

Appendix 3 - Microsoft Social Value Messaging

In this plan we will go into the details of how Microsoft are currently delivering social value in the UK

Key plan factors include:

1. **How we operate and design our services and products;**
2. **How our previous and ongoing investments in social value programmes - education, skilling / employment, accessibility / inclusion, sustainability, and innovation benefit the UK; and**

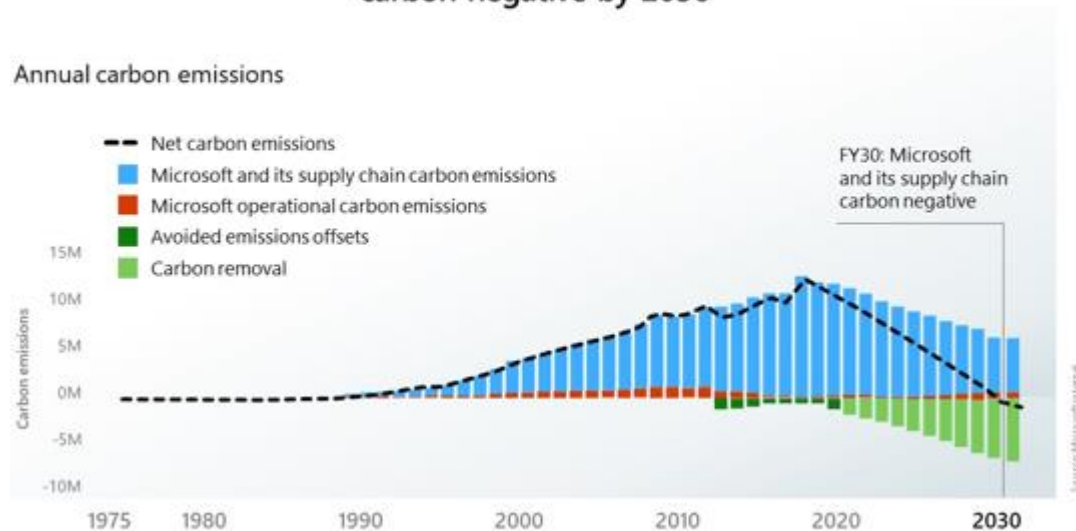
Environment: Decarbonising and Safeguarding Our World

A recent Microsoft study concluded that 95% of our total greenhouse gas emissions stems from entities within our supply chain. With Microsoft's stated mission of empowering every person on the planet to achieve more, decarbonising and safeguarding our world while promoting local skills and employment is a part of our DNA. Microsoft's recent announcement to become carbon negative by 2030 is just one example of that.

1. Carbon Emissions Must be Reduced

The scientific consensus is clear. An urgent carbon problem confronts the world. [UK government figures](#) show that the country's greenhouse gas emissions in 2019 were 45% below 1990 levels, with a 3.9% fall in 2019. To meet the UK's carbon budgets, CO₂ emissions would need to fall by another 31% by 2030, whereas government projections expect just a 10% cut, based on current policies.

Microsoft's pathway to carbon negative by 2030



Without question, Microsoft recognises the urgency of this situation. This is why we made a formal commitment to take responsibility for our own carbon footprint – becoming **carbon negative by 2030, and removing more carbon than Microsoft has emitted during its entire period of operation by 2050.**

The objective is challenging, yet achievable. We will accomplish it by first, driving down our scope 1¹ and 2 emissions to near zero by the middle of this decade. Second, we reduce our scope 3 emissions by more than half by 2030. Third, we commit to remove more carbon than we emit by 2030 and take supporting steps to do so. This path sets our course to remove more carbon from the atmosphere by 2050 than the company has emitted since its founding 45 years ago. We feel that this will not only be a significant achievement, but it will also set an example to other companies around the world.

Our focus will be as follows:

Minimise the Negative Impact of Our Operations

We began in 2009 by making and then meeting a series of [commitments](#) to reduce the Company's carbon footprint. In 2012, we were one of the first companies to establish an internal Microsoft carbon tax to hold our business divisions financially responsible for reducing their carbon emissions. In 2019, we nearly doubled our internal carbon fee to \$15 per metric ton on all carbon emissions.

The funds gathered through the carbon tax are invested in Microsoft's carbon neutrality. They help us take a tech-first approach that puts sustainability at the core of every part of our business and innovation efforts. We are committed to work for sustainable outcomes.

In practice, this means we'll continue to keep our house in order and improve it, while we increasingly address sustainability challenges around the globe. In the process, we engage our strongest assets as a company – our employees and our technologies. This both internalises and externalises our commitment.

In addition, Microsoft has prioritised the development of new renewable energy sources. This will assist us globally to meet our corporate commitments.

Other Microsoft initiatives include:

Operating our global headquarters on 100% carbon-free energy. New agreements enable a zero-carbon headquarters, as Microsoft's Puget Sound operations will be powered entirely by local hydropower. Microsoft UK have attained the ISO14001 standard for our Real Estate and Facilities that provides an independent indication as to the quality and direction of our sustainability journey.

Supporting the Carbon Disclosure Project. Microsoft submits data to The Carbon Disclosure Project (CDP) so that investors and customers can compare our carbon footprint to other companies, not only in our sector but across the board. For the fourth year in a row, CDP included Microsoft in its Climate A List for climate performance leadership.

Adopting the Carbon Trust Standard. In April 2010, Microsoft UK was the first software vendor to secure certification under the Carbon Trust Standard that provides a forward look at sustainability plans and recognises excellence in the measurement, management, and reduction of carbon emissions.

Utilising the Microsoft Sustainability Calculator. Insights into carbon emissions data associated with Azure services is available from the Microsoft Sustainability Calculator. Microsoft can quantify the carbon impact of resources running in Microsoft Azure over a period of time and data centre region, as well as see estimated carbon savings from running those workloads in Azure versus traditional enterprise data centres. This data is crucial for reporting existing emissions and is the first step in establishing a foundation to drive further decarbonisation efforts.

Finding New and Innovative Ways to Lower Our Carbon Footprint. With other innovations such as [Project Natick](#), the world's first underwater data centre, and the award-winning [Advanced Energy Lab](#), Microsoft continues to push the boundaries of data centre innovation and sustainability for both new and existing projects.

Maximise the positive impact of our platform, products and policies.

Microsoft Cloud services are energy, carbon efficient.

For localized deployments, Microsoft Cloud is between **79 to 93% more energy efficient** than a traditional on-premise datacenter.

When renewable energy is taken into account, carbon emissions (kg/CO₂/user-year) from Azure Compute are **92-98% lower** than a traditional on-premise datacenter.

The four key investments that reduce environmental impact:



Microsoft Cloud services are up to 93 percent more energy efficient and up to 98 percent more carbon efficient than traditional enterprise data centres. Compared to virtualised, high-end data centres, the Microsoft Cloud is delivering big gains in energy efficiency and reductions in carbon emissions. These numbers are the result of years of work and focus to make our data centres and cloud services best in class, and that includes our substantial investments in sustainability.

Helping Others to Reduce Their Carbon Footprints

As noted, by far the predominant amount of Microsoft's greenhouse gas emissions comes from our supply chain. Aligned to this, we are also launching an initiative to use Microsoft technology to help our suppliers and customers around the world reduce their own carbon footprints. We recently established a \$1 billion climate innovation fund to accelerate the global development of carbon reduction, capture, and removal technologies. Additionally, from 2021 we will also make carbon reduction an explicit aspect of our procurement processes for our supply chain. Our progress on all of these fronts will be published in a new annual Environmental Sustainability Report that will detail our carbon impact and reduction journey.

2. Air Pollution Must be Reduced

Air pollution has become a "silent killer". The World Health Organisation estimates that 91% of the world's population live in places where air quality exceeds guideline limits. A report by the Royal College of Physicians (RCP), [published in 2016](#) concluded that the annual mortality burden in the UK from exposure to outdoor air pollution is equivalent to around 40,000 deaths. These are some of the reasons why Microsoft is committed to maximise the reduction of air pollution by leveraging its platform, products and policies, while minimising the negative impact of our operations.

Grounding in Science

Project Eclipse, the Microsoft Research Urban Innovation Initiative developed a full stack air quality sensing platforms for cities. The goal was a radical increase (10x – 100x) in the

geographic granularity of environmental sensing in cities in support of a variety of public health scenarios.

Project Eclipse measure CO, NO², SO², and O³, as well as PM 1, PM 2.5, and PM 10, along with temperature and humidity. Data is transmitted via LTE-M direct to an Azure data stack. It utilises Azure to ingest, process, store, analyse, and visualise air quality data. Final raw data is available in JSON format via simple REST API, and the Urban Innovation team has developed custom R analytics, Power BI, and web visualisations to help customers monitor and get insight from the data.

The Urban Innovation team continues to ground its work in science, working toward its goal of deploying low cost, low-to-no power environmental sensors. Additional techniques under development include:

- Computer vision analytics for camera-based sensors;
- Analogue colorimetric ink-based chemical sensors and
- Hybrid electro-molecular sensors.

Minimise the Negative Impact of Our Operations

Additionally, to decrease air pollution, Microsoft is continuously evaluating how we can minimise the negative impact of our operations. [The Department for Environment, Food and Rural Affairs](#) (Defra) estimates that 80% of NO^x emissions in areas where the UK is exceeding NO² limits are due to transport. The largest source of this pollution is emissions from diesel light duty vehicles (cars and vans). Microsoft is a significant operator of fleet vehicles - both company cars and private cars used on company business. We are, therefore, working to minimise the environmental impact of our car fleet with the 'Green Fleet Policy' through:

- Setting 'green fleet' targets and publicising the results of progress against this plan;
- Measuring and reporting upon driver use of fuel; identifying opportunities for fuel efficiency;
- Educating and engaging with employees in order to achieve a greener fleet;
- Encouraging employees to select company cars with low CO₂ emissions; and
- Optimising the use of technology in order to manage the impact.

We have defined overall CO₂ limits, which will be reduced year on year, when ordering new vehicles. The current restriction for new company cars are at 115g/km CO₂. The long term average fleet target for Fiscal Year 22 is 95 g/km. The list of offered cars is reviewed on regular basis in order to meet and preferably exceed our CO₂ targets.

Within this, Microsoft UK encourages employees to consider Electric Vehicles (EV's) under the company car scheme, to be used for both business and private use. There are 15 charge points at Microsoft UK HQ in Reading and employees receive £25.00 per month green incentive.

We also provide our UK employees with a public transport allowance and we participate in the The Cycle to Work scheme that is a government initiative that encourages alternative travel to reduce environmental impact. Cycling to and from work not only reduces a person's carbon footprint, but it also allows that person to spread the cost of a new bike, save on income tax and national insurance, and increase fitness.

Remote Work and Working from Home

Key to helping us reduce our travel emissions has been the widespread adoption of online collaborations and meetings. As teams across the globe are moving to remote work, Microsoft aims to keep teams connected by making our Microsoft Teams product available to as many people as possible. Teams allows people to chat, meet, call, learn, and collaborate all in one place and it helps keep people connected while they work apart. We see Microsoft Teams as an important component of our sustainable operations and a catalyst for reshaping how business will get done in the future – at Microsoft and around the world.

For our business customers, Microsoft Core Services Engineering and Operations group and our Adoption Change Management practice have the expertise to assist organisations to make best use of technology to help in reducing air pollution. Microsoft has a proven methodology that aids customers around the globe manage the internal technical and change aspects associated with remote working.

Microsoft Travel policy requires employees to consider the environment when planning to travel, using Microsoft Teams as an alternative when possible. Since 2007, Microsoft business has significantly grown in revenue and we have increased the number of employees, while air travel emissions have decreased by 2 percent over the same period. The net result is a 27 percent reduction in air travel emissions per employee and 46 percent reduction relative to revenue growth.

3. Water replenishment

By 2030 we will be water positive, meaning we will replenish more water than we use. We'll do this by putting back more water in stressed basins than our global water consumption across all basins. The amount returned will be determined by how much water we use and how stressed the basin is.

Our replenishment strategy will include investments in projects such as wetland restoration and the removal of impervious surfaces like asphalt, which will help replenish water back into the basins that need it most. We will focus our replenishment efforts on roughly 40 highly stressed basins where we have operations. This reflects a science-based assessment of the world's water basins. The majority of the world's freshwater is divided into 16,396 basins, each of which has been assigned a "baseline water stress" score by the World Resources Institute (WRI), a leading nonprofit global research organization that focuses on natural resources. A basin is considered "highly stressed" if the amount of water withdrawn exceeds 40% of the renewable supply. Globally there are 4,717 basins that fall into this category.

Digitizing water data

We will also use our technology to better understand where water stress is emerging and optimize water replenishment investments across a region. Through our AI for Earth program we are supporting projects in each of these areas:

- [Vector Center](#) works with governments and companies around the world to better understand the impact of water availability and accessibility.
- [The Freshwater Trust](#), a nonprofit that protects and restores freshwater ecosystems, and [Upstream Tech](#), a company that develops technological solutions for water conservation, worked together to develop a tool called the BasinScout Platform.
- [Leadership Counsel for Justice and Accountability](#) is a California nonprofit focused on land use and transportation in underserved communities. It is working to address the challenge of drinking water availability in California's Central Valley.

Climate Innovation Fund investment: Emerald Technology Ventures

Microsoft's Climate Innovation Fund is investing \$10 million in the [Emerald Technology Ventures](#)' \$100 million Global Impact Fund, whose investors also include Temasek, Ecolab and SKion. The fund will partner with early- to expansion-stage companies from around the world, driving innovation and its adoption in water technologies. It will focus on pressing challenges, including conserving water resources, improving water efficiency

and quality, avoiding carbon emissions in water treatment, and adapting to climate change. This fund is one of the few funds solely focused on water strategy. This is the third investment the Climate Innovation Fund has made in one of company's four sustainability focus areas. The first was focused on carbon and the second on waste.

Empowering our customers

Microsoft is also developing solutions to help customers understand water-related risks due to climate change; use data to reduce water use and make smarter decisions about water; and, improve water quality and conservation. Technologies like IoT and AI are playing a critical role in improving water quality and water efficiency. For example, the [Azure IoT Central government app templates](#) includes remote, real-time water quality monitoring and water consumption monitoring, geared toward reducing water consumption.

- [Ecolab](#), a leading global provider of water, hygiene and energy technologies and services, is a Microsoft customer and a partner that is using data and technology to help its customers be more water efficient and use less water across their operations.
- [Schneider Electric \(SE\)](#) provides energy and automation digital solutions for efficiency and sustainability; combining world-leading energy technologies, real-time automation, software and services into integration solutions.
- [Grundfos](#) is a global water technology company headquartered out of Bjerringbro, Denmark. They pioneer solutions to the world's water and climate challenges improve quality of life for people.
- [Seequent](#) is a New Zealand-based Microsoft customer and partner. They rely on Azure to drive their geospatial and geoscience work, including important work to address water quality and quantity with the Water Replenishment District (WRD), the largest groundwater agency in the state of California.

Water Resilience Coalition

We understand that no one company or organization can solve the world's water crisis. The private sector also has a significant opportunity to have a positive impact on water availability and accessibility: 150 of the world's biggest companies have the potential to influence one-third of global freshwater use. Launched earlier this year, the [Water Resilience Coalition](#) is an initiative of the United Nations Global Compact CEO Water Mandate. Founded by seven companies, including Microsoft, the coalition has since grown to 16 industry-leading corporations, all of whom have pledged to work collectively on water issues. We are working together to identify priority basins for collective action and to set targets for improving conditions in those basins. As part of our water goals, we will partner with Water Resilience Coalition members to co-invest in availability, accessibility and quality projects in water-stressed basins and we will actively recruit other companies to join us in this important coalition.

Policy

Governments also play a fundamental role in ensuring the availability of safe, clean drinking water, maintaining and expanding water infrastructure, protecting critical water

ecosystems, and responding to water crises. We will use our voice at the local, national and global levels on public policy that would increase water access and availability and improve quality.

Improving Data in Water Stressed Areas: We can't solve a problem that we don't fully understand. Governments ought to develop more accurate and up-to-date assessment of ground and surface water levels and how they are changing over time. This data can help local stakeholders calculate and forecast demand and supply balances; track water quality; facilitate disaster prevention and early warning systems; and ultimately develop innovative solutions. We are encouraged to see the EU's plans to create a Common European Green Deal data space, as part of the European Strategy for Data, that aims to harness the potential of environmental data to help achieve the EU's ambitious climate objectives. To support such efforts, Microsoft will work with partners to deploy tools that provide better hydrologic data that enable enhanced water management.

Upgrading Water Infrastructure: We need governments to invest in upgrading and expanding water infrastructure. This is critical to provide safe drinking water, treat storm and wastewater, manage water levels, and protect against climate impacts, particularly in the most vulnerable communities. These investments can also provide much needed job creation. National governments should look for opportunities to integrate water infrastructure into COVID-19 recovery packages and foster innovative solutions. We applaud the EU for including water-related green infrastructure in the InvestEU Programme as well as recent bipartisan effort by the U.S. Congress to consider reauthorization of critical water infrastructure funding. We will encourage national governments to prioritize these critical investments in the months and years ahead.

Integrating water into climate strategies: Water is the primary means through which climate change will be experienced. As such, we need government to address climate and water challenges in a more integrated way. One way to do this is through the long-term goals that countries set as part of their national climate plans or Intended Nationally Determined Contributions (INDCs) under the Paris climate agreements. As national governments work to update their 2030 climate plans, in advance of COP26, the annual UN climate conference, in 2021, they should include an explicit water-related target in their climate mitigation and adaptation strategies.

To help advance these policy efforts, we will join [WaterEurope](#) to promote smart water solutions and will encourage our other trade associations and advocacy partners in the U.S. and EU to play a more active role in advocating these policies.

Enlisting our employees

As we have with each of our previous sustainability commitments, we will enlist our employees by inviting them to participate in volunteer opportunities associated with the replenishment projects we will be investing in. Our employees have volunteered with NGOs we're partnering with on water replenishment projects, including the restoration of Lake Sembakkam in Chennai, India; restoration of Crow Creek in Cheyenne, Wyoming; and, habitat restoration along the Red River in Fargo, North Dakota. In regions without active replenishment projects, we will provide information about volunteer opportunities with nonprofits working on water projects in their communities.

While our commitments focus on fresh water we recognize the need to protect the world's oceans, which generate more than 50% of the world's oxygen, absorb half the

carbon produced and account for 80% of the planet's biodiversity. Oceans also are critical to our globally economy and food security, with more than 100 million households dependent on the fisheries for their livelihoods, and 3 billion dependent on seafood as their primary protein.

Protecting the world's oceans

The Organization for Economic Co-operation and Development (OECD) estimates that by 2030 the value of the ocean economy could exceed \$3 trillion and more than 40 million jobs. To realize this potential economic impact, the private and public sectors and civil society must work together to reverse declining ocean biodiversity resulting from climate change, pollution and overexploitation. That requires good data, governance and policies, and technological innovations like smart sensors, autonomous robots, data analytics and AI to better monitor, model and manage oceans.

That's why we're joining the World Economic Forum's Center for the Fourth Industrial Revolution Network for ocean innovation and technology in Norway (C4IR Ocean). It's dedicated to using data, technology and governance frameworks to protect the world's oceans and increase the sustainability of ocean-based industries.

Unlike roads, oceans have not been adequately mapped, so we are not making informed decisions. We're one of the organizations working with C4IR Ocean on its [Ocean Data Platform](#). This global, open-source platform gives data scientists, app developers and marine spatial planners access to data coming from historic and real-time data sources to develop solutions to improve ocean health.

4. Safeguarding the natural environment

To address the many pressing scientific questions and challenges facing our planet, we must increase global understanding of how human activity is affecting natural systems and create a community of change, driven by data and cutting-edge technology.

The National Geographic Society and Microsoft's AI for Earth programme are partnering to support novel projects that create and deploy AI tools to improve the way we monitor, model, understand, and ultimately manage Earth's natural resources for a more sustainable future. To date, we have awarded 508 grants to projects with impact in 81 countries, and we are committed to growing this community of grantees.

Of those, 18 organisations are in the UK. Of note in this respect:

- AI is being used to identify seals in Cornwall.
- A company in Shropshire is deploying machine learning to understand the perfect time to pick coffee beans across the world.
- The Royal Society for the Protection of Birds is monitoring wildlife in Sierra Leone and Liberia.
- The University of Edinburgh is using Microsoft's cloud platform to help animal researchers and volunteers communicate more effectively.
- The National Oceanography Centre in Southampton is using a grant to try to predict wave sea states in the North Atlantic by using deep learning.

In 2018 Microsoft UK started a yearly AI for Good accelerator programme, designed to help UK purpose-driven ventures advance their AI solutions and create positive societal change. Eleven (11) organisations graduated in the first year, all of whom reported positive impact on their business following the programme.

For four months, they benefit from the resources, advice, and one-to-one support to scale their AI project with Microsoft, Social Tech Trust and other key partners. Examples of those organisations focused on environment and agriculture include:

- [Citymaas](#) – Using Blockchain and AI to reduce congestion and emission in smart cities. City MAAS Assist is a pilot programme that helps people with disability to travel in smart cities.
- [Agricompass](#) – Agricultural data analytics to create knowledge and decision support for all users in major crop value chains.
- [Agrimetrics](#) – Providing, connecting, and analysing complex data to drive greater productivity for agrifood businesses and deliver food sustainably.
- [ev.energy](#) – Enabling electric vehicle owners to enjoy savings on the cost of EV charging and a green motoring experience, delivered from renewable electricity sources.
- [EcoSync](#) - Cloud based platform helping commercial buildings to stop heating empty rooms.
- [OrxaGrid](#) - Providing accurate and secure analytics that provide efficiency improvements for energy networks.
- [Recycleye](#) - Disrupting the waste management industry by leveraging deep learning and AI advancements with an ultra-low cost, rapidly deployable, decentralised, scalable, digital, and fully automated sorting solution.

Biodiversity Initiatives

Microsoft's biodiversity initiative aims to put data and digital technology to work, including through an ambitious programme to aggregate environmental data from around the world and put it to work in a new "Planetary Computer." We will combine this with new work to enable partners and customers to use the resulting output to enhance environmental decision-making in their organisational activities. We will also use it to speak out on ecosystem-related public policy issues and take responsibility for Microsoft's own land footprint.

The Planetary Computer provides insights into critical questions that scientists, conservation organisations, and businesses already ask every day, often with no easy way to obtain a locally relevant answer. For example:

- Understanding tree density, land use, and size of forests has implications for biodiversity conservation and climate change mitigation. Organisations often conduct expensive on-the-ground surveys or build customised solutions to understand local forests. The Planetary Computer will provide satellite imagery, state-of-the-art machine learning tools, and user-contributed data about forest boundaries from which forest managers will have an integrated view of forest health.
- Urban planners and farmers depend on forecasts of water availability and flood risks to make educated guesses about land management. The Planetary Computer will provide satellite data, local measurements of streams and groundwater, and predictive algorithms that will empower land planners and farmers to make data-driven decisions about water resources.
- Wildlife conservation organisations depend on their own local surveys, global views of wildlife populations, and suitable habitats for wildlife. The Planetary Computer will combine information about terrain types and ecosystems with the best available data about where species live, enabling a global community of wildlife biologists to benefit from each other's data.
- Combating climate changes requires organisations to measure and manage natural resources that sequester carbon, like trees, grasslands, and soil. The Planetary Computer will combine satellite imagery with AI to provide up-to-date information about ecosystems, and provide a platform for leveraging predictive models to estimate global carbon stocks and inform decisions about land use that impact our ability to address climate change.

Microsoft Limited would like to explore the benefits of using Planetary Computer to help local authorities, academia, and conservation organisations to obtain relevant answers. Our experts can share insights and help make best use of data available to local experts.

Community Environmental Sustainability

Community Environmental Sustainability is one of the four pillars of Microsoft's "[Datacenter Community Development initiative](#)". We identify environmental issues such as air pollution in our data centre communities and build local partnerships to address the issues in creative ways. By collaborating with local agencies and stakeholders, we fund environmental initiatives, inspire the adoption of innovative approaches to environmental responsibility, and enable the protection of our environment.

The image below illustrates examples of projects in other regions.



Employee Engagement

Land and sea exploitation, climate change, pollution, and invasive species have put biodiversity in extreme peril. Protecting, restoring, and conserving ecosystems are essential to humanity's ability to survive and thrive.

Our employees are passionate about addressing critical issues that face our local communities and the world, such as air pollution. Through donations of time, talent, and money, we want to capitalise on the energy and intellect of our employees to preserve and protect biodiversity and ecosystems. Our employees have engagement

opportunities with organisations (e.g., iNaturalist, Zooniverse) that are using data to increase our knowledge about biodiversity and ecosystems to better take action to protect them.

4. Resource Efficiency and Circular Economy Solutions are Promoted

The people and organisations we empower inspire innovation from start to finish. That's why Microsoft is reducing our environmental footprint through measures both large and small. In 2019, we launched the circular cloud initiative, which will drive a shift towards the transparent growth of a truly circular economy.

Starting with our own data centre supply chain, we'll gather real-time data about the sustainability of our hardware asset lifecycle, from production to distribution and use to recycling:

- Enhancements and automation for our operational end-of-use processes;
- Circular cloud system to test and scale new disposition routes such as buyback, re-use, and manufacturer returns;
- Supplier engagement framework to establish processes and alignment with Microsoft partners for highly secure responsible dispositioning of used assets;
- Sustainability metrics framework to measure our material circularity for both the direct and indirect social and environmental impact of entire Microsoft Cloud value chain; and
- Scaling and automation of compliance and assurance processes.

Our goal is to accelerate transparency within our global supply chain, and inspire bold target-setting in terms of creating net-positive results for the environment.

We operate a Zero Waste certified campus. We support water programmes focused on reducing community freshwater needs and alleviating competition for water resources. Local communities can benefit from water projects such as flow restoration, agricultural efficiency, smart monitoring, purification, and replenishment initiatives. Microsoft is able to save more than \$140,000 in water costs per year. Smart Water technology saved use of 58.3 million gallons on potable water per year. Waste programs enable waste reduction and help eliminate the community concept of waste through mindful inputs and highest value use of byproducts. Programmes include projects such as research into decommissioned data centre battery reuse for distributed energy projects.

5. More buildings are certified

Microsoft is committed to design, build, and operate connected, accessible, sustainable, and secure workplaces that enable employee productivity. Our global real estate management and operational service strategies are heavily influenced by our goal to limit and manage Microsoft's environmental impact. We accomplish this through global sustainability design and operations standards. Areas of focus for Microsoft's Real Estate and Facilities include carbon reduction, energy reduction, renewable energy, water reduction and reuse strategies, waste reduction and diversion, and preserving local ecosystems.

Microsoft recently (2018) started a major renovation of the Microsoft headquarters, along with workspace modernisation projects around the globe, including: car-free zones and a cross-campus bridge just for pedestrians and bicyclists; energy-optimised smart buildings; trees, trails, and transit close at hand. The technology-fueled, multiphase project will empower employee collaboration and community connections, upgrade existing workspaces, and enhance sustainability. The new all-electric campus is powered with 100 percent local carbon-free hydropower.

We've worked with ICONICS to develop an "analytical blanket" that enabled 30,000 sensor-connected pieces of equipment and diverse building management systems across 125 buildings to talk to each other. It also provides building managers with the analytics, machine

learning, and online dashboards to drive optimisation programmes. Imagine being able to see at one glance how all your buildings consume energy and other resources and share that information with decision makers to shape priorities. With data visualisation, courtesy of online dashboards, that is possible.

The net result of the '88 Acres' project was that it led to a scalable project that could be deployed across buildings and cities. Microsoft has expanded its smart building programme to more than 300 buildings across several campuses. With other efficiencies, we were able to reduce power usage from 59 megawatts of power, (which is a small power plant), to 43 megawatts. That's a 22 percent power reduction that saves millions of pounds annually.

6. Conclusion

The magnitude and speed of the world's environmental changes have made it increasingly clear that we must do more to safeguard our world. This is why we need to harness the power of technology to help everyone, everywhere build a more sustainable future. And we are taking new steps to do just that.

Jobs: Promote Local Skills and Employment

"In January 2020 the new record high employment rate was at 76.3% - the unemployment rate lowest since 1974. Wage growth had outpaced inflation for the 22nd consecutive month." Then COVID-19 hit the UK, which will most likely lead us in to a recession. We now have over 9m furloughed workers, with the scheme due to end in October, the expectation is that unemployment will rise again. Additionally, we are still exploring how BREXIT influences the socio-economic balance.

To assure resilience in a time of uncertainty, a focus on skilling, education, social inclusions and innovation are foundational. Uncertainty also provides an opportunity for change and this social value plan addresses the potential to drive green growth, social impact and a sustainable recovery.

Modeling by the McKinsey Global Institute (MGI) on the effects of technology adoption within the UK workforce shows that up to 10 million people, or around 30 percent of all UK workers, may need to transition between occupations or skill levels by 2030. These skills are crucial for firms' ability to put innovative ideas into practice and increase productivity.

The COVID-19 health crisis and following recession means workers will return to a different economy with a mixed workplace, with some people needing to work from home while others return to the workplace. We estimate that the global labour market can absorb approximately 150 million new tech jobs during the next five years. Many other traditional jobs will become increasingly tech-enabled, which require a foundation of digital skills.

Microsoft is committed to collaborate with national and local institutions and NGOs to drive an inclusive agenda for all segments within society. The social value plan aims to foster local skills and employment, support people back into work, close the widening opportunity gap for the disadvantaged and galvanise support for young people.

We will complement existing programmes underway in the South-West Region, such as the launch of the new Creative Technology Network in 2018, the six Local Economic Partnerships (LEPs) that are now involved with local authorities in the region and the National Retraining Scheme – all aiming to boost digital skills, employment opportunities and provide an economic stimulus for the region.

Aligned to the National TOMs theme of 'Promoting Local Skills and Employment', the plan addresses following initiatives–

- Local employment and training;
- Adult skills;
- Carbon awareness;

- Support for disadvantaged people;
- Support for young people;
- Apprenticeship; and
- Social innovation.

1. More Local People in Employment

At Microsoft, we believe that technology advances will serve as the catalyst for new approaches to product development and business operations, driving significant levels of new economic activity and job creation in the UK. How big is the opportunity?

The UK government estimates that AI itself could add more than £600 billion to the economy by 2035, increase economic growth from 2.5 percent to 3.9 percent and lead to a net gain of 80,000 jobs annually.

Today, Microsoft employs around 4,000 people in the UK. Our Microsoft Research Lab in Cambridge is the hub of our cutting-edge research and development efforts in Europe. The Microsoft Start-up Reactor in London has helped launch more than 65 companies and we were the first global cloud company to open UK-based data centres. The UK Microsoft Partner Network spans more than 25,000 local companies, employs more than 800,000 people, and generates more than £38 billion annually.

For more than three decades, Microsoft has been a partner and a catalyst in the growth of UK businesses and the economy. Since Microsoft was founded in 1975, we have been at the forefront of advances in personal computing and digital technology that provide the foundation for today's technology-driven transformation. And, since we opened our first international office in the UK in 1982, we have worked closely with British firms, researchers, and the government to deliver tools and technologies that empower people and organisations across the UK to achieve more. For example:

- [InnerEye](#) was initially developed at Microsoft Research Cambridge, originally for video games. Now the AI technology is leveraged to mark the boundaries between healthy tissue and tumours in CT scans, which supports oncologists to target radiation therapy.
- [Seeing AI](#) is an app to assist people with blindness and low vision as they navigate daily life. The app was developed in the UK by Saqib Shaikh, a Microsoft engineer who lost his sight at age seven. It captures images from the user's surroundings and instantly describes what is happening. It can read signs and menus, recognise products, interpret handwriting, count currency, and recognise friends, or even tell the user if the person sitting across the table is smiling and paying close attention.

In a world in which technology innovation is driving rapid and profound change, one of the most important challenges we face is to ensure that disruption is balanced by opportunity. The benefits of change need to be broadly shared and accessible to all. This starts by ensuring that new tools and capabilities are democratised: available to everyone, regardless of location, age, gender, race, ability, or income.

Equally important, we need to make sure that people have the skills and knowledge they will need to thrive in the digital economy. Microsoft's Digital Skills Programme seeks to address the skills gap in the UK by providing everybody from age seven upwards with basic online skills, nurturing a passion for computer science, and providing essential training to help businesses and IT professionals deepen their understanding of the cloud. One of the initiatives we launched in 2010 is the Microsoft Partner Apprenticeship. By 2018 we had supported nearly 20,000 people to start a digital career through the programme, establishing it as a mature and proven model, as a viable talent acquisition option for employers and an attractive career strategy for young people.



2. Improved Skills

Success tomorrow requires action today. Building digital skills is a shared responsibility for us, for the private sector, for government and for educators. We need to work together to create the opportunities for life-long learning to connect jobs and workers, and to ensure that no one is left behind.

To this end, we recognise that everybody has a different starting point when looking at their own learning journey and that one size will never fit all. The workforce of today is more multi-generational than ever, bringing varying skills, attitudes and preferences to bear.

Regardless of your starting point we have a fundamental belief that access to skills should be an enabler and a platform from which you can grow. Digital technology will be indispensable in skilling more people faster, starting with digital skills themselves.

Within the next two decades, 90% of jobs will require some level of digital proficiency, while the shortage of technical skills continues to grow. To ensure everyone in the UK can upskill and reskill, Microsoft is committed to offering digital skills courses from basic digital literacy through to advanced cloud technology skills.

Examples of Microsoft skills programmes:

- [Microsoft Digital Literacy](#) - The Digital Literacy course is a free course available for anyone with basic reading skills who want to learn the fundamentals of using digital technologies. The course is at a reading level like that of most newspapers around the world and is available in multiple languages. Learners who complete the course will understand basic computing concepts and skills. This course can help individuals gain the digital skills necessary to engage in a digital economy and improve livelihoods.
- [Microsoft Learn](#) is interactive, hands-on, browser-based, free training for everyone from the unemployed, students, to Business Leaders, IT Professionals and Developers. It's an entry door to the most comprehensive collection of technical self-paced training. The hands-on approach helps achieve goals faster and with more confidence. It allows participants to explore a topic in-depth through guided paths or learn how to accomplish a specific task through individual modules. Some pathways provide the potential to become Microsoft certified, which accelerates careers and demonstrates mastery. In summary: there is something to be learned for every individual.

Interestingly, the 2018 UK Tech Innovation Index indicated that the R&D clusters in the UK had significant strengths across a range of sectors including AI and Data, Clean

Growth and Ageing Society. Microsoft initiatives that could further advance this strength in the region include:

- [AI School](#) - Whether you're completely new to AI or a seasoned professional looking to stay on top of your game, AI School is quite simply the best place to find the information, learning materials and resources needed to start building intelligence into solutions.
- [AI Business School](#) - The era of artificial intelligence is upon us. AI Business School is an on-demand, easy to consume master class series - designed in partnership with INSEAD, a top global business school - that will empower business leaders to get results from AI. Other executives across industries and business functions provide insights in how they overcame the top challenges one might face: finding strategic applications of AI, building a data-driven and collaborative culture, AI governance and responsibility, and understanding what the technology can do.
- [AI for Good Accelerator Programme](#) – The AI for Good programme is designed by Microsoft, Microsoft for Start-ups, and Social Tech Trust to give purpose-driven ventures the holistic commercial, technical and social impact support they need to succeed. The AI for Good cohort will be given the opportunity to co-work at the Microsoft for Start-ups space in Shoreditch. The 4-month programme kicks off with community building activities and deep dives into each individual venture, so that we can understand how best to support and set milestones for the venture.

Furthermore, the AI for Good 2020 accelerator programme is helping purpose-driven ventures in the UK advance their AI solutions to create positive social transformation. For the second year running, Microsoft for Start-ups UK and the Social Tech Trust have selected 12 organisations with a commitment to a social mission to join this 4-month programme.

In addition, we worked closely with the government to contribute to the development of a code of principles proposed by the House of Lords Committee on AI to ensure that artificial intelligence technologies serve the common good, operate fairly, aren't used to diminish privacy, and are never given the autonomous power to hurt or deceive human beings. This is just one of the many ways that the potential for cloud computing and AI to deliver wide-ranging economic and social benefits is being defined and pioneered here in the UK.

Digital Access for All taskforce: A key principle of our skills plan is to ensure we are driving inclusion. Microsoft UK have just been announced as founding partners of a new Digital Access for All taskforce set up with NGO (Learning Foundation, Carnegie Trust and Nominet) and Industry partners (Lloyds Bank, Sainsburys, and Intel) to help tackle the digital and AI skills gap for the 1 million young people who do not have access to technology in the UK.

[GitHub Learning lab](#) - A bot-based learning tool that uses repositories to teach technology, coding, Git, and GitHub via real-life, demonstration-based modules. With GitHub Learning Lab, students and professionals can grow their skills by completing fun and realistic projects while getting advice and helpful feedback from the friendly Learning Lab bot.

3. Improved Skills to Support Low Carbon Transition

Clean growth is a true British success story, showing the world how to cut greenhouse gas emissions, while increasing jobs and growth in every corner of the country since the introduction of the [Climate Change Act](#) in 2008. The Act defines the pathway to deliver on the UK's net zero commitment in a way that maximises the opportunities for both the UK's transition and the global shift to clean growth.

A 2016 statistical bulletin from the Office for National Statistics (ONS) showed strong 5% growth of the low-carbon economy towards a value of £42.6 billion in turnover, compared to a 1.8% growth throughout the whole UK Economy.

To address the many pressing scientific questions and challenges facing our planet, we must increase global understanding of how human activity is affecting natural systems and create a community of change, driven by data and cutting-edge technology.

- **Minecraft Education Edition: Sustainability Simulations** – With an objective to increase students' awareness when it comes to the United Nations' Sustainable Development Goals for 2030, Minecraft Education Edition allows students to build a better future in Minecraft Education Edition.

Minecraft Education Edition has launched new renewable energy lessons and immersive worlds. Students can explore different energy sources, solve a town's power problems, and design and manage a sustainable city—all in Minecraft! In the Lumen Power Challenge, learners repair a town's energy infrastructure including offshore wind turbines, rooftop solar panels, and a hydroelectric dam. Each of these challenges offers students a unique opportunity to use critical thinking to solve problems in-game and learn about real-world energy issues.

- **Imagine Cup Junior** – Students of 13-18 learn about technology and how it can be used to change the world positively. In 2020, the global challenge is focused on Artificial Intelligence (AI), introducing students to AI and [Microsoft's AI for Good](#) initiatives so they can come up with ideas to solve social, cultural and environmental issues, while stimulating communication, collaboration, critical thinking and creativity.
- **Microsoft's AI for Earth** – AI for Earth programme supports novel projects that create and deploy AI tools to improve the way we monitor, model, understand, and ultimately manage Earth's natural resources for a more sustainable future. The grantees deploy open-source models and algorithms that make key analytical processes more efficient in the field and build tools such as applications, application programming interfaces (APIs), or packages that can be used by other environmental researchers and innovators. To date, 18 organisations in the UK have been awarded grants.
- **AI for Good** – The AI for Good 2020 accelerator programme helps purpose-driven ventures in the UK advance their AI solutions to create positive social transformation. For the second year running, Microsoft for Start-ups UK and the Social Tech Trust have selected 12 organisations with a commitment to a social mission to join this 4-month programme. Examples from 2020 cohort:
 - **EcoSync** - Cloud based platform helps commercial buildings to stop heating empty rooms.
 - **MyCognition** – MyCognition tracks, treats, and prevents poor mental health through a cognitive assessment and training platform, providing solutions to people of all ages and health states.
 - **OrxaGrid** – OrxaGrid provides accurate and secure analytics that provide efficiency improvements for energy networks.
 - **Recycleye** – Recycleye is disrupting the waste management industry by leveraging deep learning and AI advancements with an ultra-low cost, rapidly deployable, decentralised, scalable, digital, and fully automated sorting solution.
 - **Signly** – Signly browser extension allows organisations to easily add any sign language to any webpage so d/Deaf customers get the same service as others.

4. Opportunities for disadvantaged people

At Microsoft, we believe in the transformative power of diversity and inclusion. Only by actively engaging different perspectives can we challenge and stretch our thinking, enrich the experiences of our employees, and empower every person and every organisation on the planet to achieve more. Guided by a commitment to building diverse communities, we're intentional in whom we reach out to, and how we connect with them. We increasingly do business with minority and women-owned companies. We globally invest in developing the next tech industry leaders. And we pursue candidates of diverse backgrounds to help us do our best work yet.

As part of our broader Global Diversity & Inclusion strategy, we have six Employee Resource Groups in the UK – GLEAM (LGBT+), BAME, Military, disAbility, Families and Women. Working with professional bodies such as the Business Disability Forum, Sponsors for Educational Opportunity (SEO) and Stonewall, these groups create active communities focused on the attraction, retention and development of employees. We also run regular peer to peer sessions with our Customer and Partners (Public Sector and Non- Public Sector) to share practices and help other organisations strengthen their D&I agendas.

In 2018, Microsoft signed the Armed Forces Covenant. As part of the agreement, Microsoft will offer all veterans free training to help them upskill for a career in the technology sector.

The move forms part of the Microsoft's Digital Skills Programme, which aims to teach digital skills to people across the UK to ensure the country remains one of the global leaders in cloud computing, artificial intelligence and other next-generation technologies. Last year, Microsoft was named a Disability Confident Leader for its inclusive approach to hiring people with disabilities and ensuring they can learn new skills. The title has been awarded by the UK Government because of Microsoft's commitment to diversity and inclusivity, as well as its work in encouraging suppliers and vendors to do the same.

key programmes:

- **Microsoft & Catch22**

Microsoft & Catch22 joined forces to help people in the UK facing barriers to work embark on digital apprenticeships. They find and recruit candidates with a range of challenges – from gender and ethnicity barriers, homelessness, mental health issues, school exclusion and disability – and supports them to access a digital apprenticeship with a local employer within Microsoft's network of customers and partners.

- Recruitment of talented candidates from Catch22 services;
- Collaborative design with Learning Partners and employers;
- Assessment of individual candidate needs and development of tailored learning plans;
- Pre-apprenticeship training, including personal development and practical training;
- Apprentice mapping to suitable positions;
- Job matching for candidates not ready for an apprenticeship through Catch22 services; and
- In-work support focused on the first 4-6 weeks. Evidence shows sustainability rates increase drastically after this.

- **Press Play**

'Press Play' is a Microsoft event focused on CV, career and interview guidance for both men and women returning to work after a career break.

- **Returnity Programme**

'Returnity Programme' - Working across Women at Microsoft and Family Employee Resource Groups to encourage individuals who have had a prolonged time at home

back into the Microsoft or other organisations. Working in partnership with job centres for digital skills training.

- **MSSA**
'Partnership with the MOD to provide training for members of the Armed Forces who are looking to transition into the corporate world. Currently Silver status with the Armed Forces Covenant (applying for Gold in May 2020). Includes skills training and career conversations. Targeting not only the person coming out of the armed forces but their partners too. Next phase is to explore the Microsoft Software & Systems Academy (MSSA) in the UK that is an extensive programme of upskilling transitioning service members / veterans.
- **Aspire / Intern Programme**
'Working in Partnership with SEO (Sponsors for Educational Opportunity) we have been actively increasing the diversity of our Intern and Graduate talent pipeline to represent individuals from ethnic minorities or socioeconomic backgrounds.
- **BAME Work Experience & Mentoring Programme**
'Working with the 'I Accelerator' organisation to provide quality work experience to talented students from diverse backgrounds. Supporting students from African, Caribbean, and Asian heritage, the essence of the programme is to allow students to apply their learning and their knowledge to finding a solution, which in itself is empowering. Microsoft also runs a mentoring programme providing valuable career guidance and skills to BAME university students that will enable them to better navigate the corporate world.
- **Opportunities for disabled employees**
While research has found that 808 million people need to learn new skills for their jobs, and 40% of employers said skill shortages have a negative impact on their business, those with disabilities still face barriers in entering the workplace. According to the latest [Government figures](#), 46.3% of working-age people with disabilities are in employment compared with 76.4% of working-age people without disabilities. This 30.1 percentage point gap represents more than two million people. Global consulting firm Accenture has suggested that a failure to close the digital skills gap in the UK could cost the economy as much as £141.5 billion in growth over the next 10 years.

There are no limits to what people can achieve when technology reflects the diversity of everyone who uses it. Transparency, accountability and inclusion aren't just built into Microsoft's culture, they're reflected in products and services designed for people of all abilities. Some examples are:

- **Inclusive Hiring for People with Disabilities:**
 - Autism Programme: recruiting, onboarding, and developing individuals on the Autism spectrum;
 - Supported Employment: supporting people with intellectual developmental disabilities via Real Estate & Facilities vendor ecosystem; and
 - Disability Hiring: hiring people with disabilities into full time roles across the company.
- On a yearly basis we organise programmes to empower the disability **Employee Resource Group**, which represents employees with disabilities, their family, and allies. It drives internal visibility, awareness of disability groups, and accessibility improvements in the work environment. An example is the Ability hackathon to build opportunities that empower people with disabilities through technology.
- Microsoft were the first company to sign the **Made By Dyslexia** pledge: to give the 700 million people with dyslexia around the world access to technology that empowers them to excel in their academic journey, and in life. We aim to democratise dyslexia support, so that every dyslexic child is understood and given the right support to realise their brilliant potential. It's estimated up to 1 in every 10 people in the UK has some degree of dyslexia. Microsoft Learning Tools are free tools that implement proven

techniques to improve reading and writing for learners regardless of their age or ability, integrated in Word, OneNote, Edge, Outlook, Teams, etc.

- **Language barriers** can bring many roadblocks along. To unleash someone's potential, communication is key. MS Language Translator allows people to speak in their native language and have it immediately translated in real time. This is the type of work in tech that amplifies human ingenuity and improves livelihoods.
- According to the [Royal National Institute of Blind People \(RNIB\)](#), more than two million people in the UK live with sight loss, and almost half of blind and partially sighted people feel "moderately" or "completely" cut off from people and things around them. The RNIB estimates that sight loss costs the UK economy more than £4.3 billion in indirect costs, such as unpaid carer costs and reduced employment rates. **Seeing AI** is a Microsoft research project that brings together the power of the cloud and AI to deliver an intelligent app, which helps blind and partially sighted people navigate by narrating the world around them. The free programme uses artificial intelligence to recognise objects, people and text via a phone or tablet's camera and describes them to the user.
- Technology rapidly changes the way we live, learn, and work. AI can empower people with disabilities with tools that support independence and productivity. **AI for Accessibility** is a Microsoft grant programme that harnesses the power of AI to amplify human capability for the more than one billion people around the world with a disability, focused on three areas: Employment, daily life, and communication. [Birmingham City University](#) is one of the grantees, building a system that could make it easier for people with limited mobility to gain employment in web development and computer programming.

Devices and Licenses for Disadvantaged Families

Access to technology for disadvantaged individuals and families is also imperative to ensuring everyone has opportunities to learn and develop digital skills. Through the Microsoft Citizenship programme, Microsoft authorised resellers are available to work with local councils to provide citizenship W10 licenses at a significantly reduced rate. In addition, Microsoft works with a number of organisations that will take disposed assets and recycle them leveraging programmes such as Get Online @ Home <https://www.computerrecyclersuk.com/get-online-home/>

5. Improved Employability of Young People

The world is changing faster than ever – as are the skills students will need to be life-ready by the time they graduate. With affordable and easy to manage technology that transforms classroom time, educators can focus on delivering personalised learning experiences that help enable better learning outcomes. Microsoft recognises the importance to empower every student to achieve more. We therefore have specific offers for education providing many of our tools for free or at low-cost, delivering impact across students' education:

- Sparking creativity with STEM & computer science for primary level school students;
- Extending productivity skills & competence in new technology concepts at secondary level;
- Driving employability with role-based technical skilling at the tertiary level, focusing on specialisms such as Data Science, AI, Azure, etc.; and
- Train and support academics provide industry-respected curricula and resources.

We are also empowering teachers through a teacher academy, online learning paths, and initiatives they can tap into, such as:

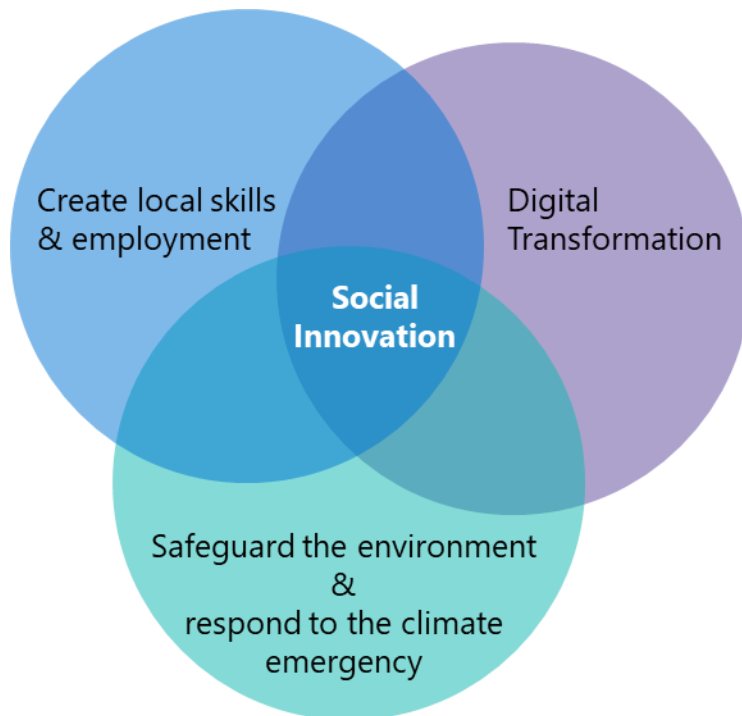
- Skype in the Classroom – a free global community that offers Virtual Field Trips, talks from Guest Speakers, and classroom connections.
- Microsoft Educator Centre – a thriving community of passionate educators who are constantly learning, growing, and working together to change students' lives and build a better world.

We partnered with The Economist Intelligence Unit to gain insight into the ideas that the next generation of educators hold about their chosen profession. Teachers expect both an increase in use of technology (60%), focus on social and emotional learning (48%) and global issues like climate change (47%). Through the social value plan we want to embrace these outcomes and impact the region at their intersection - empowering students, teachers and the planet we live on.

6. Conclusion

This is a remarkable period in human history—a time when the confluence of powerful new technologies and new ideas is opening the door to untold potential for positive change. At Microsoft, we are inspired by the opportunity to work with companies, researchers, organisations, and individuals here in the UK to harness the power of today’s advances, and tomorrow’s, to drive a transformation that truly benefits everyone.

Appendix 1 – Social Value Impact through Social Innovation



“As the first country to introduce long-term legally-binding carbon reduction targets (in 2008), the leading nation in the G20 for cutting emissions, and with a low-carbon sector that already supports almost 400,000 jobs nationwide, the UK can be proud of our action to tackle climate change so far. However, we know that there is more to be done, and this important legislation is the right step forward, presenting an important opportunity to invest, innovate and grow our clean-tech industries.”

-- Kevin Hollinrake, MP