BVCA

//// November 2021

10 STEPS TO NET ZERO

PRIVATE CAPITAL IN ACTION

The 10 things private capital is doing **right now to deliver Net Zero**

1. **Investing in low carbon energy solutions we know work**
   West Lothian onshore wind project, **backed by Capital Dynamics**

2. **Investing in low carbon energy solutions we know we need**
   Advanced Electric Machines, **backed by Northstar Ventures**

3. **Investing in new low carbon energy solutions to make them work**
   Bramble Energy, **backed by BGF**

4. **Re-imagining what's possible for low carbon transport**
   Lilium, **backed by Atomico**

5. **Transforming the effectiveness of carbon offsetting**
   Sylvera, **backed by Index Ventures**

6. **Adapting urban transport in a sustainable way**
   TIER Mobility, **backed by White Star Capital**

7. **Leading the way for sustainable consumer products across the globe**
   ELeather, **backed by ETF Partners**

8. **Guiding growing businesses through their sustainability journey**
   Moto Service Stations, **backed by USS in partnership with CVC Capital Partners**

9. **Making a positive impact on Earth… and in space**
   Inmarsat, **backed by Apax Funds, Warburg Pincus, Canada Pension Plan Investment Board, and Ontario Teachers' Pension Plan Board**

10. **Working together to set a path for the industry to do more**
    ESG_VC, Tech Zero & iCI

Foreword

Michael Moore
Director General, BVCA

“To reach Net Zero, we need the innovations and ideas which venture capital and private equity will nurture and scale to national and global applications.”

The climate crisis is very real and happening now – we simply cannot delay taking action.

The Intergovernmental Panel on Climate Change’s (IPCC) 2021 report put it starkly: it is now “code red for humanity”. Human activity has changed the Earth’s climate in “unprecedented” ways, with some of these changes already deemed to be “irreversible”.

For private equity and venture capital, the desire to invest sustainably, tackle climate change and support national governments to reach Net Zero is no new thing. To reach Net Zero, we need the innovations and ideas which venture capital and private equity will nurture and scale to national and global applications.

Furthermore, the long-term view taken by private capital helps to support existing business to tackle their impact on climate change – be that funding investment in new infrastructure or technology, fundamentally restructuring a business, or creating the trajectory for certain assets to be decommissioned. It takes the time, patience and expertise, found at the heart of private capital investment, to address these difficult questions.

Following COP26, a lot will be said about what business is going to do to tackle climate change.

It’s clear that private equity and venture capital is committed to playing a leading role on our path to Net Zero. And the BVCA, as the representative body for the industry, stands ready to support its members.

Our panel session at COP26’s Green Horizon Summit and the publishing of our Net Zero statement – underpinned by recommendations of the Task Force on Climate-related Financial Disclosures and the Science Based Targets initiative – are two steps of many along this journey.

This report focuses on the action that private equity and venture capital are taking, right now, to help protect the planet.

From investing in the low carbon energy solutions we know work, to investing in new low carbon energy solutions to make them work...

From leading the way for sustainable consumer products across the globe to adapting urban transport in a sustainable way...

and from re-imagining what’s possible for low carbon transport to working together to set a path for the industry to do more…

...private equity and venture capital are involved.

Investing in low carbon energy solutions we know work

West Lothian onshore wind project, backed by Capital Dynamics

“Driven by responsible investment principles, the 8-turbine project is expected to reduce greenhouse emissions by over 2.6 million metric tons during its lifetime”

Wind energy is tried and tested.

Wind power is now the United Kingdom’s **primary source of renewable energy** generating twice as much electricity as from coal. Electricity generation from wind has increased by 715% from 2009 to 2020.

The UK is one of the best locations in Europe for wind energy, and Scotland is leading the way in embracing this technology. By the end of 2020, **70% of the electricity consumed in Scotland came from onshore (60%) and offshore (10%) wind farms.**

Private capital is funding one of the **largest subsidy-free onshore wind farms in the UK** – Longhill onshore wind project, situated in West Lothian.

Backed by Capital Dynamics, a private asset management firm driven by responsible investment principles, the 8-turbine project is expected to r**educe greenhouse emissions by over 2.6 million metric tons** during its lifetime – the equivalent amount of electricity to power over 440,000 homes for a year.

However, the impact of this project goes much further. With a deep commitment to ESG practices, Capital Dynamics works hard to ensure **the protection of the local ecosystem** (e.g. replanting trees felled during the project’s development, leasing a forestry area for trees permanently displaced by turbines, and investing in **experienced staff to manage biodiversity**). The project will also **donate to local initiatives** through three community funds and will utilise local labour during construction of the project.

Wind energy has proven that **the UK can lead the way in renewable energy**, and Capital Dynamics is demonstrating that the private sector can take the lead from government investment to pave a subsidy-free future for wind energy whilst also **making a positive environmental and social impact.**

Sources:
Wind energy in the UK - Office for National Statistics (ons.gov.uk), Wind Energy in the UK: Learn the basics - The Switch, Claire Mack: Europe’s windiest country is set to reap the economic benefits - The Scotsman, Energy Statistics for Scotland Q4 2020 Figures

Investing in low carbon energy solutions we know we need

Advanced Electric Machines, backed by Northstar Ventures

> **“The aim is to do away with these traditional engines and instead replace them with the most sustainable electric powertrain technologies in the world”**

A recent petrol shortage illustrated how reliant we can be on our cars.

No sooner than the shortage was rumoured, long queues appeared outside filling stations up and down the country. **And as tailbacks grew, so did the number of idling engines**, each releasing damaging pollutants into the air.

For Advanced Electric Machines, **the aim is to do away with these traditional engines** and instead replace them with the most sustainable electric powertrain technologies in the world. **Their electric motors provide market leading performance** and remove rare earth materials without any compromise on performance.

And not just in passenger cars, either. Advanced Electric Machines designs and manufactures magnet-free motors for commercial vehicles like lorries and trucks, off-highway applications like construction or agricultural vehicles and for the marine and aerospace industries, too.

Advanced Electric Machines began life in Newcastle University and was then ‘spun out’ in 2017, commercialising the years of university research, creating a fast-growing business from their findings by bringing cost effective and production ready products to market.

Venture capital firm Northstar Ventures has backed the company since its early stages. Northstar specialises in finding fledgling, high growth businesses and provides advice and support as well as money – and particularly to those in England’s North East.

Their financial backing and business guidance has helped Advanced Electric Machines **to grow and create 40 jobs**, continue to **develop their innovative and world-leading** electric motors and **enter into product development programmes with organisations across the globe**, including Bentley Motors and CNH Industrial.

Investing in new low carbon energy solutions to make them work

Bramble Energy, backed by BGF

“Bramble Energy is now the only fuel cell company with the manufacturing capacity to supply gigawatts of fuel cell hardware”

BRAMBLE ENERGY

Reducing our reliance on fossil fuels is vital to combatting the climate crisis.

And being able to fully harness Hydrogen, the most abundant element in the universe, to power vehicles, heat houses or run machines **would further us in our goal of reaching Net Zero.**

But while Hydrogen fuel cells are already in use in some places, **barriers to wider adoption still pose a problem –** manufacturing complexity, scale-up and cost to name just three.

Bramble Energy looks to solve these problems by constructing hydrogen fuel cells using materials and manufacturing techniques with already well-established supply chains. This makes the whole process **more scalable, flexible and more in-line with the typical costs** associated with incumbent electricity generating technologies.

It was Bramble Energy’s **world-first in the production of hydrogen fuel cells** that piqued the interest of BGF, who led a £5 million investment round into Bramble in 2020, alongside existing investors including IP Group, Parkwalk Advisors, and UCL Technology Fund.

BGF, as a leading investor in the field of clean growth, **saw great potential in Bramble** to transform a global and growing market. **And with BGF’s support and long-term partnership**, Bramble Energy is now one of the only fuel cell companies in the world with the manufacturing capacity to **supply gigawatts of fuel cell hardware.**

To put that into perspective, one gigawatt is roughly the size of **two coal-fired power plants and is enough energy to power 750,000 homes**.

BGF saw a huge amount of creativity just waiting to be unleashed upon the pressing challenge of climate change and Bramble Energy’s distinctive, highly scalable technology is exactly **what is needed for hydrogen fuel cells to go mainstream.**

Sources:
California hits renewable energy milestone: 1 gigawatt of solar power installed to date - The Mercury News

Re-imagining what's possible for low carbon transport

Lilium, backed by Atomico

> "Exceptional entrepreneurs, empowered by technology, are best placed to solve some of humanity's most entrenched and seemingly intractable problems"

What is being done to push the boundaries around low carbon transport?

Venture capital firm, Atomico, believes that exceptional entrepreneurs, empowered by technology, are best placed to solve some of humanity's most **entrenched and seemingly intractable problems.**

And Lilium, a company Atomico supported in its early stages and still hold a 13% stake in post-IPO, **could address not one, but many of these issues** with their Lilium Jet – **the world's first fully electric vertical take-off and landing (eVTOL) commuter jet and regional mobility service.**

Designed to be a **zero emissions 'air taxi'**, the Lilium Jet could counter much more than just the high levels of pollution traditionally generated by air travel…

Gridlocked cities with public transportation systems groaning under demand they cannot expand quickly enough to serve would get **space to breathe and evolve** and the **pollution choking towns and city centres would fade.**

Travelling at 5x the speed of the average car, the Lilium Jet could **slash lengthy daily commutes**, increasing relaxation and family time. Parts of the world with poor quality road and transport infrastructure **may suddenly be better connected, too.**

The Lilium Jet could even address a lack of affordable housing; a range of up to 300km will bring **swathes of underdeveloped land to within commuting distance of major cities**, thereby increasing supply.

It's time to start pushing the boundaries, and that's exactly what Atomico and Lilium are doing.

Transforming the effectiveness of carbon offsetting

Sylvera, backed by Index Ventures

> **“It is their mission to provide clear, accurate and thorough data on just how much carbon can be offset by nature-based projects”**

Accurate data means accurate decisions.

And in a market like carbon offsetting, **the more accurate we can be, the better it is for the planet**. For a long time, measuring the emissions balanced by a natural land-use carbon offset project – for example, a patch of rainforest protected against deforestation **– has been through estimation**. As such, many have been sceptical about the true benefits of carbon offsetting.

But for Sylvera, backed by Index Ventures, estimations simply aren’t good enough. It is their mission to provide clear, accurate and thorough data on just how much carbon can be offset by nature-based projects.

Using state-of-the-art LiDAR scanners, both on the ground and attached to drones, **Sylvera can gather geospatial data from across the entire project** rather than just a sample area.

Sylvera also leverages ultra-high resolution satellite imagery as another datapoint, both strengthening the dataset and increasing the frequency in which a project site can be measured.

This information is then presented through Sylvera’s web platform, allowing customers to monitor a project over time, develop a project at scale and with pace, and measured against a scoring system.

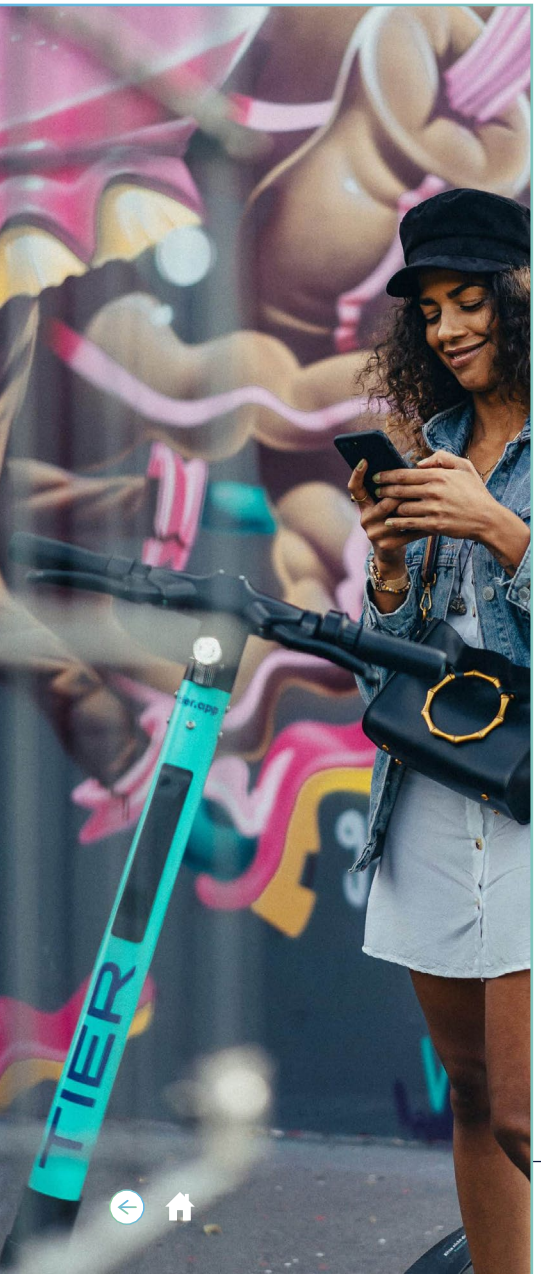
Without this transparent, robust and up-to-date data, carbon markets can’t grow. And without this growth, we don’t know how much time we have to change land use from a net emitter of CO2 to a net carbon sink. **But times are changing, thanks to companies like Sylvera.**

And thanks to backing from Index Ventures, who have introduced Sylvera to their expert network, supported them in making early critical hires and helped them to sign up significant customers.

In a very short time, Sylvera is already showing strong traction exceeding its targets, **highlighting the urgent need for their solution.**

Adapting urban transport in a sustainable way

TIER Mobility, backed by White Star Capital



> **“These little electric vehicles are easy to use and reduce pollution by offering a fun alternative to more traditional methods of transport”**

TIER

Have you noticed more people using e-scooters recently?

These little electric vehicles are **easy to use** and **reduce pollution** by offering a fun alternative to more traditional methods of transport.

In big cities, the use of e-scooters can **reduce dependence on cars** and, in turn, creates more sustainable environments. For TIER, a last-mile micromobility platform, **sustainability is at the very heart of their business model**. In fact, they were the **first e-scooter operator in the world to become climate-neutral**.

This is part of the reason they have been **selected as one of London’s e-scooter operators** for a trial that commenced in early June 2021.

These achievements have been **supported by White Star Capital**, a venture capital firm with an eye for impactful tech businesses. White Star invested in Tier in their early stages, spotting a company aligned with their values and looking to **transform urban mobility in an environmentally conscious manner.**

TIER scooters come with **ground-breaking rider-swappable batteries** that enable riders to exchange batteries at charging stations hosted in local businesses across 30 European cities.

This innovative charging network removes the need to collect and transport e-scooters to a warehouse for charging, **reducing congestion.**

But for TIER, **both rider and public safety is paramount too**. TIER e-scooters come with various industry-leading safety features, including indicator lights, shock absorbers and the largest front wheel in the market. They’re also one of **the first e-scooter companies worldwide to launch an integrated helmet solution.**

Now in more than 150 cities across 16 countries in Europe and the Middle East, **TIER is changing mobility for good.**

Leading the way for sustainable consumer products across the globe

ELeather, backed by ETF Partners

“Flyleather is manufactured from unused leather diverted from landfills, uses 90% less water in its production process and is constructed with high-performance materials”

How do you reduce waste?

Well, in ELeather’s case it’s by taking unused leather offcuts, breaking it down to the fibre level, and then using its **pioneering technology to create new sustainable, engineered materials**. ELeather’s proprietary, clean manufacturing process which uses a closed loop recycled water plant adds to the already **impressive environmental credentials.**

This lightweight and durable ‘engineered leather’ gives brands the opportunity to create extraordinary new products, all while achieving a **significantly lower environmental footprint and improving sustainability.**

After growing to a leadership position in aviation seating, **ELeather partnered with sportswear giant, Nike.**

Following support from Europe’s leading sustainable venture capital firm, ETF Partners, ELeather could scale its manufacturing facilities and meet its ambitious growth plans. So much so, in 2017, **the company was able to enter into a long-term strategic partnership with Nike** and introduce a new performance material in ‘Nike Flyleather’.

Flyleather is a performance engineered leather made from recycled leather fibres and is lighter and more durable (based on abrasion testing) than full-grain leather. It is **manufactured from unused leather diverted from landfills**, uses 90% less water in its production process and is constructed with high-performance materials to create **Nike’s most sustainable leather product to date.**

Now, with **continued guidance from ETF Partners**, ELeather continues to grow globally and exports over 90% of sales to more than 50 countries. **In its sights is further expansion** into consumer and lifestyle markets, as well as the automotive sector, where they can introduce the benefits of a **high-performance, sustainable material that addresses consumer demands.**

Guiding growing businesses through their sustainability journey

Moto Service Stations, backed by USS in partnership with CVC Capital Partners

"With a laser focus on how Moto can deliver its 'Planet and Place' sustainability goals, the sky was the limit for the new service station on the M6"

When you're growing a business, how do you keep it sustainable as it scales?

For Moto service stations, backed by the Universities Superannuation Scheme, or USS, it was about developing their newest site at Rugby into a blueprint for sustainable motorway service stations of the future.

With a completely clean slate on which to build, and **a laser focus on how Moto can deliver its 'Planet and Place' sustainability goals**, the sky was the limit for the new service station on the M6.

USS build sustainability into their principles for investment and believe that promoting the highest standards of ESG reduces investment risks and improves their ability to meet the pension promises made to its members. Combine that with **their hands-on approach to ownership** and it's no wonder that from design, to planning and through to execution, **resource efficiency was embedded into the Rugby site.**

Its south-facing approach maximises how much daylight the building receives, **reducing both the usage of artificial lighting and heating**. And the glass used for windows? Specially designed to avoid overheating in the summer, **reducing the use of air conditioning.**

The demand for gas and electricity? **Reduced by temperature and CO2 monitoring**. And wastewater? Also significantly reduced (100,000 litres per annum) by waterless urinals.

On an agricultural level, reed beds, natural plants and a certain type of gravel have been used to filter water and **reduce ground pollution.**

And there's even a set of 24 Ultra-Rapid chargers on-site for those using Electric Vehicles – the most at any Moto so far… although there are plans to roll-out 500 of these chargers across the estate by 2025.

It's clear that every single detail of the site has been considered at a sustainability level. And by doing this, what has Moto achieved? **Only Britain's greenest motorway service station, and a stellar model for the rest of their expansion plans.**

Making a positive impact on Earth… and in space

Inmarsat, backed by Apax Funds, Warburg Pincus, Canada Pension Plan Investment Board, and Ontario Teachers' Pension Plan Board

"Inmarsat takes its responsibility for people, and the planet, to heart by supporting principles that make best use of the Earth's resources"

Can space play a part in tackling the climate crisis?

For Inmarsat, **the world leader in global mobile satellite communications**, the answer is a resounding 'yes'.

As an organisation founded to deliver life-saving satellite communication services, **Inmarsat takes its responsibility for people, and the planet, to heart.** Inmarsat does this by supporting principles that **make best use of the Earth's resources** and continuously seeks to **further reduce its own emissions.**

Achieved in numerous ways, **Inmarsat addresses its carbon footprint through both its supply chain and the products it offers**. It addresses carbon hotspots in its operations, including analysing how best to reduce the environmental impact of satellite launches and even **delivering sustainable space operations** and mitigating space debris.

Inmarsat was acquired in 2019 by a consortium comprising of Funds advised by Apax, Warburg Pincus LLC, Canada Pension Plan Investment Board, and Ontario Teachers' Pension Plan Board.

Since the acquisition, **Inmarsat has reduced its Scope 1 and 2 emissions by its previously approved 29% target** – using a benchmark in line with the Paris agreement to meet a 1.5 degrees Celsius world – way ahead of its 2025 deadline. And following this success, Inmarsat is calculating a clear and ambitious **reduction strategy for its scope 3 emissions, essentially all emissions across its entire supply chain** and setting a new Scope 1, 2 and 3 science based target. **A significant ambition.**

This involves engaging with its largest suppliers to **build a joint vision**; looking at the lifecycle emissions of Inmarsat's products and **collaborating with product suppliers**; streamlining product logistics; and **balancing the need for business travel in a post-COVID world** alongside several other initiatives. **Inmarsat also works closely with its sustainability partner, Carbon Intelligence to further this work.**

I suppose you could say its achievements are 'out of this world'.

Working together to set a path for the industry to do more

Tech Zero

How can tech companies make sure sustainability is at their core?

For Tech Zero, it's about **learning together** – providing a place for tech firms of all sizes, and at all stages of growth, to share experiences along their sustainability journeys.

Led by Bulb and powered by Tech Nation, Tech Zero is a group of **tech companies committed to fighting the climate crisis.**

Firms who join sign up to Tech Zero's commitments – designed to help us reach net zero faster – and in return, signatories – of which there are now 200+ – gain access to a suite of resources to help them on their journey.

For tech companies in their earliest stages, Tech Zero provides a **fantastic platform to learn from others** much further along their sustainability journey.

This commitment to share best practices – and lessons from failures – is core to the founder and venture capital DNA. We are stronger together, and Tech Zero is an example of this in action.

ESG_VC / Venture ESG

How can we ensure we're working towards the same goal?

It's clear the private capital ecosystem – from VC firms to PE houses and the range of companies they support– **is committed to helping combat the climate crisis.**

But to be sure we're making an impact, and are working collaboratively, **we need to be able to benchmark what we're doing.**

PE and VC firmly believe that what gets measured gets managed, and therefore have created **initiatives** help guide our Net Zero ambitions and measure progress.

ESG_VC and Venture ESG are focused on supporting VC firms and their portfolio companies to measure, improve and understand their impact on society and the environment.

For early-stage businesses the challenge is often understanding **what they can do now** and how to embed this as they scale. Both initiatives **help firms at various stages of their ESG journey** to ask the right questions, think through the policy options and **embed the best practices.**

iCI

For private equity there is the Initiative Climat International (iCI).

The iCI, which is born from the 2015 Paris Agreement, is a collective commitment to understand and reduce carbon emissions specifically of private equity-backed companies, which also offers measurement frameworks and guidance.

And, as of now, nearly **90 private equity firms (including 27 BVCA members)** representing over US$700 billion in Assets Under Management have signed up to the iCI.

And furthermore, a number of iCI signatories have signed up the **UN's Race to Zero**, including Earth Capital, ICG and Bridges Fund Management, all of which are BVCA members.

Race to Zero, whose partner organisations include **Tech Zero**, is a global campaign to rally leadership and support from businesses, cities, regions and investors for a healthy, resilient, zero carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth.

Useful resources

BVCA position on climate change and net zero

View here

BVCA Flagship Report

Investing with Integrity: Supporting businesses through the pandemic

View here

Insights from our Excellence in ESG judges

View here

Contacts

If you would like to discuss this report, or the industry's contribution more generally, please contact any of the following:

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