

IMPACT REPORT



Blue Carbon Accelerator Programme

April 2024



THE CROWN
ESTATE

In collaboration with:



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Foreword

Sally-Ann Hart MP

Chair of the APPG for the Oceans

As a Member of Parliament representing the picturesque coastal community of Hastings and Rye in East Sussex and serving as the Chair of the All-Party Parliamentary Groups ("APPG") for Coastal Communities and the Ocean, I am acutely aware of the potential threats posed by climate change to the protection and preservation of our oceans.



I have personally observed the ways in which our oceans can help combat climate change and the additional benefits they can offer in terms of creating new skills, fostering experiences, building connections, and generating employment opportunities for our coastal communities. Safeguarding our oceans and their blue carbon habitats is crucial to achieving the UK's net-zero targets and unlocking the immense potential of ocean-based solutions for climate change mitigation and biodiversity recovery.

Our recent report from the APPG for the Ocean, titled "The Ocean: Turning the Tide on Climate Change," emphasises that investing in coastal and ocean-based solutions can significantly boost industry and the economy in our coastal regions. The report also underscores the often-overlooked importance of blue carbon and ocean-based solutions in climate change discussions. It highlights that the destruction of marine habitats, such as seagrass, may have consequences as significant as, if not greater than, land-based destruction like deforestation. Therefore, the APPG calls upon the UK Government to prioritise and invest in blue carbon and ocean-based solutions, while also encouraging private sector investment.

It is imperative to support better and long-term research, data collection and mapping, government focus and a facilitating regulatory environment, funding, leadership, and sustainable policies to allow these solutions to reach their full potential.

However, we must shift more of our focus towards ocean-based solutions, given that the ocean covers over 70% of the planet's surface and produces about 50% of the oxygen we breathe. It plays a monumental role in mitigating the pace of climate change, and I firmly believe there is more that can be accomplished to establish the UK as a global leader in ocean protection, preservation, and management.

The role of investment and private sector financing is paramount in securing the capital required to capitalise on these opportunities. By engaging private investors, we can leverage their expertise, resources, and innovative capabilities to support sustainable projects. Additionally, private sector participation encourages collaboration among businesses, research institutions, and government agencies, creating a formidable synergy for progress. To attract investment for these initiatives, we need to establish a conducive environment with clear regulations, financial incentives, and a promotion of public-private partnerships.

Bright Tide's Blue Carbon Accelerator Programme has succeeded in bringing together leading organisations dedicated to addressing ocean-related challenges. This programme has created an ideal platform for the development of this sector, featuring networking events, mentoring sessions, investment connections, and partnership development. It is imperative that we collaborate to foster the growth of the blue carbon market with integrity and speed, a mission in which this programme has played a pivotal role. Simultaneously, it has raised awareness about blue carbon ecosystems and their restoration, a movement that we must continue to cultivate to garner public support and advocacy.

I also had the privilege of meeting with the exceptional cohort of entrepreneurs from the Blue Carbon Accelerator programme, learning more about their essential work in blue carbon restoration, including seagrass, mangroves, and kelp. Their technological innovations are vital in improving the methods for measuring, monitoring, and verifying blue carbon, making the market more reliable and transparent.

By collectively working towards the protection, research, and investment in ocean-based solutions and blue carbon habitats, we can ensure we reach net-zero targets, provide significant opportunities for coastal communities, enhance biodiversity, and bolster ocean health. In doing so, the ocean will emerge as an active participant in the crucial task of climate change mitigation.

Harry Wright CEO and Founder, Bright Tide

SDG14 Life Below Water is the least funded of all the UN Sustainable Development Goals with just 1% of all climate finance spent on the ocean. Similarly, whilst over US\$23 million investment was deployed into terrestrial protected areas, only US\$980 million went into marine protected areas.



Yet the ocean is vital to the health of our planet and sustaining life, not only in the marine ecosystems but also all human civilisations which rely on the multitude of ecosystem services that it provides. The oxygen of every second breath that we take is produced by microscopic organisms living in the ocean². Meanwhile,³ around 40% of the carbon dioxide that has been released into the atmosphere from the use of fossil fuels has been absorbed by the ocean, to the point where it is now reaching a tipping point.

Blue Carbon is the term for the carbon that is captured and stored by the ocean and coastal ecosystems such as mangroves, salt marshes and seagrass. However, the importance of these ecosystems goes far beyond simply storing carbon, as many of the ventures on this programme are working to deliver. For example, they provide essential nursery habitats for marine life, provide coastal protection in the form of natural wave attenuation, support livelihoods of coastal and indigenous communities across the globe, and help to improve water quality.

1 <https://www.unep.org/resources/state-finance-nature-2022>

2 <https://earthobservatory.nasa.gov/blogs/fromthefield/2017/02/09/every-other-breath/>

3 <https://oceanographicmagazine.com/news/ocean-carbon-sink-rate>

The oceans via Blue Carbon therefore offer an opportunity for us to tackle two of the greatest challenges of our time in climate change and biodiversity loss. We believe that one of the best ways to impact change at scale in terms of marine restoration with Blue Carbon is to support the pioneering startups, entrepreneurs and NGOs who are working on these opportunities.

Our Blue Carbon Accelerator Programme launched in May 2023, supported 12 entrepreneurs and NGOs working on urgent challenges related to Blue Carbon. These are leaders in their field, working across marine ecosystem restoration projects, technological or data solutions, financial innovation, coastal community development and development of a Blue Carbon Market.

It has been an enormous privilege to support such an inspiring and dedicated cohort of entrepreneurs and we look forward to supporting all the ventures as they continue to develop the blue carbon market across the world.

Gus Jaspert MD Marine, The Crown Estate

As an island nation, the UK is home to some of the most diverse, distinct and important coastal landscapes in the world. These extraordinary marine environments have shaped our way of life for generations. At The Crown Estate, it's our privilege – and enormous responsibility – to act as custodians of this resource around England, Wales and Northern Ireland, and to unlock its potential to address some of the biggest challenges we face today. This means catalysing the energy transition and improving the UK's energy security; taking a leading role in stewarding the protection and restoration of nature; and supporting inclusive communities and driving economic growth and productivity.



Our ambition is to become the most attractive and sustainable marine economy in the world, with nature at the very core. Our seabed has a critical part to play in the UK's net zero and energy secure future, but it is also under mounting pressure. It is an increasingly busy place, already supporting an extraordinary number of livelihoods, industries and natural habitats as well as holding the key to a greener future and the new jobs and skills that will be created.

We know that driving the recovery of nature in our seas and enabling resilient ecosystems requires investment that can be sustained over the longer term. This means not only more formally recognising the value we draw from nature as a society, but also creating the financial mechanisms needed to accelerate the flow of finance into nature restoration. While government and philanthropic funding is helping to protect and restore vital ecosystems, there remains an estimated £56 billion funding gap to deliver nature recovery in the UK. The potential for private finance to help bridge this gap and deliver high-integrity outcomes for society and nature is significant. As only 1% of global climate finance is currently spent on oceans, there is huge opportunity to do more.

Blue carbon is an exciting area of development and the diversity of innovative organisations, bringing new approaches and technology to market is inspiring. The Crown Estate has a long history of supporting new and emerging sector technology and we are delighted to be involved in the Blue Carbon Accelerator Programme. To ensure we can amplify the success of this programme, we have worked closely with Bright Tide in developing a report that captures the experience, impact and reflections of participating ventures. The findings and recommendations of this report will help frame the specific barriers faced by ventures looking to participate in this market while understanding which components of the programme specifically benefited their own business planning and market awareness.

It has been a privilege to work with the Blue Carbon Cohort and the exchange of knowledge opportunity that the Programme has provided has been inspiring. Reversing long-term damage in the marine environment cannot be achieved overnight nor can it be delivered by any one organisation in isolation. At The Crown Estate, we're committed to working with others to enhance our investment in marine nature recovery and to arrive at a shared vision of success for delivering systems change in support of new marine natural capital markets across the UK.

About Bright Tide

Bright Tide is a leading sustainability company based in London, United Kingdom. Bright Tide works with global organisations to address urgent climate, biodiversity and regenerative challenges around the world.

Bright Tide runs some of the leading sustainability accelerator programmes in the UK and has developed an extensive global network in sustainability innovation, working with over 100 leading sustainability ventures from across the world.

In 2022, Bright Tide launched its first Blue Economy Accelerator Programme which supported 12 blue economy ventures from around the world, working across the areas of aquaculture, offshore wind, sustainable fisheries and shipping.

In October 2023, Bright Tide continued its impact work launching its new Regenerative Farming Accelerator Programme which will support 20 global regenerative farming ventures (both on land and in the ocean), scale and become commercially successful.

About The Crown Estate

The Crown Estate is a significant national landowner with a diverse £16 billion portfolio that includes urban centres and development opportunities; one of the largest rural holdings in the country; Regent Street and St James's in London's West End; and Windsor Great Park. We also manage the seabed and much of the coastline around England, Wales and Northern Ireland, playing a major role in the UK's world leading offshore wind sector.

We are a unique business established by an Act of Parliament, operating independently, and tasked with growing the value of the portfolio for the nation and returning all of our net profit to HM Treasury for the benefit of public spending. This has totalled £3.2 billion over the last ten years.

Through our activities and investments, The Crown Estate creates environmental, social and financial value both for now and into the long term. This includes:

- Playing a significant role in unlocking renewable energy for millions of homes through sectors such as offshore wind and creating opportunities for new technologies like CCUS and hydrogen to deliver the UK's energy security transition, resulting in thousands of jobs for communities across the UK.
- Supporting the sustainable transformation of land use in the UK through diversified, regenerative agricultural and environmental best practice alongside a thriving natural world.
- Becoming recognised as a centre of excellence for environmental and ecological best practice across the Windsor Estate.
- Identifying and creating opportunities for thriving and resilient communities across the country to support regeneration, housing and innovation.
- Ensuring London retains its global city status, by fostering a more vibrant, greener and inclusive destination for millions of visitors and businesses.

Executive Summary

The term 'blue carbon' recognises the ability of marine ecosystems to capture and store large amounts of carbon. Seagrasses, mangroves, salt marshes and kelp forests along our coast "capture and hold" carbon, acting as a carbon sink. These coastal systems, though much smaller in size than the planet's forests, sequester this carbon at a much faster rate, and can continue to do so for millions of years.

For example, mangroves can sequester up to four times more carbon than rainforests can (Fatoyinbo et al, 2017) and are a vital ecosystem service for indigenous communities across the world, acting as a natural barrier against climate change and harbouring vital marine biodiversity.



4 Source: The Blue Carbon Initiative

These ecosystems are prevalent along coastlines worldwide, covering an expansive area of over 8,000 million km². Despite occupying just over 0.5% of the sea bottom, blue carbon ecosystems play a remarkable role in sequestering more than half of the globally captured biological carbon.

The increasing global focus on Blue Carbon ecosystems is driven by the emergence of Nature-based Solutions (NbS), attributed to their potential for rapid and long-term organic carbon (C) sequestration, concerns about greenhouse gas (GHG) emissions from endangered ecosystems, and the possibility of restoring historical losses in their spatial extent.

Whilst the demand for blue carbon solutions is rising, numerous promising concepts encounter substantial challenges. To date, only a few blue carbon projects have met the criteria for carbon markets, facing significant financial, practical, governance, and legal barriers.

4. The global distribution of marine forests (i.e., tidal marsh, mangrove, seagrass, and kelp ecosystems) around the world. Maps: tidal marsh, mangrove and seagrass distributions from The Blue Carbon Initiative (<https://www.thebluecarboninitiative.org/>); kelp distribution from Filbee-Dexter and Wernberg (2018).

Our collaborative Blue Carbon Accelerator Programme with EY professionals, The Crown Estate and Hogan Lovells tackled this issue head on. Our primary objective was to bolster and expedite the advancement of blue carbon projects and ventures worldwide. We brought together a group of 12 innovative blue carbon ventures, including both start ups and NGOs, over an 8-week programme that provided a range of networking opportunities with key players in the industry to enable the sharing of investment connections, expertise, coaching and corporate partnerships to accelerate participants' path to success. Through our initiative, we also gained deeper insights into the obstacles confronting blue carbon projects and explored how technology and innovation can propel blue carbon markets forward.

Each of our ventures offers something unique for the emerging blue carbon market however each have experienced barriers for growth which participation in the Accelerator programme helped to address. Drawing on the insights shared by the Ventures, this section brings together the key areas which needs attention from a range of market participants to lower the barrier for entry and accelerate progress for blue growth.

1. Pace of change

The blue carbon space is rapidly evolving with new initiatives, products and service providers joining the market every day. A key challenge is accessing and maintaining networks in such a fast-changing landscape. To maximise opportunities for information sharing and collaboration, establishment of robust networking fora would be valuable for rapid connection and brand awareness. In addition, in such a dynamic environment, ventures need to recognise new prospects and have the ability to refine business models to maximise impact.

2. Expertise and innovation

Blue carbon activities often require collaborations between technology/financial product innovators and ecology specialists. Historically these sectors have not naturally migrated together. It is clear however that for credibility in this market space, and to avoid concerns around green (or blue) washing, it is imperative for join-up between the relevant areas of expertise. Strategic partnerships therefore are critical to success.

3. Regulatory complexity and capacity building

As the blue carbon marketplace matures, so too does the regulatory frameworks that govern it. Legal obligations in the marine space are already complex and capacity building is necessary to ensure all innovators are meeting minimum standards. It is recognised that the existing regulatory framework is designed to guard against risk rather than enable beneficial activities. Work is underway to review the approach in the UK and input from emerging business ventures is key to shaping this into a more 'future proof' system. Taking the time to understand the current system, and thus be well placed to identify opportunities for improvement remains a critical element in driving progress.

4. Agility is key

As the sector continues to evolve, ventures must remain agile, continuously assessing their business strategies and product offers to align with the changing dynamics of the market. This adaptability will ensure they continue to demonstrate value and thus capitalise on new opportunities, but also position themselves strategically to contribute meaningfully to the growth and sustainability of the blue carbon sector.

The impact of the Programme is recognised and influencing across three main areas, which responded to particular challenges identified by participants:

1. Facilitating Partnerships, Networks and Fostering Collaborations
2. Enhancing Blue Carbon Knowledge, Market Fit and Promoting Upskilling
3. Identifying and Aiding Funding Opportunities

Key lessons that can be drawn from the success of this innovative Accelerator Programme and recommended to any future Programmes are:

1. Diverse cohort composition matters
2. Global networking strategies are key
3. Support must be tailored for varied ventures
4. Hands-on learning experience is invaluable
5. Agility in Programme delivery is critical
6. Enhanced mentorship maximises impact
7. Investment in robust evaluation metrics is needed
8. Facilitation of cross-sector learning is essential
9. Increased cohort engagement bolsters collaboration
10. Engagement with the political process is vital
11. Extended post-programme support maximises impact

This report presents a comprehensive overview of the Programme, with a specific focus on the invaluable support provided to participating ventures by our esteemed partners.

The following sections will:

1. Delve into specific details and intricacies of the Programme
2. Encompass a detailed summary of the various networking events and sessions that were meticulously curated and delivered by our partners
3. Provide an exploration of the key impacts and noteworthy outcomes observed by the Cohort, shedding light on the tangible benefits derived from the collaborative efforts
4. Identify and articulate specific learnings from the Programme

Overview of the Blue Carbon Accelerator Programme

Background to the Programme

Whilst the demand for blue carbon solutions is rising, numerous promising concepts encounter substantial challenges. To date, only a few blue carbon projects have met the criteria for carbon markets, facing significant financial, practical, governance, and legal barriers.

The programme supported a diverse cohort of 12 blue carbon organisations globally, encompassing 6 Marine NGOs dedicated to mangrove, seagrass, and kelp blue carbon projects, alongside 6 Technology Ventures focusing on enhancing monitoring, reporting, and verification of blue carbon ecosystems. Additionally, these ventures aimed to scale technology solutions for gathering crucial oceanic data, including biodiversity and ocean hydrographic data (the “Cohort”).

In collaboration with our private sector partners, EY, Hogan Lovells and The Crown Estate, the programme provided technical guidance, mentorship, and advisory services to the Cohort. Furthermore, it facilitated networks, investment opportunities, expertise, coaching, and corporate partnerships, accelerating the Cohort’s journey towards success.

The programme focused on four main pillars including:



8-WEEK PROGRAMME

with dedicated support, coaching and collaboration for global Blue Carbon ventures including access to pro bono support, networks, corporate partnerships and investment funds



PLATFORM

raising the profiles of Blue Carbon ventures globally, through offering public speaking opportunities, networking at our exclusive in-person events and pitching at our showcase event in London



CONNECT

connecting Blue carbon ventures directly to the private sector including introductions to our corporate partners, investment connections, professional networks, peer-to-peer circles and industry expert partners



SCALE UP

providing technical support and scale up commercial aims with leading experts, including access to pro bono legal support coaching, investment readiness sessions and expert industry advice

The aim of the Programme was also to better understand the challenges/obstacles that blue carbon projects face and discover how we can better utilise technology and innovation to drive forward the blue carbon markets.

To find out more about our Programme, you can watch our announcement video [here](#).

Cohort Profiles: Ventures

We were delighted to welcome our incredible Cohort onto the programme, including the following impact-driven organisations:



Urchinomics is a blue carbon credit generating, restorative aquaculture venture that aims to turn an environmental challenge into a commercial, ecological and social opportunity.

Overfishing of predatory species, climate change and pollution has allowed sea urchins to explode in population. Uncontrolled quantities of sea urchins overgraze kelp forests and seagrass meadows, turning once pristine and vibrant marine ecosystems into lifeless, barren deserts, or "Urchin barrens".

Urchinomics specifically targets these ecologically destructive, empty sea urchins and re-homes them into their ranching systems, where they are converted from an ecological pest to premium sea urchin roe, or "uni". And by removing them from the barrens, they help kelp forests recover to their original healthy ecosystem.



Whale Seeker is a Canadian company that leverages ethical AI to build fast, automated, accurate, and user-friendly whale detection from images that empower all decision-makers to develop more sustainable business practices.

Whale Seeker's data helps strengthen environmental impact assessments, supports the industry in complying with marine regulations, improves companies' bottom lines, ultimately helping to protect marine mammals. Whale Seeker is also part of the The Whale Carbon PlusProject which is developing methodology based on remotely sensed images to quantify the contribution of whales to carbon sequestration.



Ecosulis is on a mission to accelerate global rewilding. Using nature-based solutions, cutting edge science and over 30 years of experience, they restore multiple ecosystems. They do this not just to recover nature and bring balance to our planet, but also to create a hopeful future for generations to come.

Ecosulis's sister company CreditNature, is also revolutionising the way private institutions invest in nature. Their cutting-edge platform combines analytics and digital assets, like Nature Impact Tokens, to provide investors with accessible and transparent opportunities to boost biodiversity and ecosystem resilience.



Vlinder is a climate tech startup with a mission to empower people to make a planetary impact. Vlinder reinforces high-quality climate projects with smart capital and innovation by:

Accelerating small to midsize high-quality carbon projects focusing on mangrove restoration, provide early-stage upfront financing and de-risk carbon projects to make them investable; and providing a forward carbon tokenisation platform where projects receive funding at fair terms and investors get de-risked forward carbon and attractive returns.



Stream Ocean is making the invisible visible. Ocean conservation and restoration efforts are in desperate need of better monitoring solutions. StreamOcean is developing an easy-to-deploy underwater camera system equipped with an AI-powered analytics engine. This game-changing solution will provide accurate ecological data and visuals in real-time and guide funding toward the most effective means to respond to marine biodiversity loss and restore our ocean planet.

From coral restoration to aquaculture to impact assessment, their solution enables their clients to track their marine projects consistently and understand project performance over short and long-term timescales.



Hullbot designs, builds and deploys robots that inspect and clean vessel hulls, so they use much less fuel, have far lower emissions, don't rely on toxic antifouling paints and end the transferral of invasive species.

Their underwater drone platforms use advanced camera-based autonomy to inspect, map and interact with submerged structures, and have been applied to controlling sea urchins, monitoring seagrass and other direct ocean impact applications.



ACUA Ocean is developing a cost effective, scalable hydrogen-powered uncrewed offshore platform to provide the geographical coverage and physical presence required to sustainably monitor and protect our oceans and waterways. Their hydrogen powered offshore platforms act as a physical deterrent to decrease illegal activities at sea and protect ocean assets. The vessel design increases stability enabling it to operate in offshore sea states up to 3m, while the hydrogen power enables the vessel to operate for up to 40 days at 4knts with 1kW of power for payload enabling the deployment of multiple sensors for the collection of an enriched ocean data set and AI edge-based processing.

Partner Profiles: NGOs and Community Partners



Blue Ventures is a marine conservation organisation that puts people first. They support coastal fishers in remote and rural communities to rebuild fisheries, restore ocean life and build lasting pathways to prosperity.

Blue Ventures is supporting coastal communities to steward blue carbon habitats and fisheries within one coherent framework. Their approach puts in place the secure tenure, science-based management and strong collective enforcement needed to conserve and restore blue carbon habitats at the community level.

Across more than a dozen countries, they partner with traditional fishers and community-based organisations to design, scale, strengthen and sustain community-led conservation at scale.



Aqua-Farms Organization (AFO) is a youth-led, non-governmental organization (NGO) based in Tanzania. Founded in 2016, AFO aims to build resilience of coastal communities by supporting sustainable use of ocean resources, protecting coastal resources through insurances and crediting scheme.

Since 2016, AFO worked with women groups along the coast of Tanzania and restored over 40,000 mangroves on 6 hectares of coastal strip for coastal protection and developing carbon credit scheme to support resilience of communities, climate mitigation, improve education and water services at the villages in Tanzania.



Blue Marine Foundation exists to restore a healthy ocean by creating marine reserves, restoring vital habitats and stopping overfishing. Their mission is to see at least 30% of the world's ocean under effective protection by 2030. With over 40 conservation and restoration projects around the world, Blue Marine has become a powerful force in the fight to save our ocean. Blue Marine operates a specialist unit called Blue Climate, which is dedicated to raising the profile of the ocean as a climate change solution.

Their work towards enabling a voluntary blue carbon market may enable this transition and provide leverage and sustainable financing, but the motivation is ultimately for higher levels of marine protection and restoration.



The Ocean Conservation Trust is an ocean conservation charity, focused on habitat restoration and ocean related behaviour change. The Ocean Conservation Trust also owns and manages the National Marine Aquarium, the UK's largest aquarium, based in Plymouth. Ocean conservation is all about people taking positive action.

At the Ocean Conservation Trust, they channel their resources into three core programmes, Ocean Habitats, Ocean Advocacy and Ocean Experiences within a mission to connect people with the Ocean and improve Ocean health.



Friendship is an international Social Purpose Organisation Guided by its vision of a world where people — especially the hard to reach and unaddressed — have equal opportunities to live with dignity and hope. From Bangladesh, a country facing the most pressing of humanity's challenges, Friendship develops scalable solutions to strengthen marginalised communities, and empower people to transform their lives and reach their full potential.

In blue carbon, Friendship restores mangroves forests in the Southern coastal belt of the Bay of Bengal, close to the Sundarbans, UNESCO World Heritage. This region is exposed to the effects of cyclones, embankments erosion and salinization.

Programme Events

Summary of the Main Events and their Impact

EVENTS ATTENDEES

29th Mar '23

**Launch
Event**

110 Attendees

13th Apr '23

**Panel
Discussion**

80 Attendees

13th Jul '23

**Showcase
Event**

120 Attendees

KEYNOTE AND PANEL SPEAKERS

Dr. Ralph Chami

Co-founder of Blue Green World and a distinguished global authority on blue carbon

Dr. Tasha Ebanks Garcia

The Government Representative of the Cayman Islands in the UK

Sally-Ann Hart MP

MP for Hastings and Rye, and Chair of the All-Party Parliamentary Group for the Ocean

COLLABORATOR CONTRIBUTIONS

THE CROWN
ESTATE

Hogan
Lovells

EY

Introductory talks from each

at both the first and final events

Workshops

on their areas of expertise throughout the programme (see below)

NETWORKING

4.5 hours of in-person networking

across 3 events and venues

PITCHING ENGAGEMENT

13 Startups and NGOs presenting

short 2.5-minute elevator pitches, coming from countries across the globe, including the UK, Canada, Australia and Bangladesh

The value of the events to those involved, specifically the benefits for the Cohort, is covered in the subsequent section on Impact. Beyond the quantifiable impact of the attendee numbers and organisations involved, the ventures involved provided insightful feedback and quotes that are included throughout this report and testify to the value of it.

“Networking, knowledge sharing and building relationships of trust are key for mainstreaming the Blue Carbon solutions. The Blue Carbon Accelerator Programme was very useful in that regard by involving many different types of actors and actions. We can't work in silos, every action and every contribution counts! beyond competition and greenwashing, Friendship was happy to exchange with people having the same shared objective of restoring the ecosystems for a better future.”

—— Friendship NGO

Launch Event at The Crown Estate

On 29 March 2023, The Crown Estate head offices in London hosted the official inauguration of the Programme. This significant launch brought together more than 100 distinguished guests from across the globe, converging to explore innovative approaches aimed at expediting the growth of the Blue Carbon market. Dr. Ralph Chami, Co-founder of Blue Green World and a renowned global authority on blue carbon, delivered the keynote address during this noteworthy event.

Adding depth to the discussions, a dynamic panel consisting of Cohort members such as Emily Charry Tissier, CEO and Founder of Whale Seeker; Cain Blythe, CEO at Ecosulis and CreditNature; Florence Tremblay Otis, Biologist at Stream Ocean; and Roger Maslin, CEO at Ocean Conservation Trust, engaged in a stimulating and insightful conversation. Furthermore, the event received welcoming speeches from our Programme partners, including Gus Jaspert, Managing Director of Marine at The Crown Estate, and Laura Turkington, EY Global Corporate Responsibility Commercial and Innovation Leader. These speeches served to enhance the dialogue surrounding blue carbon initiatives and collaborative efforts.



Panel Discussion Event at Hogan Lovells

Building on the momentum from our inaugural event, our second networking event took place at Hogan Lovells' London offices on 13 April 2023. This occasion attracted over 70 guests, featuring the insightful keynote address delivered by Dr. Tasha Ebanks Garcia, the Government Representative of the Cayman Islands in the UK. Dr. Garcia's address underscored the pivotal role of mangrove conservation in the Cayman Islands, emphasising the significant contributions of mangroves in climate mitigation and adaptation strategies.



Continuing the enriching discussions, a compelling panel session was convened by Cohort members including Dan Crockett, Director of Climate and Oceans at Blue Marine Foundation, Dr. Samantha Howlett, Business Development Manager at NatureMetrics, Dr. Irina Fedorenko-Aula, Director of Carbon at Vlinder; and Stéphane Van Haute, Climate Action and Communications at Friendship NGO.

Their diverse expertise and perspectives added depth to the discourse, highlighting innovative approaches and solutions within the realm of blue carbon initiatives and biodiversity monitoring and an acknowledgment on the critical importance of community ownership and involvement within blue carbon projects.

Pitch Event at Rathbones Bank

Concluding our series of impactful events, our final gathering was hosted at Rathbones Bank in Central London on 13 July 2023. The event drew in an impressive crowd of over 100 attendees, highlighted by the presence of keynote speaker Sally-Ann Hart MP, Chair of the Ocean All Party Parliamentary Group.

Sally-Ann Hart MP emphasised ongoing governmental endeavors in fostering opportunities for blue carbon projects and outlined initiatives aimed at safeguarding these crucial ecosystems. Sally-Ann also shed light on the recently published report titled "The Ocean: turning the tide on climate change," presenting pivotal recommendations, including the restoration of the UK's blue carbon habitats, integrating blue carbon into greenhouse gas inventory definitions, mapping blue carbon habitats in the UK's Exclusive Economic Zone, and advocating for a new Minister for the Ocean.

The highlight of the event was the 2.5-minute elevator pitches from each of the 12 startups and NGOs participating in the Programme. Despite the brevity of these pitches, they provided a focused platform for the Cohort to spotlight their key achievements and successes to an audience comprising investors, funders, entrepreneurs, conservationists, academics, and passionate ocean enthusiasts. This concise format allowed for meaningful interactions and discussions between the Cohort and the engaged audience, fostering connections and dialogue within the blue carbon community.



Collaborator Workshop Summaries

Aside from hosting networking events and insightful discussions with distinguished speakers and Cohort members, our collaborators — Hogan Lovells (HL BaSE), EY, and The Crown Estate — played a pivotal role. Their workshops focused on key aspects like law, finance, and regulation, guiding the Cohort on opportunities such as the Taskforce for Nature-Related Financial Disclosure.

Their support went beyond these events, involving a series of well-crafted workshops and advisory sessions. These sessions aimed to empower the Cohort with crucial insights and strategic guidance, showcasing the significant contribution of our collaborators throughout the Programme's duration.

Below, we've summarised the essence of these sessions provided by our Programme collaborators.

1. Hogan Lovells (HL BaSE) Catalyst Legal Workshop for Blue Carbon Ventures

Overview

HL BaSE is the law firm Hogan Lovells' international impact economy practice. For over a decade HL BaSE has worked with the leading innovators and disrupters in the social economy space. The goal of HL BaSE is to ensure that access to legal support is not a barrier to scale for social and environmental enterprises, enabling them to grow their impact in a sustainable way.

HL BaSE hosted an enriching and informative virtual legal workshop as part of their ongoing HL BaSE Catalyst series which brings together lawyers from Hogan Lovells and its clients to advise social entrepreneurs. The workshop focused on providing an afternoon of legal advice to social enterprises with a specific legal question. In this Catalyst session, the spotlight shone on ocean ventures that are actively working on blue carbon solutions.

The workshop aimed to equip these ventures with essential legal insights to navigate the complex regulatory, contractual, and intellectual property aspects of their work.

Key Highlights

- 1. Expert Legal Advice:** Experienced lawyers from Hogan Lovells, along with in-house counsel at its clients, offered their expertise and insights into various legal areas crucial for blue carbon ventures. These included environmental regulations, contracts, intellectual property, and corporate governance.

"I found the whole session really mind-opening and rewarding." — volunteer

- 2. Interactive Discussions:** The workshop encouraged active participation and open discussions, allowing participants to ask questions and share their experiences. Interactive sessions promoted peer learning and a greater understanding of legal issues relevant to blue carbon ventures.

3. Case Studies: Practical case studies were presented to illustrate the legal challenges and solutions faced by ocean ventures involved in blue carbon projects. These real-world examples helped participants contextualise the legal advice.

4. Networking Opportunities: Beyond legal guidance, the workshop fostered networking opportunities for social entrepreneurs, legal experts, and corporates. Building connections and collaborations was a key focus. “From a personal perspective I found it very interesting and a great opportunity to work with different people in exciting new fields” Legal volunteer.

The HL BaSE Catalyst Legal Workshop for Cohort made a significant impact by empowering ocean ventures with the legal knowledge and tools they need to navigate the complexities of their projects successfully. By fostering collaboration, providing expert advice, and facilitating networking, the workshop has strengthened the legal foundations of these social enterprises, enabling them to further their mission of environmental conservation and climate action.

“The blue carbon workshop was a fascinating insight into an area that has so much potential in the fight against climate change. Our continued partnership with Bright Tide has given us the opportunity to support innovative blue carbon projects on some interesting legal issues. Topics have included the legal barriers and considerations to think about when establishing blue carbon capture schemes and the potential liabilities of organisations running blue carbon projects. We look forward to continuing our support for blue economy enterprises and the development of the ecosystem for marine natural capital assets.”

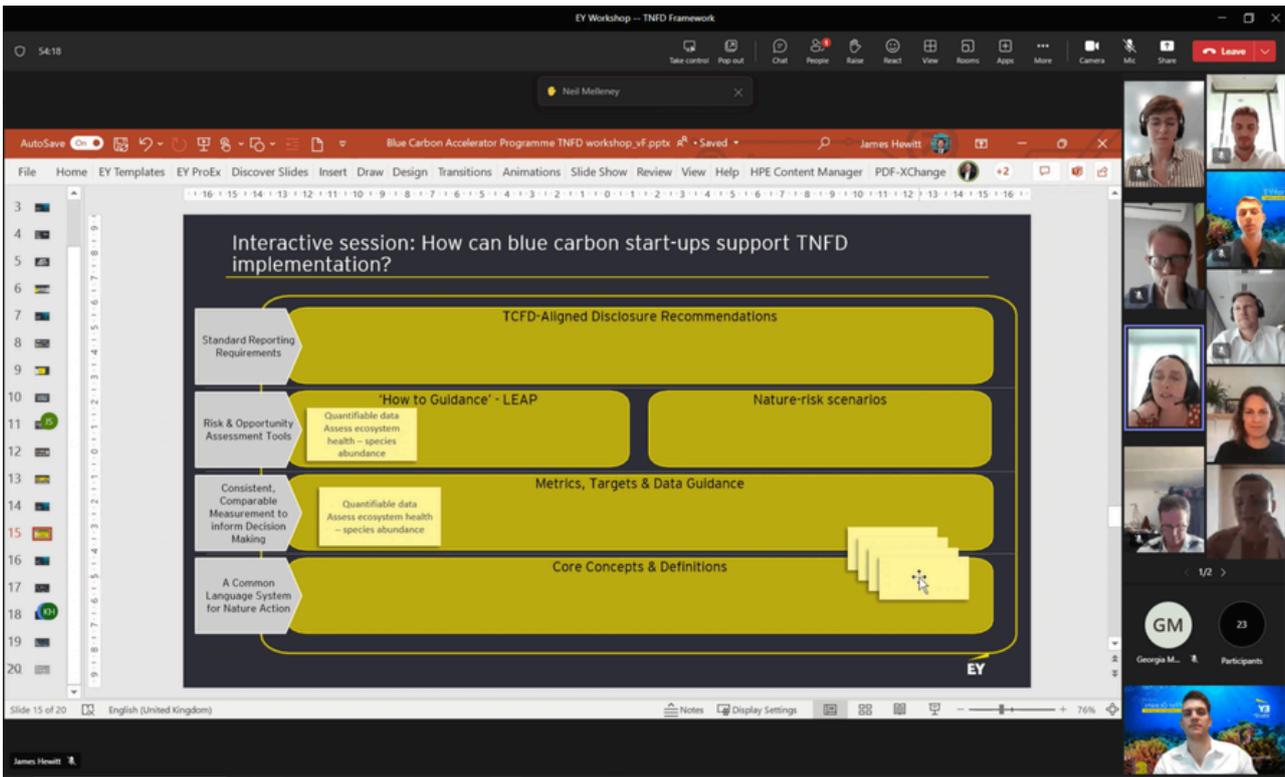
—— **Fenella Chambers, Counsel, HL BaSE**

Hogan Lovells has invested 161 hours of legal advice with an equivalent value of £134,925 during their partnership with Bright Tide.

2. EY Global Collaboration on the Blue Carbon Accelerator Programme

EY teams’ participation in the Programme marked an exciting step towards the EY Ripples ambition of impacting 1 billion lives by 2030.

This initiative activated EY teams’ across the globe to support innovative ocean entrepreneurs. Delivering workshops across topics such as the Taskforce for Nature-Related Financial Disclosure, investor readiness, and financial modelling, leveraging EY teams’ knowledge and skills to empower these impact entrepreneurs, transformed theoretical knowledge into practical strategies, and helped enable these entrepreneurs to scale their initiatives.



EY professionals hosted a pitch competition in which each impact startup pitched their business, along with a Q&A from a panel of expert judges, and subsequently were voted on by EY people to crown the **“startup with the most potential to have a positive environmental impact through scaling their business”**. Over 2,000 EY employees tuned in to watch and vote, while Urchinomics was voted as the winner and has received a significant pro-bono consulting engagement as the result.

Ocean Innovator Event: Cast Your Vote

Venture recap

	Ecosulis - Accelerating global rewilding through science
	Acua Ocean - Driving innovation to better monitor and protect the oceans
	Hullbot - Using robots to clean vessels and create healthier oceans
	Urchinomics - Restoring kelp forests through urchin aquaculture
	Vlinder Climate - Reinforcing climate projects through mangroves and innovation
	Whale Seeker - Facilitating high-quality marine mammal detection through AI

Log on to
Menti.com and use
code: **7406 8367**

As a reminder...
 YOU will be voting for the organization with the greatest potential to positively impact the environment. We suggest you try to evaluate both an organization's environmental impact given what their direct impact but also the commercial viability of their business, given increased scale will result in increased impact.

Page 6
EY for Oceans

Speaking on their experience working with the ventures on the Programme, Chris described the significance of it for their business as they continue to innovate and expand their impact:

“This collaboration has yielded substantial benefits — it has reinforced the EY Ripples commitment to sustainability, enhanced the reach and effectiveness of Bright Tide’s programme, and crucially, equipped forward-thinking entrepreneurs with essential skills to drive impactful environmental change. In this endeavour, we are not envisioning a greener future, we are actively constructing it.”

— **Christopher Roll, EY Global Corporate Responsibility Assistant Director**

3. The Crown Estate Overview Workshop and Discussion

As owners of the seabed and around 50% of the foreshore in England, Wales and Northern Ireland, The Crown Estate is a significant stakeholder in the emerging blue carbon market in the UK. In supporting national nature recovery ambitions, they are keen to work with others to understand how best to enable sustainable growth of blue carbon activities that are focused on delivering high integrity outcomes for both the environment and society. In participating in this Programme, The Crown Estate was able to engage with stakeholders and ventures looking to participate within this emerging natural capital market. This not only provided benefit to the ventures, improving their understanding of seabed leasing in the UK and its relationship to statutory consenting, it also enabled The Crown Estate to understand opportunities for resolving key barriers and challenges for such ventures and so better support this emerging market.

As part of the Programme, The Crown Estate also hosted a workshop for the ventures, running a masterclass in the roles and responsibilities of the organisation and explaining how the management of the seabed, and the myriad demands upon this space is relevant in blue carbon activities. The aim of this workshop was to help the ventures understand the intricacies of the UK marine economy, and what role their specific organisation could play in helping creating a thriving marine environment alongside The Crown Estate. The workshop also included detail on how The Crown Estate is developing new leasing products to expedite pilot/trial natural capital focused activities, as well as the opportunities of collaboration in an increasingly busy marine environment working hard to deliver the dual benefits of net-zero and nature.

In their application to the Programme itself, the ventures identified areas of support that they had specifically intended the events, networking and workshops to assist with. Consistent areas of uncertainty raised by the Ventures that The Crown Estate session sought to address were primarily linked to early-stage funding, lack of consistency within market regulation and regulatory frameworks. Building awareness and knowledge around the market context was therefore a theme for the workshop, and participants came away with a better understanding of the opportunities for engaging with other marine sectors and the role of The Crown Estate in this process, and how best they can position themselves for success in the UK.

The session also provided some clarity around the marine policy and regulatory framework, and the interface between this and The Crown Estate leasing process. Ventures left the workshop with greater understanding of the various requirements that projects need to align with, how working with The Crown Estate can provide further support and some tips for navigating what can be a complex permissions space – both in terms of people and process. A lively discussion wrapped up the session with ventures sharing ideas for improved information sharing avenues and thoughts for additional training that could be useful which The Crown Estate team took away to consider for action.

About TCE Marine: As custodian of the marine environment TCE leads the sustainable development of the seabed to deliver value for the nation

OUR PAN-SECTORAL VIEW INCL. HABITATS

Energy Offshore wind Energy conversion Marine energy	Storage CCUS Hydrogen Natural gas
Infrastructure Power & Telco Cables Pipelines	Minerals Reclamation Aggregate dredging Marine mining
Coastal Ports and harbours Aquaculture Leisure	Habitats Habitat creation Biodiversity Nature recovery

OUR OFFSHORE AND ONSHORE FOOTPRINT

OUR CAPABILITIES

- ✓ Our deep **expertise and experience** (incl. multi-sector knowledge, data & spatial insight)
- ✓ Our **ability to look across sectors** (e.g. energy, minerals, nature) balancing competing and complementary demands
- ✓ Requirement and purpose to **deliver greatest value for the nation**
- ✓ **Statutory independence** and our ability to take an objective **long-term view**
- ✓ Our **power to convene** and partner with others to bring the marine vision to life

10 NB. TCE has complete control over activities in territorial waters. TCE has purpose-limited rights covering the continental shelf, these permit the management of certain activities but TCE's control is not exhaustive.

Addressing Evidence Gaps

- Ongoing and future work seeking to understand similar data further offshore
- Through the Offshore Wind Evidence & Change (OWEC) Programme
 - Marine Restoration Potential (MaRePo)
 - North Sea Net Gain
- Supporting mapping of blue carbon habitats (building on the Wildlife Trusts/SAMS/WWF/RSPB work) and improvement of biodiversity mapping (linked to OneBenthic)
- Strategic partners in ongoing research linked to sedimentary blue carbon with CEFAS
- Additional focus on pressures – both with TCE marine sectors (e.g. WLC for OW) and without working with partners such as Surfers Against Sewage and A Future Without Rubbish

Building data, evidence and digital tools

21.

Programme Impact Summary

The Programme is a pioneering initiative, representing a comprehensive effort dedicated to supporting ventures in the blue carbon field. Uniquely crafted to empower both NGOs and tech ventures, this Programme aimed to boost their missions by building partnerships, networks, and collaborations that break traditional boundaries.

With a distinct focus on elevating the impact of blue carbon initiatives through knowledge-sharing and strategic support, it positioned itself as a pioneering force in this crucial ecological domain. The Programme's influence can be seen in key areas:



1

Facilitating partnerships, networks, and fostering collaborations



2

Enhancing Blue Carbon knowledge, market fit and promoting upskilling



3

Identifying and aiding funding opportunities

The following sections take a deep dive into these critical areas, offering detailed insights through real examples, compelling case studies, and impactful testimonials from the involved Cohort. These sections vividly showcase how the Programme's profound influence unfolded.

1. Facilitating Partnerships, Networks and Fostering Collaborations

Challenges Identified by the Cohort

- Lack of engagement from private sector organisations
- Operating in silos between NGOs and For Profit Start Ups
- Limited accelerator Programmes designed to help provide support and open up networks and opportunities specifically for blue carbon organisations

Participation in the Programme offered a significant opportunity for ventures to immerse themselves within the blue economy and blue carbon community.

The various Programme events served as invaluable hubs for networking, providing a platform for ventures and their teams to connect with a diverse array of stakeholders. Among the attendees were fellow entrepreneurs and innovators, eminent scientists pioneering the field, influential figures from business and government, regulatory experts, and financiers, creating a dynamic ecosystem ripe for collaboration and growth.

These interactions went beyond mere introductions; they catalysed transformative relationships. Many conversations blossomed into partnerships, forged new client connections and secured invaluable advice from experienced advisors. Ventures seized these occasions to solidify existing relationships while cultivating new ones, strategically positioning themselves within a network that extended across the spectrum of the blue carbon sector, from research and innovation to business and policy.

“There is a lot going on in the blue carbon space and it was really useful to connect with projects across the globe, so we can carry on the discussion and through better collaboration get to solutions more quickly.”

— **Ocean Conservation Trust**

Moreover, an additional noteworthy benefit during the Programme was the opportunity for Cohort members to establish connections and cultivate relationships among themselves. Recognising the diverse landscape of blue carbon markets, the Cohort was intentionally structured with two distinct groups: NGOs actively involved in direct blue carbon fieldwork and for-profit technology ventures at the forefront of developing essential Monitoring, Reporting, and Verification (MRV) processes crucial for nurturing blue carbon markets.

The collaborative synergy between these two sectors — NGOs and for-profit ventures — proved exceptionally valuable for numerous Cohort participants, fostering interconnectedness and collaborative dynamics.

“The Blue Carbon programme was essential because it included both for-profit and not-for-profit entities working in the same realm. Linking efforts and breaking down silos is of the utmost importance moving forward for ocean health, together.”

—— **Whale Seeker**

“The Bright Tide Accelerator has presented an extraordinary opportunity for cultivating our networks and forging strategic partnerships. Collaborating with ambitious and like-minded companies and organisations that share a common commitment to making investments in nature has proven exceptionally gratifying. We have successfully engaged with fellow enterprises seeking to bolster their resources and expertise in this domain and **have initiated promising collaborations with non-governmental organisations (NGOs)**. The program has become a catalyst for the evolution of numerous potential partnerships, with the collective dedication to the preservation of nature.”

—— **Ecosulis**

Additional Cohort members seized the opportunity afforded by the Programme to establish new partnerships and collaborations. For instance, Blue Marine Foundation leveraged the platform to cultivate robust connections with several of the ventures. This initiative resulted in the formation of a series of impactful relationships that fortified their mission and expanded their collaborative network.

“It was brilliant to be a part of Bright Tide’s Blue Carbon Accelerator and further expand our network of NGO, start-up and corporate organisations at the forefront of innovation in the conservation and restoration of blue carbon ecosystems. We have had **several meetings about new potential partnerships** with others from the accelerator, since learning more about their work. We are excited to see how these opportunities develop.”

—— **Blue Marine Foundation**

The inclusion of global participants in the Programme also cultivated a broad and diverse ecosystem, bringing in ventures from countries such as Norway, Canada, Switzerland, Australia, Tanzania, and Bangladesh. This intentional global mix aimed to create a melting pot of insights, establishing a platform for global perspectives, international networking, and the exchange of diverse knowledge and experiences.

“Being a part of a diverse community that shares common goals and visions for the ocean and the planet was genuinely inspiring. The Bright Tide team proved to be highly supportive, friendly, and approachable, making collaboration effortless. **We place great importance on the connections forged through this programme** and anticipate that they will extend beyond the scope of the Blue Carbon Accelerator programme.”

—— **Stream Ocean**

“The Blue Carbon Accelerator Programme has been an excellent opportunity to network beyond our usual reach and extend Friendship’s visibility about the benefits of mangroves afforestation in Bangladesh. It was also very interesting to understand the rise of the “Blue Carbon sector” and be part of this community acting for common good.”

—— **Friendship NGO**

This global representation not only enhanced the Programme but also acted as a catalyst for promoting cross-border collaborations and partnerships. One notable instance of this collaborative spirit was demonstrated by Hullbot, which identified and formalised a potential partnership, cementing a memorandum of understanding (MOU) with an organisation based in the USA. This real-world example illustrates how the Programme’s global network facilitated meaningful connections, resulting in tangible collaborations that transcended geographical boundaries.

“What an eye-opening experience and amazing opportunity to delve into the wider blue carbon sector with a like-minded group of individuals from across the globe. The Bright Tide Blue Carbon Accelerator Programme was a fantastic opportunity for us to network with a **diversity of like-minded ventures from around the world.**”

—— **Hullbot**

Throughout the Programme, a recurring emphasis also rested on fostering partnerships and collaborations among private sectors (including NGOs), governments, and academic institutions. Numerous instances underscored the pivotal role of these connections in effectively translating scientific progress into actionable endeavours. This marriage of scientific expertise from institutions with the ventures’ scalability contributed significantly to advancing the Blue Carbon market.

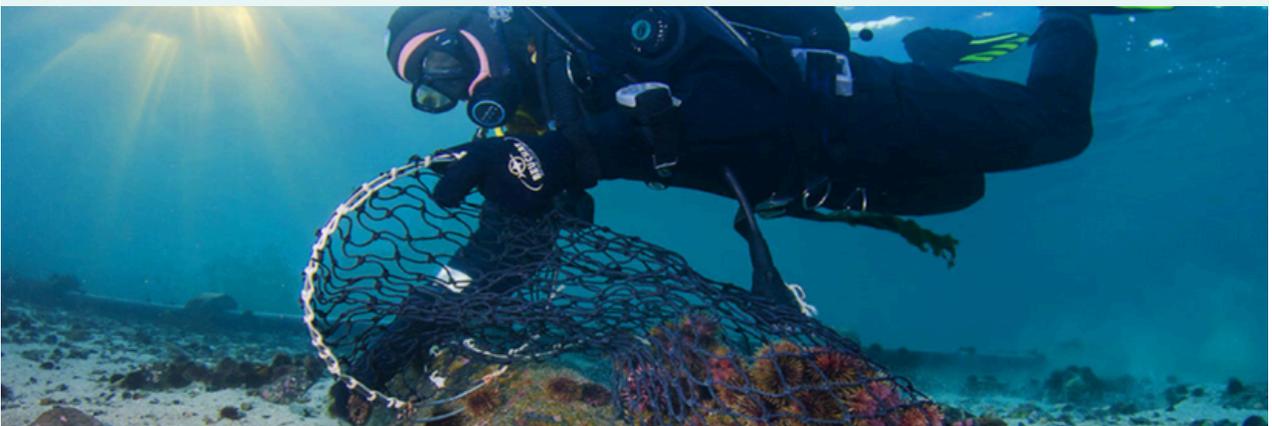
An illustrative case is Urchinomics, a Norwegian-based initiative collaborating with The Norwegian Institute for Water Research (NIVA), fishermen, and divers. Together, they address the challenge of urchin barrens replacing kelp forests. NIVA’s expertise in suitable site identification and monitoring complements Urchinomics’ fieldwork in urchin removal, concurrently ensuring a sustainable seafood supply. This collaborative effort exemplifies the impactful synergy between scientific institutions and ventures in addressing ecological challenges.

CASE STUDY: URCHINOMICS

In Norway, Urchinomics works with local fishermen to restore so-called 'urchin barrens' which are areas, where overgrazing purple urchins have replaced former vibrant kelp forests with areas of bare ground.

Urchinomics has built strong partnerships with scientific institutions for applied research including the Norwegian Institute for Water Research (NIVA) to ensure that their plans for urchin removal also are aligned with restoring ecosystem health and the best practices for enabling the kelp forests to recover.

Partnering with local fishermen Urchinomics provides benefits to the local communities in the form of new work opportunities to harvest the urchins and support monitoring studies. The urchins found in the barrens are empty and therefore have to be provided feed in land-based ranching systems before they can be sold to consumers as 'Uni' or urchin roe.



An urchin diver gathering urchins

2. Enhancing Blue Carbon Knowledge, Market Fit and Promoting Upskilling

Challenges Identified by the Cohort

- Lack of a centralised platform for the community to share challenges, opportunities and discuss new innovations in Blue Carbon
- Limited sharing of knowledge from private sector organisations
- Being able to stay up to date with relevant developments, e.g., policy, legal and tech
- Availability of cost-efficient and resilient tools for data collection and analysis

The following insights delve into the Programme's concerted efforts in enhancing blue carbon knowledge and upskilling among participating ventures, showcasing the pivotal themes and knowledge-sharing dynamics observed during workshops and events.

Throughout the workshops and events, common themes emerged where the Cohort found value in exchanging knowledge among themselves and with other participants. This interaction served as a crucial platform, addressing a challenge frequently raised by ventures — the need for a dedicated space for sector-wide knowledge sharing. Additionally, the Programme utilised other data-sharing platforms, such as Slack, to disseminate scientific papers, articles, and relevant projects that the Cohort was engaged in. The Peer-to-Peer calls also allowed ventures to gain insights into various projects, initiatives, and data-collection methods within the Cohort, facilitating the exchange of best practices and feedback.

The Programme's knowledge-building initiatives encompassed various themes:

- Market developments, policy, and regulatory frameworks
- Data collection and technology
- Scientific advancements

These topics collectively empower ventures to refine current operations and uncover previously unseen market opportunities. The networking events and workshops not only provided discussion platforms but also facilitated learning from domain experts, fostering enduring connections. Beyond the immediate events, these connections continue to serve many ventures as ongoing resources for future learning and growth.

“It is imperative to establish a blue carbon industry of high integrity. Sharing knowledge and ensuring its alignment with scientific rigour, deliverability standards, and market fit standpoints are crucial for ensuring future viability. This process also serves to illuminate existing gaps and opportunities for the development of new roles and upskilling.”

—— **Ecosulis**

Market Developments, Policy and Regulatory Frameworks

Within the rapidly evolving blue carbon sector, the significance of staying attuned to emerging market opportunities becomes even more pronounced. In this dynamic environment, ventures not only need to recognise new prospects but also possess the ability to adeptly refine their business models to maximise their impact. The ever-changing regulatory landscape of blue carbon necessitates a proactive approach to identify and seize emerging market opportunities.

Expanding on this, both Whale Seeker and Acua Ocean emphasised the Programme's pivotal role in enhancing their comprehension of the market dynamics, specifically concerning policy nuances and the interconnections between the private sector, regulators, and policymakers. This aspect resonates with the earlier discussions during workshops and events, where themes like market developments and policy frameworks were highlighted as integral knowledge areas.

In Canada, Whale Seeker have recently started working with the Canadian Government who are supporting them on a marine mammal monitoring project in the St-Lawrence River (see case study below). Their experience in developing this partnership and the related project provides inspiration to others who are looking to build similar relationships or projects in other areas.

“The further **links to policy, financial entities, and market drivers was also a big help for us to better understand where the market was headed**, who the players are, and where Whale Seeker sits in this space.”

—— **Whale Seeker**

Moreover, the EY-led TNFD workshop, as mentioned above, provided ventures with valuable insights into upcoming nature disclosure frameworks. These mechanisms aim to compel private sector organisations to report and address evolving nature-related dependencies, impacts, risks, and opportunities. For ventures in the ocean sector, it was a chance to understand their role in aiding private sector organisations in shifting towards nature-positive outcomes and creating new revenue streams.

“This talk by EY on TNFD was absolutely fantastic. So very important and well explained. I could have done with a full day on this for sure! Thanks for including this in the programme.”

—— **Whale Seeker**

“Being part of the Blue Carbon accelerator Vlinder had an opportunity to participate in EY’s Workshop on Biodiversity and Nature Disclosures and the TNFD Framework. Kudos to EY for sharing their experience and knowledge and to Bright Tide for organizing it all!”

—— **Vlinder**

The challenge of finding new business applies to all of the Cohort, and was another area where they were able to learn from one another about the different approaches to identifying, presenting value and winning new business. This is illustrated in the feedback from the ventures, such as Vlinder, who highlighted the support the Programme provided in this area.

“At Vlinder we are focused on creating high-quality mangrove restoration projects and we want to drive private capital to scale this work. The **programme helped us to refine our business model and to understand how we can better present our value to clients**. The network has been incredible, and we got as much value from meeting fellow entrepreneurs as from networking with external stakeholders.”

—— **Vlinder**

As the sector continues to evolve, ventures must remain agile, continuously assessing and adjusting their strategies to align with the evolving dynamics of the market. This adaptability ensures that they not only capitalise on new opportunities but also position themselves strategically to contribute meaningfully to the growth and sustainability of the blue carbon sector.

Data Collection

The availability of cost-efficient and resilient tools for data collection and analysis emerged as a focal point throughout the Programme discussions, as ventures exchanged experiences regarding diverse methods, tools, and approaches for data collection. A consistent theme revolved around the pressing need for more cost-effective and resilient data collection and analysis tools.

“The potential for Hullbot’s technology in the wider blue economy was teased out through the programme and we were able to gain deeper insights into the blue carbon sector. As a result of the programme, we are exploring additional opportunities to deploy our technology further for both blue carbon and biodiversity work.”

— **Hullbot**

Similar to the terrestrial carbon markets, potential buyers of blue carbon credits demand highly reliable datasets to substantiate the credits they purchase. However, gathering such data in oceanic environments is notably more challenging, time-consuming, and costly compared to terrestrial habitats. The Cohort shared significant challenges encountered in data collection and analysis methods for blue carbon initiatives during the Programme.

Acua Ocean, known for their work with zero-carbon emission uncrewed surface vessels, highlighted the pivotal challenge of establishing the monetary value of blue carbon based on accurate baseline assessments, particularly in newly protected areas. They emphasised the difficulty in gathering comprehensive data at a granular level to represent the diverse benthic and intertidal habitats within these reserves. This challenge involves logistical and financial constraints due to the uncertainty associated with measuring the footprint of these areas.

“The blue carbon programme was incredibly useful for **understanding the political frameworks in place**, what they require in **terms of data and what market gap that creates for data collection** and processing companies or organisations. It would be increasingly useful if end users knew the data types they requires so when approached there’s a clear offering.”

— **ACUA Ocean**

Expanding on the aforementioned quote by Acua Ocean, gaining insights from fellow ventures in the Programme, like Stream Ocean, was immensely beneficial. Learning about their methodologies for ocean data collection through technology and exploring the potential applications in meeting private sector demands provided crucial perspectives.

Stream Ocean have also recognised the importance of showcasing the underwater world through their daily videos from their projects that are uploaded to YouTube. For them it is important to be able to find partners who understand these challenges and value the data that they are able to collect. This ranges from small charities such as Coralive who work on protecting coastal ecosystems to large multinational corporations such as MARS.

Testimonial from Coralive (working with Stream Ocean)

“The biggest challenge of current monitoring methods available that we encountered up until now, have been costs, lack of data consistency and low stakeholder engagement.”

—— **Ahmad “Aki” Allahgholi, Founder and Director, Coralive**

Testimonial from MARS (working with Stream Ocean)

“Monitoring the health of an ecosystem underwater is something that has been sorely lacking. For us a big multinational business, we can start talking about our work with the people who buy our products. So, it’s opening a whole new window of communication, and we are terribly excited to work with it.”

—— **Jos Van Oostrum, Senior Director, MARS Coral Reef Restoration**

To bolster the discussions around data collection, the Programme also facilitated direct connections between ventures and well-established organisations focused on these areas. For instance, NatureMetrics conducted a webinar for the Cohort on the Programme, exploring eDNA’s application in data collection, offering ventures insights into the technology’s developments and its potential relevance.

“It was great to meet the Cohort and see the range of innovative solutions being developed. It gives me hope that we can build back better in this space, utilizing the full range of ocean data available to us.”

—— **Dr. Samantha Howlett, Business Development Manager, NatureMetrics**

During the Programme, there were also presentations from fellow blue economy ventures like Algapelago, which is pioneering new approaches in data collection and analysis in the marine environment. These served as valuable case studies for the Cohort’s learning.

New Technology

The role of technology in developing a high-quality blue carbon market was also a consistent theme throughout the Programme, with all the ventures either directly developing the technology themselves or relying on it as a tool for their work in some form. It's clear that for the projects to be able to scale rapidly and for ongoing costs such as monitoring to be cost-effective, there needs to be continued innovation and development of the emerging technological solutions.

As an overview of the current state of play, **Blue Marine Foundation's** Climate Unit released their '[Innovative Technology in Blue Natural Capital Projects](#)' Report in June 2023. This report looks at a number of different technological solutions, outlining both the current state and the future potential for the mapping, monitoring, protection and restoration of blue natural capital.

In Sydney, Australia, **Hullbot** have been deploying their autonomous underwater platform to conduct repeat surveys of Posidonia seagrass meadow translocation and restoration sites.

The value of these meadows, with their capacity to sequester carbon at around 35 times that of rainforests, need greater data collection, restoration and protection efforts. Hullbot's technology can conduct 4D mapping of these critical habitats to inform and improve restoration efforts worldwide.

Other innovative technologies such as WhaleSeeker are applying advanced AI technology to the field of marine mammal detection — tackling a challenging subject across species that can range such great distances and depths, which has generally been a slow and laborious process to detect and report. They use their technology to detect whales using aerial imagery in a way that is much faster, more automated, and user-friendly with ethical AI that enables ocean stakeholders to make more sound decisions based on evidence and develop more sustainable practices.

In doing so, they aim to provide decision makers with the tools to avoid conflicts with whales, allowing whale populations to re-grow to their former numbers, so they can get back to sequestering carbon and curbing climate change. Anyone doing business at sea — freight and passenger vessels, ports, you name it — will be able to help make this happen.

3. Identifying and Aiding Funding Opportunities

Challenges Identified by the Cohort

- R&D financing in the ocean; accessing corporate and grant funding
- Having the knowledge, connections and scale required for (typically grant) funding bids for their projects
- Connecting with the funders who will be able to provide the significant long-term patient capital that they need

The Programme served as a crucial platform for Cohort members, facilitating new funding relationships and fostering important connections among themselves for future commercial collaborations.

This is particularly vital due to the severe global funding shortage for ocean and blue carbon solutions, with Sustainable Development Goal 14: Life Below Water receiving less than 1% of climate finance.^{5,6} Meeting SDG14 by 2030 requires an annual investment of over US\$175 billion, a figure substantially higher than the current annual investment of US\$25 billion in ocean conservation.⁷

Participating in networking events, workshops facilitated by collaborator organisations, and Peer-to-Peer sessions, Cohort members gained insights into fresh funding prospects. They established connections with potential funding partners, engaging in discussions about collaborative funding bids and exploring joint application opportunities.

“The networking and knowledge-sharing has significantly increased visibility for philanthropic private and public funding opportunity to be developed. We have actively participated in two joint bids with fellow participants from the accelerator.”

— **Ecosulis**

In the Peer-to-Peer sessions and workshops, Cohort members candidly deliberated on challenges encountered in securing funding for blue carbon and ocean restoration projects. Primary barriers included insufficient R&D financing for projects like seagrass and mangrove restoration, as well as the high costs associated with Monitoring, Reporting, and Verification (MRV). Through collaborative efforts, Cohort members leveraged shared experiences, fostering robust relationships to enhance their prospects of successfully obtaining grants and R&D funding.

5 <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/risk/ocean-financing.pdf>

6 <https://earthobservatory.nasa.gov/blogs/fromthefield/2017/02/09/every-other-breath/>

7 <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/risk/ocean-financing.pdf>

“We made some **great connections that have led to better quality funding bids**. The R&D world is challenging, so it was fun to share experiences, to realise that others are battling the same challenges and from there build better **partnerships that are more likely to lead to successful funding applications**. We met some real characters who get the blue space and who may just be able to unlock some otherwise hidden funding streams in the future.”

—— **Ocean Conservation Trust**

“The programme made it easier to understand the current technology landscape and **find complementary partners to create consortia for grants, etc., as a result of the networking sessions**. It’s worth noting that when funding a consortium, particularly for large organisations or hardware companies, **funding pots need to be considerably larger in order to foster real progress**, otherwise projects and feasibility studies can’t progress.”

—— **ACUA Ocean**

The Programme also acted as a crucial platform for acquiring knowledge about potential new revenue models in the blue carbon sector, offering valuable insights for other ventures to assimilate. It served as a launchpad for sharing expertise, upskilling, and exploring new business opportunities in the blue carbon sector. Additionally, it facilitated an exchange of ideas about the initiatives and strategies adopted by various organisations, contributing to a rich learning experience for all participants.

For example, Ocean Conservation Trust is currently developing a business model to fund Seagrass restoration in the Plymouth Sound National Marine Park. This joint project, involving Finance Earth (FE), Plymouth City Council (PCC), Tamar Estuaries Consultative Forum (UoP) and the Ocean Conservation Trust (OCT), was funded by a £100k NEIRF grant. In essence, the objective was to develop a business model to fund seagrass restoration in Plymouth Sound, the UK’s first National Marine Park, enabling investment into conservation, climate action and community.

CASE STUDY: OCEAN CONSERVATION TRUST

The idea was to create and trial a financial product based on the broader benefits that seagrass provides. However, as there are limited frameworks for marine reporting and no formal trading systems for blue carbon or natural capital type credits, the idea was to create a mechanism that would give individuals and corporates a proxy benefit for the areas that their funding had restored.

Following learnings from the terrestrial schemes, the team devised a "Seagrass Token", dividing the Plymouth Sound restoration site into 3x3 squares, using the "What 3 Words" designation. Each 3x3 square represents one Seagrass Token and the plan is to sell them to the UK market in early 2024, with the funder getting the notional benefit from the areas restored. If successful, the model can be refined and executed elsewhere to restore seagrass around the UK.

As stated, there are currently no accepted measurement criteria for the multiple benefits that seagrass provides. There are a number of projects that are researching this and once determined, these accepted metrics can be incorporated into the funding mechanism.

Other similar initiatives are being used globally, such as by Friendship NGO. They see investing in mangroves restoration as also a way to mitigate global warming by enhancing the natural capacity of the earth to absorb and stock CO2.

It is a contribution to the world's carbon neutrality objective. In addition to the (much needed and very first step to take) reduction of the greenhouse gas emissions (Paris Agreement, art. 4), individuals, families and legal entities can compensate for their remaining CO2 emissions by funding the restoration and protection of mangroves ecosystems in Bangladesh. Any contribution to strengthening carbon sinks (Paris Agreement, art. 5) is welcome and possible via Friendship's Blue Mangrove® Fund.⁸

"Donors/Funders usually agree after a **long journey of networking and relationship/trust building** which Friendship could strengthen and start thanks to Bright Tide and the Accelerator Programme. It's not easy and it doesn't happen with only a few meetings and webinars, but it was a useful learning experience for an organisation working in a small-scale mangrove afforestation in Bangladesh. **Every step counts in the fight against the climate crisis and for the benefit of the most vulnerable communities!**"

— Friendship NGO

⁸ <https://bluemangrove.fund/>

Lessons Learned and Tips for the Next Programme

In the aftermath of the Programme, we've distilled below some insights and tips for future Bright Tide accelerator initiatives. From intentional cohort diversity to global networking and tailored support, each lesson is a guidepost for navigating challenges and maximising impact — a concise roadmap for creating dynamic ecosystems driving positive change in blue carbon and beyond.

1. Diverse Cohort Composition Matters

Embrace diversity when selecting cohort members. The unique blend of NGOs and technology ventures added richness to discussions and collaborations. Ensure a mix of backgrounds, experiences, and geographical representation for a dynamic and comprehensive learning environment.

2. Global Networking Strategies are Key

Capitalise on the benefits of a globally diverse cohort by implementing structured global networking sessions. Foster connections early on, providing ample opportunities for participants to engage, share insights, and explore potential collaborations beyond Programme boundaries.

3. Support Must be Tailored for Varied Ventures

Recognise the distinct needs of the ventures. Tailor support mechanisms to address their specific challenges, whether related to fieldwork, technology development, or market positioning. Customised support enhances the overall impact of the Programme.

4. Hands-On Learning Experience is Invaluable

Integrate practical, hands-on learning experiences into the Programme. Workshops, case studies, and real-world projects offer tangible lessons that participants can apply directly to their initiatives, enhancing the Programme's overall effectiveness.

5. Agility in Programme Delivery is Critical

Stay agile and be ready to adapt the Programme based on evolving needs and external factors. Regularly gather feedback from participants and partners to identify areas for improvement, ensuring a responsive and relevant accelerator experience.

6. Enhanced Mentorship Maximises Impact

Strengthen the mentorship structure by aligning mentors more closely with the unique challenges faced by each venture. Consider a mentorship exchange Programme, allowing ventures to benefit from a diverse range of expertise throughout the Programme.

7. Investment in Robust Evaluation Metrics is Needed

Develop and implement robust evaluation metrics from the outset. Track not only tangible outcomes but also qualitative impacts such as collaborative spirit, knowledge exchange, and personal growth. These metrics provide valuable insights into the Programme's overall success.

8. Facilitation of Cross-sector Learning is Essential

Create intentional spaces for cross-sector learning and collaboration. Encourage ventures to share insights, challenges, and solutions, fostering a collaborative environment that leverages the strengths of both sectors.

9. Increased Cohort Engagement Bolsters Collaboration

Foster more engagement with the cohorts to encourage collaboration on pilot projects and fundraising bids. Actively facilitate connections and collaborative opportunities among cohort members to maximise the impact of their joint efforts.

10. Engagement with the Political Process is Vital

Increase engagement with the political process by organising more events at venues like the House of Commons. This can bridge the educational gap between policy and innovation, allowing the cohort to build relationships with policymakers and contribute to the shaping of relevant policies.

11. Extended Post-programme Support Maximises Impact

Provide more follow-on support after the ventures have completed the Programme. This includes ongoing invitations to events, facilitating continued networking, and offering technical or pro bono assistance. Sustained support helps build a robust ecosystem and ensures the long-term success of Programme participants.

Conclusion

The Programme brought together a wide range of individuals from organisations working on Blue Carbon opportunities from across the globe. The Programme enabled the Cohort to build connections, share knowledge and expertise, facilitate coaching and corporate partnership to accelerate success.

From the initial application process, through to the events and workshops of the Programme, the Cohort shared their successes and challenges amongst one another along with professionals on legal, financial, regulatory and other specialised issues related to development of their respective work.

Whilst there remain significant gaps that need to be filled in order for a functional blue carbon market, there is also a considerable amount of innovation ongoing that could fill those gaps in the future. Although historically underfunded in comparison to the other SDGs, the oceans — or SDG14: Life Below Water — is seeing increasing attention and a raised profile both in government, as highlighted by Sally-Ann Hart's forward, and industry as shown by the fantastic work of many of the ventures on this Programme.

As the findings in this report and experiences from the Programme itself indicate, there will need to be substantial, co-ordinated efforts to develop the blue carbon market further to a high standard and at the pace needed to tackle the urgency of the interlinked climate and biodiversity crises.

There is a common thread across the findings of the importance of collaboration and the need for continued facilitation to enable the connections that lead to impactful collaborations. Accelerator programmes such as this provide the opportunities for early-stage ventures working on new technologies or blue carbon projects to access technical support, new networks and identify new ways to scale their operations — for example through partnerships and enhanced knowledge-sharing.

The role of technological progress, as exemplified by ventures such as Hullbot and WhaleSeeker, showcases the pivotal contribution of innovation in mapping, monitoring, and protecting marine natural capital. These advancements not only address current challenges but also lay the groundwork for a sustainable and prosperous blue economy into the future.

The call for more cost-efficient and resilient tools for data collection and analysis illustrates the necessity for precision in blue carbon quantification. Ventures like Acua Ocean and Stream Ocean exemplify the evolving landscape of data collection, utilising technologies such as autonomous vessels and AI-powered analytics. These innovations address the challenges of measuring blue carbon stocks accurately and serve as crucial components in building trust within the emerging blue carbon market.

Finally, the significant requirement for increased investment in both research and development (R&D) phases and scalability emerged as a vital theme. The joint [report](#) by Blue Marine Foundation, The Crown Estate, Finance Earth, and Pollination sheds light on the barriers and potential solutions for marine natural capital markets in the UK, emphasising the need for collaboration across sectors.

Moreover, the importance in bringing together key stakeholders, as demonstrated by this Programme, can also play a vital role in bridging the financing and regulatory gap and educating stakeholders on the critical need to support blue carbon work. Additionally, the ongoing efforts by Ocean Conservation Trust in developing a business model for seagrass restoration exemplify the strategic thinking required to attract the necessary funding and support for large-scale projects.

In essence, there has never been a more crucial moment to bolster and enable the expansion of blue carbon ventures, supporting entrepreneurs through specialised and targeted Programmes like this. Although this marks the inaugural Blue Carbon Accelerator Programme in the UK, we anticipate numerous subsequent iterations, aiming to build upon the remarkable work, collaborations, and outcomes achieved by this Programme.

Acknowledgments

We would like to say a huge thank you to the following people for making the Programme such a success and supporting the Cohort along the way. The Programme would not have been possible without all your efforts:

- Sally-Ann Hart MP, Chair of the APPG for the Oceans
- Harry Wright, CEO and Founder at Bright Tide
- Sangeeta Laudus, Strategic Comms Consultant at Bright Tide
- Tom Mills, Blue Economy Lead Consultant at Bright Tide
- Laura Secorun, ONA Ocean
- Tom Godwin, Finance Consultant at Bright Tide
- Grace Kramer, Intern at Bright Tide
- Clara Dunnigan, Intern at Bright Tide
- Ananya Sharma, Intern at Bright Tide
- Adam Dorogdi at Adam Dorogdi Photography
- Peter Cohen, Freelance videographer
- Dr. Tasha Ebanks Garcia, Cayman Islands Government Representative to the UK
- Dr. Ralph Chami, Co-founder at Blue Green Future
- Dinah Nieburg, Co-founder at Blue Green Future
- Jeremy McKane, CEO at OCN.ai
- Claudio Pedretti, Founder and President at The Club of Florence
- Nicholas Cheffings, Special Advisor to The Crown Estate
- Gillian Hinde, EY Global Corporate Responsibility Leader
- Laura Turkington, EY Global Corporate Responsibility Commercial and Innovation Leader
- Christopher Roll, EY Global Corporate Responsibility Assistant Director
- Helen Elphick, former Senior Marine Sustainability Manager at The Crown Estate
- Caroline Price, Head of Nature and Environment (Marine) at The Crown Estate
- Jack Price, Nature and Environmental (Marine) Advisor at The Crown Estate
- Yasmin Waljee, Partner at Hogan Lovells
- Fenella Chambers, Counsel at Hogan Lovells
- Tom Walsh, Associate at Hogan Lovells
- Andrew Theban, Investment Manager at Rathbones Investment Management
- Paola Cuneo, Client Development Director at Rathbones Investment Management
- Brian Tsuyoshi Takeda, Founder at Urchinomics
- Harry Rappaport, Vice President of Operations at Urchinomics
- Emily Charry Tissier, CEO and Co-founder at WhaleSeeker
- Cain Blythe, CEO and Co-founder at Ecosulis / CreditNature
- Neil Melleney, Project Developer Lead at Ecosulis
- Dr. Irina Fedorenko-Aula, Chief Carbon Officer at Vlinder
- David Lunsford, CEO at Stream Ocean
- Florence Tremblay Otis, Conservation Biologist at Stream Ocean
- Tom Loeffler, CEO at Hullbot
- Karl Watfern, CTO and Co-founder at Hullbot
- Neil Tinmouth, CEO at Acua Ocean
- Mike Tinmouth, COO at Acua Ocean
- Sol Milne, Head of Sustainability at Aqua Ocean
- Liberty Denman, Science and Communication Lead at Acua Ocean

- Esther Ngure, Technical Advisor at Blue Ventures
- Dan Crockett, Director of Climate and Oceans at Blue Marine Foundation
- Maddie Millington-Drake, Senior Climate Project Manager at Blue Marine Foundation
- James Morris, Blue Climate Unit Coordinator at Blue Marine Foundation
- Roger Maslin, CEO at The Ocean Conservation Trust
- Professor Martin Attrill, Chief Scientific Officer at The Ocean Conservation Trust
- Runa Khan, Founder and Executive Director at Friendship NGO
- Stéphane Van Haute, Climate Action and Communications at Friendship NGO
- Dr. Samantha Howlett, Business Development Manager at NatureMetrics

