbeing.

Across the city and county, initiatives take an ecological landscape-scale approach to green infrastructure, increasing the availability and quality of green spaces and nature-based solutions across urban and suburban areas. The aim is to create nature-rich neighbourhoods, strengthen connections between city and coast, and support the development of local skills, knowledge, and a thriving green infrastructure economy.

City Contacts: Prof. Geoff Proffitt, Emeritus Professor (Biosciences) - g.proffitt@swansea.ac.uk

Shaping Awareness and Conversations

Public engagement activities, workshops and collaborative events have created opportunities for participants to reflect on their relationship with urban nature and to explore new ways of experiencing the city. These activities have contributed to a growing awareness of biophilic approaches among communities, practitioners and partners, and have begun to shift conversations toward more integrated and creative responses to environmental challenges.

Academic Contributions

The project has also made early contributions to the academic evidence base, including the publication of initial research outputs and the development of innovative, transdisciplinary methods. Project REPAIR is helping to position arts and humanities approaches as central to addressing complex urban challenges, particularly in relation to climate resilience, biodiversity and well-being.

Year One in Focus: Funding and Added Value

Project REPAIR has delivered against its funding commitments in Year One, successfully mobilising and deploying the resources set out in the original proposal to support a programme of research, engagement and partnership activity.

Additional Funding Leveraged

Building on this foundation, Project REPAIR has actively sought to leverage additional funding to extend its reach and impact. In Year One, this has included:

- Securing EU seedcorn funding to scope a New European Bauhaus bid
- Submitting two Net Zero Place-Based Impact Acceleration Account proposals
- Securing £100k of EPSRC Place-Based Impact Acceleration Account funding for the RE^{2}VEAL – Real-time Energy and Environment Visualisation for Engagement and Low-Carbon Living project, which aims to foster an energy-conscious culture in buildings by developing a standardised, documented process that can be replicated by installation contractors and other service providers.
- Securing £2,000 from the UWTSD Catalyst Fund to co-produce a restorative biophilic respite room prototype for General Practitioners at Glangwili Hospital, Carmarthen, in partnership with Hywel Dda University Health Board.

The Existing Respite Room for General Practitioners at Glangwili Hospital, Carmarthen

These activities demonstrate Project REPAIR's ability to attract further investment and align with wider strategic funding opportunities.

Additional Funding Leveraged

Beyond its core funding, Project REPAIR has generated significant added value through its collaborative and place-based approach.

This includes:

- Strengthening partnerships across academia, policy and practice
- Contributing to strategic city-level developments, including Swansea's position within the Biophilic Cities Network
- Enhancing the visibility and profile of biophilic and nature-based approaches within regional and national conversations
- Creating a strong platform for future funding, collaboration and impact

Collectively, these activities demonstrate that Project REPAIR is not only delivering on its original commitments, but also extending its value by building momentum, attracting new opportunities and positioning itself for longer-term impact.

Year One in Focus: Communications and Visibility

Communications during the first year of Project REPAIR have focused on establishing a clear and sustainable approach to visibility, aligned with available resources and the collaborative nature of the project.

Website Development

The Project REPAIR website has been developed and refreshed to act as a central platform for the project. New content has been added to showcase activities, outputs and partnerships, providing a clear and accessible narrative of the project's aims and progress. The website serves as the primary repository for project information and will continue to evolve as a key tool for engagement.

Visit the website: www.biophilic.wales

Media and External Communications

Project REPAIR has contributed to wider media visibility through press releases and communications led by partners, including coverage relating to the BIOME and Swansea's recognition as a partner city in the Biophilic Cities Network. While these communications have not focused exclusively on Project REPAIR, they have helped to position the project within broader strategic developments and raised awareness of its role within these initiatives.

A decision was taken not to establish dedicated Project REPAIR social media channels during the first year, recognising the need to ensure that communications can be maintained consistently and effectively. Instead, the project has utilised the established channels of partner organisations to share updates and reach relevant audiences.

Events and Presentations

Project REPAIR has actively shared its work through events, presentations and public engagement activities. Contributions to events such as Green the City, alongside workshops and collaborative sessions, have provided opportunities to present emerging work, engage stakeholders and build visibility across academic, policy and community audiences.

Looking Ahead

With a strong foundation now in place, there is an opportunity in Year Two to further strengthen Project REPAIR's communications and visibility. Codi, as one of the project's societal partners, will play a key role in supporting external communications, providing capacity to enhance the project's media presence and broaden its reach. This next phase will focus on raising the profile of Project REPAIR and ensuring that its outputs and impact are communicated more widely and consistently.

Year One in Focus: Challenges and Learning

As a complex and transdisciplinary project, Project REPAIR has encountered some challenges during its first year. These are not unexpected for a project of this nature and scale and have provided valuable opportunities for learning, adaptation, and strengthening delivery.

Key Challenges

Key challenges have related to timing, capacity, and the realities of collaborative research:

Delay in building handover and phased development of the BIOME
Delays to the planned handover, alongside the gap between building completion and the greening of spaces, have limited early access to the primary case study.

Delay in appointing key project roles
The appointment of the Project Manager and Research Assistant took longer than anticipated, creating early pressure on coordination and delivery across the project.

Capacity constraints across the research team
Academic and research staff have faced competing demands on their time, alongside wider sector pressures.

Staffing uncertainty
Some academics involved in the project have been at risk of redundancy, creating potential challenges for continuity, delivery, and well-being.

Establishing a shared approach
Developing and agreeing the project's strategic and operational structure across a diverse team has required time, particularly in aligning different disciplines, languages, and ways of working.

What We Have Learned

These challenges have reinforced important lessons:

- The importance of flexibility in research design, including the use of alternative case studies, secondary data, and desk-based analysis where access is limited.
- The need to prioritise early resourcing and coordination to support effective project delivery.
- The importance of shared ways of working and decision making within the Thrive Team Convening model, which prioritises inclusive governance and collective leadership.
- The value of dedicated coordination and support, including project management to reduce administrative burden and enable researchers to focus on high quality outputs.
- The importance of time and space for transdisciplinary working, recognising that building shared understanding takes time but leads to stronger outcomes.
- The benefit of adopting iterative and reflective approaches to planning, including the use of logic models as collaborative, evolving tools.

How This Will Improve Delivery

These lessons are already strengthening the project and will continue to shape delivery in Year Two:

- Additional case studies and data sources are ensuring continued progress while access to the BIOME evolves.
- The Project Manager is now in place, improving coordination, reducing administrative pressure, and supporting efficient delivery.
- The addition of a Research Assistant is strengthening delivery capacity and enabling greater focus on research and engagement activity.
- Plans for shared documentation, flexible resourcing, and institutional support are being implemented maintaining continuity in the face of potential staff changes.
- The project's operations and activities are being actively aligned with Team Convening principles and transdisciplinary practice, ensuring these ways of working are embedded in everything we do.
- Ongoing training, reflection, and co-creation are fostering more effective and collaborative ways of working across the team.

Overall, these experiences have strengthened Project REPAIR's approach, ensuring it remains adaptive, resilient, and well positioned to deliver impact in the next phase.


Gwynfaen Eco-Development

Next Steps:
Year Two Priorities

Building on the strong foundations established in Year One, Project REPAIR is entering a more focused phase of data collection, testing, analysis, and application. The emphasis will shift towards generating deeper insights, demonstrating impact, and supporting broader adoption of biophilic urban regeneration approaches.

What Happens Next?

In Year Two, the project will advance research across all Threads, strengthening the evidence base and refining the Project REPAIR framework. Activities will focus on translating early learning into practical approaches that can be applied beyond the project. The BIOME in Swansea will remain a central case study, providing opportunities to explore how biophilic living is experienced in practice and how it performs over time.

Upcoming Activities

Key areas of focus will include:

- Expanding research across the six Threads to generate measurable insights and outputs.
- Further development and testing of methods to understand social, environmental, and economic value.
- Delivery of targeted workshops, events, and engagement activities with partners and communities.
- Continued development of case studies and outputs to support wider application.
- Progression of funding opportunities to scale activity and extend the reach of the project.
- Ongoing contribution to policy and practice conversations at regional and national levels.

Opportunities to Engage

There will be increasing opportunities for partners to get involved as the project develops.

These include:

- Participating in workshops, events, and knowledge exchange activities
- Collaborating on research and case study development
- Contributing to discussions on policy, practice, and implementation
- Supporting the testing and application of emerging approaches in different contexts

Project REPAIR will continue to work collaboratively with partners across sectors to ensure that its outputs are relevant, practical, and capable of supporting meaningful, lasting change.

Our Partners and Network

Project REPAIR is supported by an extensive network of partners and collaborators across academia, government, industry, and community organisations. Their expertise, insight, and engagement are central to the development, delivery, and impact of the project.

Acknowledgements

We gratefully acknowledge the contributions of all partners, collaborators, and participants who have helped shape Project REPAIR's research, engagement, and applied work. Their involvement ensures the project remains collaborative, inclusive, and impactful.

Our Partners, Collaborators, Advisors and Supporters:

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serenbe
Coleg Gŵyr Abertawe Gower College Swansea
Purposeful Places
Greener Cities in Europe
EFB European Federation Green Roofs & Walls
URBAN FOUNDRY
HACER
FGCU
Cyfoeth Naturiol Cymru Natural Resources Wales
Cadw Iaith Cadw Gwlad
Inner Development Goals Inner Growth for Outer Change
Texas A&M University Corpus Christi
Llywodraeth Cymru Welsh Government
The Biophilic Institute
Bargen Ddinesig Bae Abertawe Swansea Bay City Deal
GIG Cymru NHS Wales | Iechyd Cyhoeddus Cymru Public Health Wales
Bridgman & Bridgman Living Roof Services
GIG Cymru NHS Wales | Bwrdd Iechyd Prifysgol Hywel Dda University Health Board
University of Reading
Comisiynydd Cenedlaethau'r Dyfodol Cymru Future Generations Commissioner for Wales
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UCL
Cyngor Abertawe Swansea Council
Prifysgol Cymru Y Drindod Dewi Sant University of Wales Trinity Saint David
Natural Products BioHUB Supporting Resilient & Greener Futures
EMERGENCE

Project Partners

REPAIR works with organisations across sectors to explore how biophilic approaches can support healthier, more resilient urban environments.

Bridgman & Bridgman

Eco-Schemes, Gary Grant

Emergence

European Federation of Green Roof and Living Wall Associations (EFB)

Future Generations Commissioner for Wales

Gower College

Hywel Dda University Health Board

Inner Development Goals

Public Health Wales

St Helen's Primary School

Swansea Bay City Deal

Swansea Bay Health Board

UNESCO-MOST BRIDGES

Urban Foundry

Welsh Government

West Glamorgan Regional Partnership (NHS)

Ysgol Gymraeg Bryn-y-Mor

International Advisory Board

The International Advisory Board brings together leading experts from research, policy, design, ecology, health, and the built environment to provide strategic guidance and international perspective.

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Portfolio Manager, Arts Council of Wales

Retrofitting for the Future:
Nature Based Solutions for Climate Adaptation
Ôl-osod ar gyfer y dyfodol:
Datrysiadau seiliedig ar Natur ar gyfer Addasu i'r Hinsawdd

Contact and More Information

For more information about Project REPAIR, including updates, outputs, or collaboration opportunities, please visit our website: REPAIR: Retrofitting for the Future or email repair@swansea.ac.uk. A member of the project team will respond to any enquiries.

We welcome engagement with partners, stakeholders, and communities who share an interest in advancing sustainable, inclusive, and nature-connected urban futures.