University of East Anglia

INVESTING IN YOUR BUSINESS

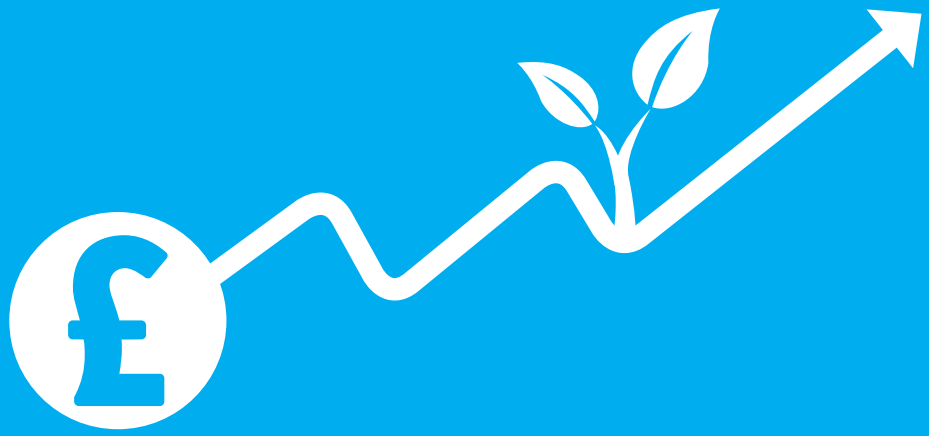
Low Carbon Innovation Fund

WE OFFER VENTURE CAPITAL INVESTMENT TO GROW YOUR BUSINESS

Since 2010 UEA has been making equity investments into selected businesses in the region through the Low Carbon Innovation Fund (LCIF).

We also provide specialist advice to prepare you to become investment ready.

If you are a commercially viable, environmentally sustainable enterprise with a vision to grow, we'd like to hear from you.



WHAT IS THE LOW CARBON INNOVATION FUND?

UEA's Low Carbon Innovation Fund (LCIF) is a venture capital fund, providing equity finance for businesses based wholly or partially in the East of England.

LCIF co-invests alongside private sector investors such as founders, angel investors and other funds. By providing finance to early and growth stage businesses, LCIF enables companies to develop their technologies, products or services and bring them to market.

Low Carbon Innovation Fund

THE FUND'S TRACK RECORD

LCIF has invested over £20.5m into nearly 50 businesses alongside a further £50m from private sector investors, bringing a wealth of new products and services to market. The Fund has already saved over 250,000 tonnes of CO_2.

LCIF CYCLE 1 (2010-2015)

INVESTED
£20.5m
IN 45 COMPANIES (86 investments)

LEVERAGED
£50 million
from private sector investors

CREATED OVER
270
NEW JOBS
and safeguarded over 190 jobs

INVOLVED IN
20%
of all £25k-£2m private equity deals during life cycle in the East of England

FORECAST TO SAVE OVER
10million
TONNES OF CO_2

BROUGHT TO MARKET OVER
100
LOW CARBON
new products, services or processes

ALREADY SAVED OVER
250,000
TONNES OF CO_2

THE FUTURE

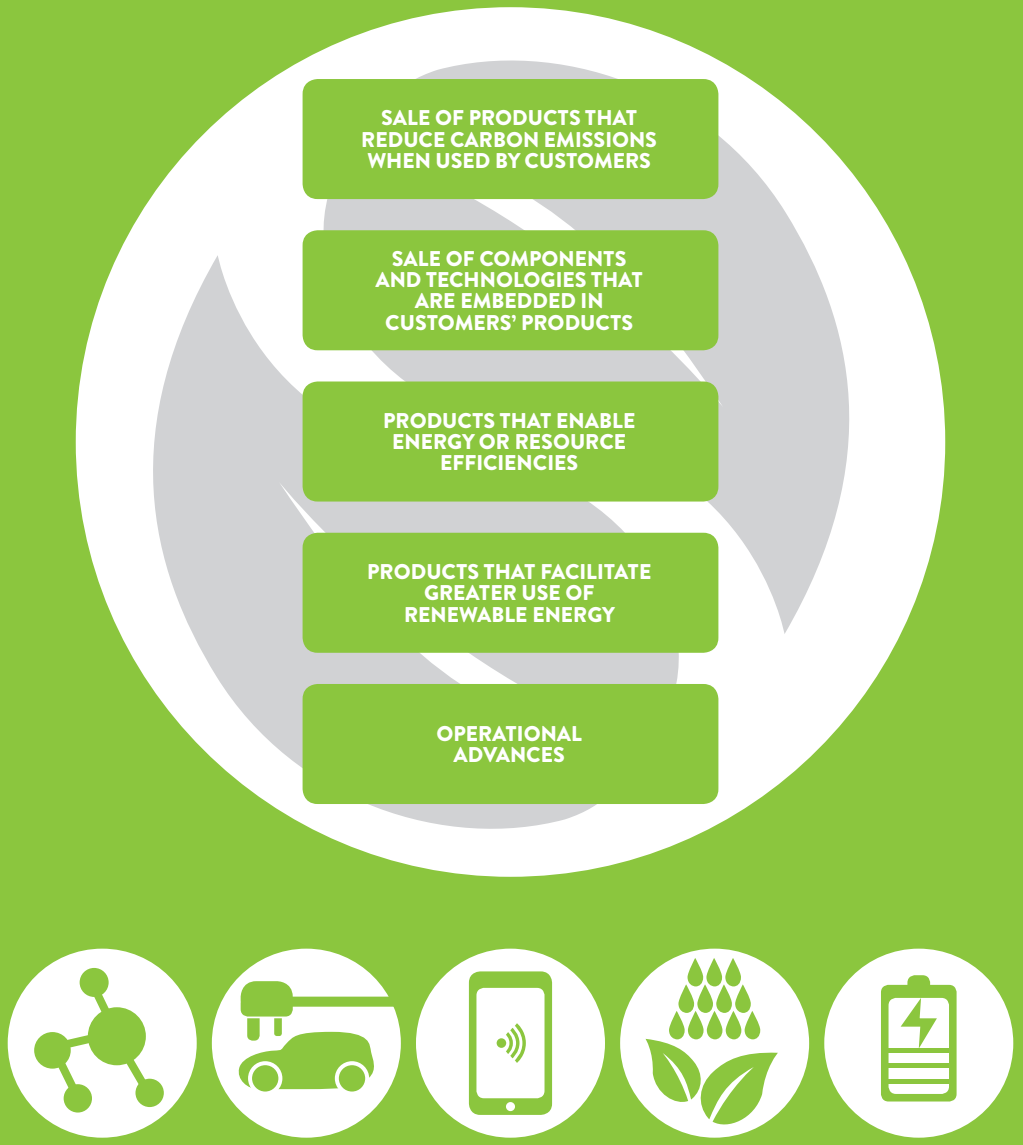
LCIF 2 A new £22m fund secured in partnership with Norfolk County Council for further investments.

OUR FUND HELPS SAVE CARBON

Reductions in greenhouse gas emissions lie at the heart of the rationale for LCIF.

All the companies that have received investment from LCIF have a measurable carbon saving aspect to their products or services, either from energy or resource efficiencies.

HOW LCIF COMPANIES REDUCE CARBON EMISSIONS



NEARLY

75%

OF INVESTEES STRESSED THE VALUE OF LCIF IN LEADING THEIR INITIAL FUNDING ROUND

3 OUT OF 5

INVESTEES SAID THEY COULD NOT HAVE RAISED THEIR ORIGINAL FUNDING ROUND WITHOUT LCIF

LCIF FINAL EVALUATION REPORT,
EDUCE LTD & FUTURENEERING LTD

BUSINESSES WE'VE ALREADY FUNDED

LCIF PORTFOLIO COMPANIES INCLUDE

Sensize, 99SQUARED, electronic sound, MSF TECHNOLOGIES, nrl, GENESIUS PICTURES, Midas, Knowledge TRANSMISSION, KUBOS SEMICONDUCTORS, CPT POWER, RAPIERE, CCTech, Gravitec Sensor Systems Ltd, extremis technology, FutureNova, SUNDRIED, LDS Liquid Digestate Solutions, SPARK, TRIDENT ENERGY, enLight, Ablatus Therapeutics, SHACKLETON, azoomee, gapogroup, ARRIBA Technologies, SUSTAINABLE MARINE ENERGY LTD, geo, AMIHO technology, Anvil Semiconductors, Bactest, Breathing Buildings, isotera, push energy, EBONEX, GT Energy Energy for the future, OVAL MEDICAL TECHNOLOGIES, recentworks, Syrinix Intelligent Pipeline Monitoring, SupaPass, weedingtech, TeraView, solar for schools, VAYON GREEN POWER GROUP

READ THE SUCCESS STORIES OF SIX BUSINESSES WE HAVE INVESTED IN

CASE STUDY

ABLATUS THERAPEUTICS

Ablatus Therapeutics is a spin-out company from Norfolk & Norwich University Hospital (NNUH) created to commercialise a novel medical device technology: Bimodal Electric Tissue Ablation (BETA), developed at NNUH.

Ablation is a minimally-invasive procedure whereby abnormal tissue (such as tumours) can be eliminated in situ as an alternative to surgery. Ablation typically uses a probe to deliver energy to the target tissue in order to heat and destroy it. However, the leading ablation technology causes tissue around the probe to dry out and become charred, which limits its applicability to relatively small lesions. BETA overcomes this desiccation with the benefit that it can be used for larger, potentially previously untreatable tumours. The Company's BETA technology is due to begin clinical studies soon.

HOW DID LCIF HELP?

The company approached LCIF in August 2015 seeking funds to allow further development of its technology and to reach regulatory milestones that permit market entry. In May 2016 the company completed a £500k angel-funding round which included investment from LCIF. The money raised allowed the company to begin developing BETA as a medical device. Since then the company has gone on to receive over £2m of investment to date, including grants from Future50 and Innovate UK.

In 2018 Ablatus Therapeutics was shortlisted for the Best Investment in MedTech category at the esteemed UK Business Angels Association (UKBAA) national Angel Investment Awards.

www.ablatus.co.uk

CASE STUDY

KUBOS SEMICONDUCTORS

Kubos Semiconductors was founded in late 2017 to develop and commercialise a specific genre of compound semiconductors based on original work completed by the University of Cambridge and Anvil Semiconductors (a former LCIF portfolio company). The company is developing highly efficient LEDs in the green waveband using its proprietary and patented cubic-GaN technology.

Current LEDs suffer from very low efficiency in the green part of the spectrum, a phenomenon known as the "Green Gap" which is widely acknowledged to be a significant barrier to unlocking the full potential of LEDs. It is becoming increasingly recognised that cubic-GaN offers a route to overcoming these problems, by enabling the production of highly efficient green LEDs.

Kubos aims to tackle the "Green Gap" and exploit the opportunity it presents by licensing its technology for the production of cubic-GaN LED stacks. The processes involved can be readily integrated into existing commercial LED fabrication processes thereby enabling the manufacture of high efficiency green LEDs and reducing the cost of LED lighting.

Through further development, Kubos is working to bring its technology to market and offer a cutting-edge advantage to LED device manufacturers within a vast array of applications from luminaires, micro-LED displays and automotive.

HOW DID LCIF HELP?

As one of the original investors, LCIF has supported Kubos Semiconductors in its early stages of growth and technical development. In 2019 LCIF participated in a £500k fundraising round designed to support the company in completing its development program and take its technology to market.

www.kubos-semi.com

CASE STUDY

OVAL MEDICAL TECHNOLOGIES

Oval Medical Technologies was founded in 2009 by Matthew Young, a world leader in the design of auto-injectors. It initially developed novel auto-injectors that make it easier for patients with chronic medical conditions to self-administer medication. Since then the company has gone on to develop two platforms, subcutaneous and intramuscular, that allow its devices to deliver a wider range of formulations including high viscosities, both high and low volumes, as well fragile molecules.

At the time of its introduction to LCIF, Oval had already received funding from business angels and corporate investors to develop two main products – an epi-pen that was significantly smaller than other devices in the market, and a generic subcutaneous auto-injector that enabled self-administration of a large and growing class of drugs known as viscous 'biologics'. Funds were needed to secure regulatory approvals for the devices under development and establish a manufacturing capability.

HOW DID LCIF HELP?

Following LCIF's initial investment, the company continued its product development and purchased production equipment. As growth continued, LCIF participated in a second fundraising round. This allowed the Oval to attract the interest of SMC, a US provider of contract manufacturing services to the medical device industry. It was bought by SMC the following year and now operates as a division of the group.

Since the acquisition, Oval has expanded significantly and now employs three times as many people as at the time of the sale. It has just moved to a large, purpose-designed facility in Cambridge Research Park. The company's management team continues to be led by CEO Barbara Lead and founder Matthew Young. Oval expects to bring its first product to market in 2023.

www.ovalmedical.com

CASE STUDY

SPARK EV TECHNOLOGY

Driven by air quality concerns, global legislation is accelerating the adoption of electric vehicles (EVs). However, drivers and automotive companies face multiple challenges with EVs, including overcoming range and time anxiety, and building vehicle trust.

By delivering more personalised journey predictions, based on actual driving style, topography and current atmospheric conditions, Spark's proprietary technology overcomes these issues by providing more tailored, more accurate journey predictions. As Spark's AI algorithms learn with every journey, it continually improves the accuracy of personalised journey predictions, adapting to every driver.

Spark's technology is aimed at automotive companies, mobility providers and tier 1 electronics OEMs. Deployed via software development kit (SDK) embedded into a SatNav, it enables them to build driver trust and consequently accelerate EV sales.

Spark's technology has been recognised through a range of partnerships and selection for prestigious global start-up and accelerator programmes.

HOW DID LCIF HELP?

After founding the company in 2017, Spark's CEO Justin Ott approached LCIF seeking investment to grow the business and commercialise the software. After a successful fundraising round initiated by LCIF and others, the company is flourishing and now plans to accelerate growth across Europe, China and the US.

www.sparkevtechnology.com

CASE STUDY

SYRINIX

Syrinix is a global innovator within the water industry, in the development and delivery of intelligent pipeline monitoring solutions. From high resolution pressure logging to accurate leak detection, Syrinix's range of PIPEMINDER products plus a robust service offering, enable data-driven decisions to be made before a problem arises, rather than after an event has occurred. Syrinix began life as a research project at the University of East Anglia in the UK, globally recognised as a future focused hub of innovation. Now trusted by some of the world's largest water utility companies, Syrinix began its commercial operation in 2004.

Since its inception, Syrinix has received funding from its initial shareholders to grow. In 2010 James Dunning joined the company as its new CEO.

HOW DID LCIF HELP?

Impressed by the management team, the carbon savings offered, the potential of the technology and growth of the company's market share, LCIF chose to invest to help finance the company's transition from its development phase to an increased focus on delivery and growth.

LCIF was able to move swiftly through its approval stages, completing the required analysis and due diligence to ensure it was able to meet a tight deadline for investment. LCIF's confidence in the company was swiftly substantiated when a major utility placed a significant order shortly after the investment was finalised.

Syrinix continues to grow, both by expanding into the North American market and successfully completing several more fundraising rounds, thanks to its offering of end to end solutions which supply clarity, accuracy and peace of mind.

www.syrinix.com

Syrinix
Intelligent Pipeline Monitoring

CASE STUDY

TERAVIEW

TeraView is the world's first and leading company solely focused upon the application of terahertz light to provide solutions to customer issues. A spin out from the Toshiba Corporation and Cambridge University, TeraView has developed its proprietary technology across a number of markets. These include fault analysis and quality assurance for semiconductor chips used in mobile computing and communications, as well as non-destructive inspection of high value coatings used in the automotive, pharmaceutical, food and solar industries.

TeraView world firsts:

- 1st to apply terahertz in biomedical imaging
- 1st to image diseased tissue (dental caries)
- 1st to image cancer using terahertz imaging
- 1st to launch terahertz failure analysis and inspection tools in the semiconductor industry
- 1st to measure multi-layer coatings on automobiles, pharmaceutical tablets and other high value products.

HOW DID LCIF HELP?

TeraView approached LCIF for support to expand its existing customer base and to commercialise further innovative products. Today, the Company has an intellectual property portfolio containing 70 granted patents, which it provides to its customers, as well as over 100 peer-reviewed publications. TeraView is headquartered in Cambridge UK, but has sales and technical support resources in the US, Korea and other countries.

www.teraview.com

TeraView

WHO CAN APPLY FOR LCIF INVESTMENT?

- Your business should be planning for growth and have a strong business plan.
- You need to be prepared to sell equity in the company.
- You must be operating in the European Regional Development Fund (ERDF) approved eligible categories.*

This is a co-investment fund – the LCIF portion comes from the ERDF

***FOR MORE INFORMATION ABOUT ELIGIBILITY – SEE www.lowcarbonfund.co.uk**

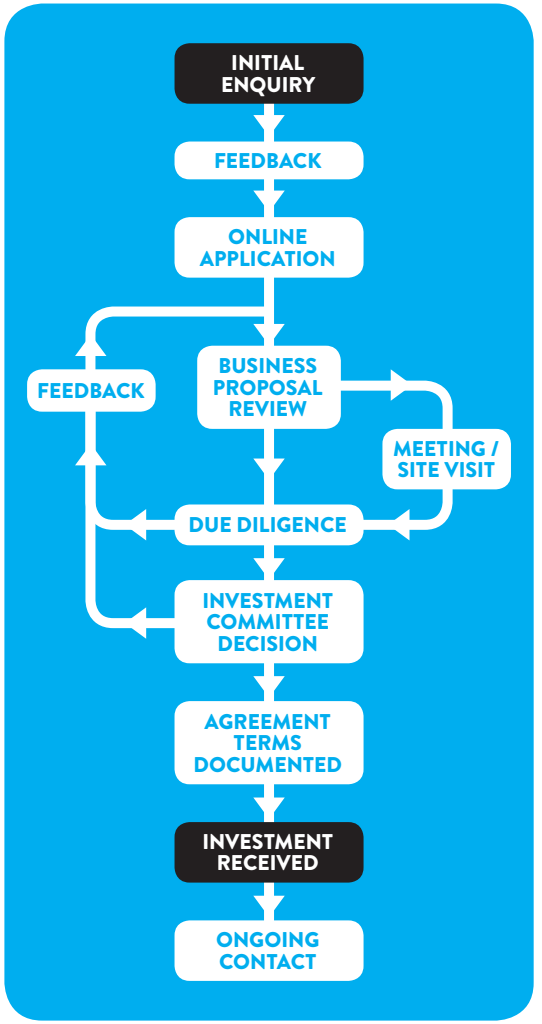
WHAT ARE THE CRITERIA?

- Your company must fall within the EU definition of Small and Medium-sized Enterprises (SMEs) and be wholly or partially based in the East of England.
- You are developing or producing technologies, products or services which will have a beneficial impact on the environment by cutting greenhouse gas emissions through being more energy or resource efficient.

For more information on SME criteria contact the team:
tel 01603 592548 or email innovationfunding@uea.ac.uk

FOR BUSINESSES WE'VE ALREADY FUNDED – SEE PAGE 11

HOW TO APPLY



UEA's experienced team supports applicants through the process, giving you the opportunity to respond to feedback and refine your application along the way, so that you get the investment that best fits your business.

TO APPLY – SEE PAGE 27

BEFORE YOU APPLY... ARE YOU READY FOR INVESTMENT?

FOR BUSINESSES WE'VE HELPED BECOME INVESTMENT READY – SEE PAGE 25

UEA'S INVESTMENT READINESS PROGRAMME

UEA's Investment Readiness Programme is aimed at ambitious, growth focused SMEs from a wide range of sectors in Norfolk and Suffolk. If you are looking to explore funding opportunities and increase your understanding of the various options around access to investment then this is the programme for you.

FREE AND INVESTOR-LED

Designed by active investors, this free programme is part of Invest East – a £1.8m business support programme for Norfolk and Suffolk, part-funded by the European Regional Development Fund and delivered in partnership with New Anglia LEP, Norfolk and Suffolk County Councils and the New Anglia Growth Hub.

WHAT IS INVOLVED FOR YOUR COMPANY?

Each successful applicant company joins a cohort of like-minded businesses. You will be taken on a four-month journey to prepare you to take on investment. The programme is delivered through one-to-one support with specialist advisors, tailored mentoring and group session seminars, delivered by well-respected and experienced experts.

Through attendance at masterclasses and pitch feedback sessions you will be advised on how to develop, refine and deliver your business proposition, by completing 'homework' and taking on collaborative feedback.

Each cohort culminates with a final showcase event, giving selected participants the opportunity to network with a wide range of business advisors, entrepreneurs and investors.

www.investeast.co.uk

INVEST >EAST

TO JOIN THE INVESTMENT READINESS PROGRAMME – SEE PAGE 27

“

The Investment Readiness Programme was instrumental in taking my start-up to the ‘next level’ and, ultimately, attracting private investment to help me follow the growth plan for my business.

The insight, coaching, and master classes were invaluable in terms of shaping my idea and business structure into a form that could then seriously be presented as an investment option.

CRAIG WALLACE, FOUNDER
AND MANAGING DIRECTOR
OF EARTHSYSTEMDATA

”

BUSINESSES WE’VE HELPED BECOME INVESTMENT READY

COMPANIES THAT HAVE COMPLETED OUR INVESTMENT READINESS PROGRAMME

BRISK

An AI-powered technology platform that uses data to help identify risks and opportunities and provides access to advice, insurance and energy savings.

www.getbrisk.com

EARTHSYSTEMDATA

EarthSystemData provides dedicated climate change and data consultancy services supporting businesses and the public sector.

www.earthsystemdata.com

ISOCHEMIX

A UK pharmaceutical discovery company recently spun out from UEA’s Chemistry Department, providing bespoke labelling and analysis of compounds.

www.isochemix.com

THE MACHINERY MANAGEMENT PEOPLE

The industry’s first and leading online trade platform for the buying, selling and management support of engineering machinery and equipment.

www.themachinerymanagementpeople.com

PROKINETICS

A design consultancy focused on the development of innovative renewable energy turbines, targeting energy efficiency.

SAFEPOINT

An intelligent lone worker safety solution packed full of smart safety features and reporting tools, founded by UEA students and funded by UEA.

www.safepointapp.com

TOTAL ACCESS HEALTH

An online GP and pharmacy service founded by UEA students and funded by UEA, offering consultations and private prescriptions for commonly prescribed medication.

e-surgery.com

ZERO TAXIS

Zero is Norwich’s first 100% electric private taxi service; zeroing in on zero emissions.

www.zerotaxis.com

THE INNOVATION FUNDING TEAM

UEA's Innovation Funding team is the first point of contact for the Low Carbon Innovation Fund and the Investment Readiness Programme.

The team of experienced Investment Analysts and business specialists comes from a diverse range of private and public sector backgrounds.

Working with external Fund Managers and independent experts, as well as a developed network of investors, the Innovation Funding team is perfectly placed to provide support and advice to prospective companies looking to take on investment.

Low Carbon Innovation Fund

Printed on 100% recycled paper

THE INNOVATION FUNDING TEAM

Contact the team on
01603 592548 or email
innovationfunding@uea.ac.uk

APPLYING FOR LCIF INVESTMENT

To find out more email
lcif@uea.ac.uk

OR APPLY ONLINE
www.uea.ac.uk/low-carbon-fund

JOINING THE INVESTMENT READINESS PROGRAMME

Visit
www.investeast.co.uk

OUR FUNDING AND DELIVERY PARTNERS

University of East Anglia
European Union European Regional Development Fund
Norfolk County Council
Suffolk County Council
NEWANGLIA Local Enterprise Partnership for Norfolk and Suffolk

INVESTING IN A CLEANER FUTURE

LOW CARBON INNOVATION FUND