Scotland: A green industrial powerhouse

The nation of innovators forges ahead with a new economic transformation strategy for sustainable and inclusive growth

Every country faces a choice about how to transition to net zero and the post-pandemic world: lead the way or lag behind. Scotland has chosen to lead, says Cabinet Secretary for Finance and the Economy Kate Forbes.

“We choose to lead, because we believe we can. We believe Scotland has all the necessary resources, talents, ingenuity and natural assets,” she asserts. The nation is already a frontrunner in the fight against climate change, having decarbonized faster than any G20 nation as it races to meet the ambitious goal of being net zero by 2045. It also appears to be rebounding rapidly from both COVID-19 and the U.K.’s exit from the European Union, with its gross domestic product rising by 6.9 percent in 2021. “The economy has proven to be exceptionally resilient, and it’s coming back stronger and faster than expected. Scotland’s tourism and hospitality sectors have had a difficult time, but the financial services sector was stable throughout and most other industries—including engineering, manufacturing, information and wider technologies—have all recovered surprisingly quickly,” says Philip Grant, chair of the Scottish executive committee at Lloyds Banking Group, the U.K.’s largest banking and insurance business.

From the steam engine to the television, telephone, MRI scanner and bank ATMs, Scottish inventions have been changing the world for centuries. “We might have a population of just 5 million, but we have a long tradition of being pioneers and innovators,” Forbes notes. Last month, she launched a new 10-year strategy for economic transformation that sets out how the government intends to capitalize on this tradition in order to realize opportunities in decarbonization, disruptive technologies and transforming industries. “To deliver a just transition to a net zero economy, we need to invest in our people, invest in innovation and invest in the areas that are going to deliver the most sustainable inclusive growth. These include renewables, as Scotland is home to over 40 percent of the U.K.’s wind and water generation capacity; food and drink; and technology generally. We have a thriving tech ecosystem, increasing numbers of global corporates are choosing to establish tech hubs here and we have the U.K.’s second-largest fintech cluster,” Forbes states.

The new strategy is supported by substantial public funds. For example, in 2020 the Scottish government established the U.K.’s first national development bank, which will have access to £2 billion in funding over the next decade, she reveals. “At the same time, we’re endeavoring to leverage private capital that complements our investment in key growth sectors, particularly in terms of green investments. We’ve established a global capital investment plan, for instance, to make it easier for investors to find propositions in Scotland. It sets out what we are trying to do and how opportunities can be secured. If I were to capture our vision in a nutshell, it’s to create a pro-prosperity, pro-business and pro-jobs environment that allows entrepreneurship to flourish and makes Scotland an even more attractive place for investors and innovation.”

Despite the pandemic and Brexit, investments into Scotland rose in 2020, Forbes reports. “We’ve been the U.K.’s top destination for foreign direct investment (FDI) outside London for the past six years, with three of our cities—Edinburgh, Glasgow and Aberdeen—being among the top 10 U.K. cities for FDI. Inward investors constitute about 3 percent of our businesses, but they’re responsible for 34 percent of employment and 77 percent of our exports. They are vital to our economy.” Grant is not surprised that investor numbers are growing: “It’s an excellent place to do business from and a productive place to develop businesses, with its size as its best asset. The connectivity between skills, companies, government and professional services is such that one can get things done quickly. There’s also symmetry in ambition between industry, academia and the government, which ensures an environment that aligns innovative ideas with the goal of achieving significant impact.”

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Kate Forbes, Cabinet Secretary for Finance and the Economy

Adrian Gillespie, CEO at the economic development agency Scottish Enterprise, is another who believes the nation’s focus on innovation is drawing in investors: “We’ve been very successful in attracting research and development projects, which is hugely connected to our world-class universities and highly educated, skilled population.” Forbes offers a final message for those considering a move into the stunningly beautiful country with its misty glens, heather-covered mountains and endless coastlines: “Come. If you invest, establish a business or decide to work or study here, you will be met with a warm welcome and significant opportunities that synchronize with your business and green agendas.”
Shifting to a next-generation economy

Scotland has created a dynamic, energizing environment for innovative businesses in diverse future-focused sectors.

“Our ability to innovate quickly in a thoroughly collaborative way and our determination to be at the forefront of the net zero transition are certainly proving to be of interest to investors.”

Adrian Gillespie, CEO, Scottish Enterprise

Sandy Begbie, CEO of the trade body Scottish Financial Enterprise, points out that the nation’s world-class energy industry is buttressed by an equally world-class financial services sector. “Scotland has the industries, assets, skills and natural resources to be a net exporter of renewable energy technologies. Its financial services providers will play an absolutely central role in supporting the transition and the country’s wider journey to net zero, hopefully showing the way to others. That’s why we’re so confident about our future potential and why we’re already punching above our weight in the global financial markets.”

According to the EY Attractiveness Survey 2021, Scotland has never been a more attractive destination for international investors. “Our survey found Scotland is the most attractive place in the U.K. outside London and outperforms other locations. Scottish foreign direct investment increased by 6 percent in 2020, which is exceptionally encouraging, especially in the context of a 12 percent fall at the U.K. level and a 13 percent fall across Europe that year. It’s a phenomenal result,” says Sue Dawe, managing partner and head of financial services at EY Scotland, which provides the country’s leading professional services to the financial sector.

Scotland has carved a niche around vertical farming technologies

“T o give a few illustrations, the BioQuarter just outside our capital benefits from the University of Edinburgh’s expertise in life sciences, while Glasgow City Innovation District has created an open culture of collaboration between the University of Strathclyde and industry in areas like digital health, space applications, quantum technologies and renewable energy. The Energy Transition Zone in Aberdeen is utilising that region’s offshore-energy capabilities and we’re currently investing in the new National Manufacturing Institute Scotland. It’s the centerpiece of our manufacturing innovation district in Glasgow, which involves technologies across sectors such as aerospace, medical sciences, food and drink. It’s a really exciting time to be in Scotland: it’s a dynamic, energising environment, where a multitude of astonishingly interesting things are happening.”

This approach is helping the country take a lead in areas that have gained increasing importance in recent years, including online payments systems and open banking. “The world needs organisations that facilitate open applications, while making sure consumers are protected from fraud. Similarly, open banking is crucial for understanding consumer needs and to meet their needs. That means creating data which must be protected. The fact that the Smart Data Foundry, previously known as the Global Open Finance protected. The fact that the Smart Data Foundry, previously known as the Global Open Finance

The U.K.’s most attractive location outside London

Scotland’s appeal as an investment destination has tripled since 2019. A contributor to this is its support of emerging growth sectors like fintech and real strengths in green and ethical finance, and writing a substantial amount of innovative work in sustainable products and services. Plus we have the advantage of having a full ecosystem, including an enabler-enabling fintech cluster that’s expanding by about one company a week. Other growth sectors are life sciences and technology. Gillespie notes: “We have the highest number of research-intensive universities and tertiary-educated people per capita in Europe, which translates into robust science and engineering sectors. We’re at the leading edge in pharmaceutical innovation, precision medicine, digital health technologies, quantum technologies and photonics, for instance. There’s also a big focus on advanced manufacturing in the country right now.”

According to Marian Milne, CEO of the industry association Technology Scotland, “Scotland has always been a nation of innovators and we’re now punching way above our weight in various technologies. We’ve seen very healthy foreign direct investment into our specialty—driven significantly by the sector talent, which Scotland has a lot of, as well as the ability to directly engage with our devoted government here and our development of sector-specific clusters.”

“创新 ecosystems are popping up all over the country,” confirms Gillespie. “Universities have gone beyond their walls and opened up to the wider economy by partnering on the establishment of Innovation Districts. These facilitate the on that we have fantastic companies, great technology, an excellent relationship with investors and world-leading academic research. The connectivity between them is what defines Scotland’s Innovation District model and it allows us to innovate effectively at pace.”

Scottish Enterprise is an active partner in a number of these hubs, he adds. “To give a few illustrations, the BioQuarter just outside our capital benefits from the University of Edinburgh’s expertise in life sciences, while Glasgow City Innovation District has created an open culture of collaboration between the University of Strathclyde and industry in areas like digital health, space applications, quantum technologies and renewable energy. The Energy Transition Zone in Aberdeen is utilising that region’s offshore-energy capabilities and we’re currently investing in the new National Manufacturing Institute Scotland. It’s the centerpiece of our manufacturing innovation district in Glasgow, which involves technologies across sectors such as aerospace, medical sciences, food and drink. It’s a really exciting time to be in Scotland: it’s a dynamic, energising environment, where a multitude of astonishingly interesting things are happening.”

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Scotland can set itself apart. “EY has its own ambitious sustainability goals, she reveals. “Globally, EY is carbon negative and has further committed to being net zero by 2025. We were also one of the first to appoint a global sustainability,” EY Scotland is playing a part in and is currently working with companies of all sizes to map out their journeys to net zero. By leveraging the combined knowledge and expertise of our local and global networks in sustainability, digitalisation and many other areas, we deliver the best solutions to solve our clients’ problems.”

A sizeable financial cluster

• Centuries of financial services expertise
• 161,000 people working in financial and related professional services
• Voted the best place in Europe to start a tech business
• 175+ fintech startups and success stories
• 16 technology incubators and accelerators

www.country-reports.net
The ambition is to operate at zero carbon by 2025, which is something no other country is shooting for. “The increasingly vast amount of offshore wind generation in Scotland needs to get to where our population centers and large industrial demands are,” observes Sly. “The transmission and distribution networks have to move more in very different ways now and we must constantly adjust to that. We also have to monitor what’s happening in areas like electric vehicles, heating and hydrogen, which all interrelate as we go into the future.”

Further up the value chain and central to the U.K.’s just transition to net zero is ScottishPower. The company is part of the Iberdrola Group, one of the world’s largest integrated utility companies and a leader in wind power. “We’re the only big energy company in the U.K. that’s involved in generation, transmission, distribution and retail. We’re involved in every part of the process of getting green electricity into houses, businesses, cars and heating systems,” stresses CEO Keith Anderson. “The group is helping to drive the decarbonization of energy and ScottishPower leads that activity within the U.K. Within the next 25 years we are predominantly a coal generating business, but we recognized that had to change and started investing in renewables. Everything we do now is seen through the prism of net zero 2050 and in December we blew up the last chimney on Scotland’s coal plant, an incredibly symbolic act for us and the nation,” notes Anderson.

Today, ScottishPower only generates 10 percent of its electricity from coal. It currently operates more than 40 wind farms that have a combined capacity of 2,500 MW, most of which are in Scotland. That electricity is sold to over 5 million customers in Scotland, England and Wales. He says, “We’ll never step back from our 100 percent renewable status, which is why we have no interest in CCS, gray or blue hydrogen. Our view is the future is all green and that pushes us to invest in wind, solar, green hydrogen and battery technology.” The company plans to invest almost £4 billion by 2025 to double its generation, with one of its newest developments being the acquisition of 800 MW of photovoltaic projects across Britain. There is widespread political agreement throughout the U.K. with regard to the decarbonization of energy, which makes it easier to plan for innovation in infrastructure, research and development, job creation and supply chains explains Anderson. “Scott/Wind is the latest phenomenal step forward. ScottishPower’s 7 GW across two floating and one fixed project must be taking our existing offshore pipeline and push us forward in sea life, carbon capture and storage, green hydrogen. We can analyze each one’s performance, which allows us to use and drive down the costs of renewables. “Five years ago, a U.K. offshore wind farm would have cost about £150 per MWh. Today, that cost is below £60. The change in turbines is colossal; their size, blade design, materials, gearboxes...”

In 2021, ScottishPower announced a £3.5 billion plan to upgrade its transmission and distribution networks that cover over 100,000 kilometers of the U.K. This will support the grid connection of more than 6 GW of new renewable capacity, plus 670,000 electric vehicles and 370,000 heat pump households, according to Anderson. “This investment is all about helping to decarbonize the country. It’s about getting the system ready for the electrification of transport as well as the move from gas to electric and ground-source heat pumps.”

It is also supporting decarbonization through its retail business, he adds. “We want to bring our customers on this journey with us. Things like transport and heat will have a big impact on people’s lives and we need to make it easy to change. For us, it’s about innovation and investment, creating new products and making them the obvious choice. When people look to change their cars, it’s make it simple to choose an electric one because of an extensive charging network and because charging with green electricity is cheaper than gasoline. When they are looking to replace a boiler, we need to have invested in innovation and manufacturing to lower the cost of electric heat pumps. ScottishPower is in a good place to do that: we understand the whole process and are totally focused on delivering net zero.”

“Working closely with electricity generators, transmission companies, governments and other stakeholders to realize Scotland’s and the U.K.’s energy transition goals is National Grid ESO. The company is responsible for ensuring Scotland’s rapidly changing electricity generation mix is delivered to customers securely, dependably and efficiently. “Just one system operates across England, Scotland and Wales, and it’s one of the world’s fastest decarbonizing electricity systems. It’s also among the most reliable, with 99.999 percent reliability,” says National Grid ESO’s chair, Finnan Slye.

The skills and expertise Scotland has are the ones that are going to underpin the energy mix of the future.”

Deirdre Michie, CEO, Offshore Energies UK
The North East of Scotland is fast becoming a globally integrated hub for driving energy toward net zero and the most attractive place in Europe for businesses working with low-carbon energy technologies.

"The focal point for this dynamic cluster is the Energy Transition Zone (ETZ), a 40-hectare site in Aberdeen that lies alongside the city’s new £400-million deep-water South Harbour. Established in April 2021, ETZ Ltd is a private-sector led not-for-profit company that has already secured £160 million in mainly public funding," says CEO Maggie McGinlay. "Our mission is to ensure ongoing sustainable economic growth for the region. ETZ Ltd is an enabler, using our funding to make things happen quickly. We’re investing in the land and undersea infrastructure to attract new companies focused on high-value manufacturing, as well as supporting our worldwide-class oil and gas supply chain to transition to new opportunities. We’re repositioning the North East of Scotland from the oil and gas capital of Europe to the net zero energy capital of Europe, and we have the tools at our disposal to achieve that."

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Maggie McGinlay, CEO, ETZ Ltd

The most prominent of those tools is the strength and expertise of the region’s industrial sector in areas such as oil and gas, natural gas, and renewable energy. Aberdeen has the industrial expertise, talent, financial capital and infrastructure to lead the world in cleaner energy technologies.

Aberdeen’s new deep-water South Harbour

Around 75 percent of global subsea engineering capability is based in our serviced from here. The projects are a mixture of fixed, which we have subsea floating in the North Sea has heightened investor interest in the zone. “About 70 percent that have been invested in North Sea oil and gas mustn’t be lost, rather theyboard the hundreds of entrepreneurial and innovative small to medium-sized region’s hydrocarbon industry, its workforce and suppliers, she states. “Aberdeen on East of Scotland from the oil and gas capital of Europe to the net zero energy cluster of companies working with low-carbon energy technologies.

“We have over 60 years of experience in hydrogen, 20 years in carbon capture and storage, plus about 15 years in solar, onshore and offshore wind.”

Robin Watson, CEO, Wood

Wood is extremely qualified in technologies that could bring net zero. “Obviously we have over 100 years of engineering experience in conventional energy, chemicals, polymers and new materials. However, we have over 60 years of experience in hydrogen, 20 years in CCS, plus about 15 years in so- la, onshore and offshore wind as well,” says Watson. Examples of its latest initiatives include the expansion of a U.S. renewable bio-refinery, project management of a major U.K. industrial decarbonisation carbon capture scheme, engineering for the U.K.’s first hydrogen storage and distribution pipeline, adding wind power to a North Sea platform so it no longer burns gas and installing solar panels on European refineries to reduce their carbon intensity.

Watson is convinced that the company’s cutting-edge strengths in inno-vation and digital technologies can expedite the world’s net zero ambitions. “Much of what we’ve already achieved in hostile offshore environments is hugely impressive, and that can be used in wave energy; green hydrogen; wind farms or CCS.” In addition to generating its own onshore innovations, Wood collaborates with partners like Hydrokey on man-machine interfaces and Microsoft on digital workers and twins, he notes. “There’s also a very broad, energetic research and development bed in Scotland, with a lot of interesting things going on in universities. In fact, Wood’s consultancy wind business was a spinout from the University of Strathclyde. With some of the best engineers in the world here as well, we can solve many of the challenges connected with energy transition.”

Headquartered in Aberdeen, Wood is one of the world’s leading end-to-end consulting and engineering companies, with a workforce of over 40,000 professionals spread across 60 countries. The firm recorded revenues of around $6.4 billion in 2021 and has a global reputation for providing innovative solutions to highly complex challenges related to transitioning energy and decarbonizing industries such as energy, power, transportation, water, pharmaceuticals and public infrastructure.

“We have a rich heritage in North Sea hydro-carbons and have grown organically and through acquisitions over the decades. A pivotal moment came in 2017 when we ac-qired Amec Foster Wheeler, which served additional geographies and sectors. That doubled our size and we’ve since reduced our reliance on upstream oil and gas by about two-thirds, while remaining one of the region’s biggest employ-ees,” explains CEO Robin Watson. During these years, Wood has repotted itself to address the main issues the world faces, which Watson believes is energy transition, the drive for sustainable infrastructure, the modernisation of industry, plus digitalisation and future skills. “We now have the right skill mix and capabilities to meet these challenges. For example, in the U.S., where about 35 percent of our workforce is based, a substantial proportion of our projects now concern sustainable energy. We’ve also recently announced the sale of our built environment business, which will enable us to invest even more in our energy transformation and industrial decarbonisation priorities.”

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A lighthouse for worldwide decarbonization

Scottish businesses with unique technology solutions are having a big impact on global environments. Here, we describe a few of them.

As a global leader in technology that enables decarbonization of the built environment, IES has helped improve the energy performance of over one million buildings around the world. We asked CEO and founder Don McLean to introduce the company.

Our core Virtual Environment building performance simulation software has supported the energy efficient design and retrofit of individual buildings for 27 years, helping identify ways to maximise occupancy comfort, energy efficiency, compliance with building regulations and energy standards. But climate change is having a profound impact on our planet and it’s only going to get worse unless we start taking serious action now to decarbonize the built environment, which accounts for almost 40 percent of carbon emissions globally. We recognized that tackling one building at a time was too slow, so we expanded our capabilities. This culminated in the 2019 release of our digital twin technology, the Intelligent Communities Lifecycle (ICL), which provides high-accuracy digital twins that give people the ability to analyze multiple buildings, communities, and the energy networks supporting them. The point is to make the built environment operate as energy efficiently as possible, but it can also address issues like supporting net zero investment decisions, environmental, social and governance reporting, enhancing health, comfort and wellbeing, reducing energy costs, and fuel poverty.

What makes the ICL different to other digital twin technologies? Whereas most just digitize the geometry of buildings, we also digitize their physics. That makes our technology unique and I don’t see anyone else being able to match what we are doing for at least a decade. The key distinction with our digital twin is that it not only looks like the buildings, it behaves like the real buildings, responding to different conditions to produce an invaluable digital asset. To address this, we’ve formed relationships with universities around the world to help implement training so that students graduate with the ability to immediately start making a real impact within the built environment. It’s key for universities to train people that can then take those skills to train more people, so the technology proliferates faster. Because it’s so unique, and the climate-change timeframe is so limited, it needs to reach as many people in as short a period as possible. The world needs to act now and accept that we all need to take responsibility for decarbonization. Hopefully, by working together and with the support of the right technology, we can turn the tide before it is too late. IES’s mission is to get the right technology into people’s hands.

IES started as a University of Strathclyde spinout and is still headquartered in Glasgow. What role has the nation played in its development?

We’ve worked with a whole host of public and private sector organizations, cities and even remote island communities across Scotland to help them progress their carbon-reduction strategies. For example, we do a lot with universities, the University of Glasgow in particular. All of their new and refurbished buildings were modeled in our software and, as those come online, the university is using our software to constantly analyze and optimize building performance, detect operational faults and identify where further, energy, cost and carbon savings can be made. We believe the more we can do here, the more Scotland can be a lighthouse for our technology internationally. Indeed, we’re seeing significant growth and rapid global expansion, with the company now having offices in Ireland, the U.S., Australia, Singapore, India and we’re just about to open one in Canada. The world is waking up to the value that digital twins bring.

What are the main challenges you face?

The use of our technology requires a reasonable amount of expertise. We estimate that there are only about 20,000 people worldwide that use our software regularly and there’s a lot of headhunting that goes on to pick those people up. We need to get people empowered to understand that this building, community or city is performing the best it possibly can. Too often, the building profession uses simplified, quick-fix measures, such as spreaders, to make decisions— we’re not going to solve climate change with spreadsheets. Methods that involve a lot of assumptions about how buildings will be used lead to embedded problems, which makes them more expensive to decarbonize later on.

Don McLean, CEO and Founder, IES

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Don McLean, CEO and Founder, IES
Transforming infrastructure for the 21st century

Backed by strong investment in local innovation and development, a green revolution is taking place in Scotland's transport and water systems.

Scotland is on a mission to decarbonize transport, currently the largest contributor to its greenhouse gas emissions.

“Scotland is on a mission to decarbonize transport, currently the largest contributor to its greenhouse gas emissions. Its targets—which include reducing the sector’s emissions 75 percent by 2030 and reaching net zero by 2045—are more ambitious than many other countries, while its strategy may be unique,” says Stuart Greig, director of low carbon economy at government agency Transport Scotland.

“It’s a pivotal sector in the transition because it touches on everyone’s life, every day. What we’re doing that’s different is focusing on how to redesign the system to remove negative climate and social impacts. We’re massively upping our investment in active travel options, such as walking, cycling and public transport. Over the next few years, active travel will have 10 percent of our budget, which is in excess of £300 million per annum. We’re also rethinking the purpose and design of city and town centers, thinking not just about the journeys made, but why they are being made.”

Transport Scotland is investing heavily in the latest low-carbon and hydrogen technologies in the transport system as well, he says. “The transition to electric vehicles (EVs) is not something that’s on the horizon, it’s right here. We have some of the best charging networks around and there are hundreds of electric buses coming onto the road, as well as hydrogen buses. We’re also working hand in hand on vehicles that really need technology breakthroughs—for example, we’ve supported the rollout of some of the world’s first hydrogen-fueled garbage trucks and emissions-free fire engines.”

The nation is now recognized as a leading destination for innovation and investment in zero-emissions mobility, states Greig Coull, CEO at the world-class Michelin Scotland Innovation Parc (MSIP) in Dundee on the east coast.

“Scotland is the ideal breeding ground for innovation and moving things forward. We’re just the right size, have a collective ambition, and public and private sector work in harmony. It’s important that companies, entrepreneurs and academics have the opportunity to meet, ideate, prototype, test, develop and scale. MSIP is this hub for sustainable mobility and decarbonisation, it’s a melting pot that can spark the fire of innovation and advance initiatives rapidly.”

Covering 32 acres of land, MSIP was established in 2020 by three equal partners: Michelin, the economic development agency Scottish Enterprise and Dundee City Council. It offers flexible space for all sizes of innovative manufacturing businesses, excellent infrastructure, testing facilities and on-site green energy in the form of wind turbines, provision for solar power, plus a hydrogen production and refueling station that is being installed. “There’s a lot of interest in the available space, but we’re sticking closely to our mission and being selective about who we work with,” Coull reveals.

MSIP is proving to be attractive to companies operating in a number of sectors. These include hydrogen vehicles and the gas supply chain, the decarbonization of heavy duty vehicles and rail. Indeed, among tenants that have moved in or reserved space is Ballard Motive Solutions, which has created one of the world’s first hydrogen-powered demonstration trains, he says. “There’s also some extremely innovative battery technology being scaled here, as well as projects for reusing and recycling batteries.” Later this year, MSIP is opening a Skills Academy to deliver training in some of these new technologies and an Innovation Hub, which will include design labs, hot desks, meeting spaces and a digital suite.

The parc is already providing extensive support to entrepreneurs and start-ups through, for instance, an accelerator program and innovation challenges that are focused on decarbonization. According to Coull: “There’s significant funding available in Scotland for businesses of all sizes that can demonstrate the right ideas, technologies and concepts to go forward. MSIP doesn’t fund directly, but we advise companies on what’s available and how to access it.”

Scotland is becoming a real exemplar in environmental performance and we want to be at the forefront of the nation’s ongoing green revolution.

The nation’s extensive air transport sector has a crucial role in facilitating that investment, says Derek Provan, CEO of AGS Airports, the operator of Glasgow Airport, Aberdeen Airport and Southampton Airport in England.

“One key aim is to create connectivity that drives inward investment, tourism and trade.” Glasgow Airport is the country’s principal long-haul hub, as well as its second-largest export facility after Greengatemouth. It was also the main landing point for international attendees of 2021’s United Nations Climate Change Conference, he comments. “Our operation went extremely well, even though the number of world leaders we expected to welcome went up from around 50 to over 90 at the last minute. Interestingly, many attended while Glasgow for the first time and some had assumed it was a very industrial city. By the time they flew out, they realized it’s actually a city of academia, tech and finance now.”

In 2019, Glasgow Airport carried over 9 million passengers and Aberdeen Airport nearly 3 million. Those figures collapsed in 2020 due to COVID. “This year, we could see around 60 percent of 2019’s numbers and we forecast getting back to that year’s level around 2025. But the aviation industry is resilient. Every time we come through a crisis, we come back better, and I’m confident the industry will deliver what the country needs moving forward,” Provan asserts. One thing AGS is set out to deliver is sustainability, he notes. “People want to travel by air, but that can’t be at the expense of the planet. Our airports are carbon neutral and we have a roadmap for all carbon emissions directly resulting from our business to reach net zero by the mid-2030s.”

As part of that, we’re developing one of Scotland’s largest solar farms on Glasgow Airport’s doorstep and we’ve created a consortium to place small wind turbines by the side of runways, for example. Scottish airports could also be pioneers of sustainable fuel technologies. “We have short flights from the mainland to islands that would suit electric planes and a hydrogen-powered plane will soon be trialed here.”

With almost 14.7 million passengers in an average year, Edinburgh Airport is Scotland’s busiest air transport hub. It is currently constructing a solar farm on its site that will provide 26 percent of its energy needs, according to CEO Gordon Dewar. “Our operations are already carbon neutral and, while we are proud of that, we know there’s more to do for the greater good of Scotland. Our sustainability strategy is about more than just carbon; it’s about making our business sustainable and a social and economic asset that serves future generations.”

Scottish Water, the publically owned company responsible for supplying water and wastewater to the nation’s households, is focused on the future-fitness of its business and infrastructure as well, says CEO Doug McMillan. “We’re investing well over £700 million a year in our infrastructure and systems. Scotland has an abundance of water resources, with approximately 30,000 lochs and many rivers. Despite that, we face challenges, the biggest of which is adapting to climate change. We’re experiencing more intense storms, for instance, where the volume of water hitting the ground is higher than it was historically, and when that drains away, it puts pressure on our sewer system. We need to make sure that, irrespective of what the climate throws at us, we keep delivering the services our customers depend upon.”

Scottish Water is also working with new technologies to reduce the carbon intensity of its construction projects by 75 percent and aims to be net positive for carbon emissions, he states. “Already, wind turbines on our estate are producing more than twice the electricity we consume ourselves.”

The Scottish government has created one of the world’s first hydrogen-powered demonstration trains, he says. “There’s also some extremely innovative battery technology being scaled here, as well as projects for reusing and recycling batteries.” Later this year, MSIP is opening a Skills Academy to deliver training in some of these new technologies and an Innovation Hub, which will include design labs, hot desks, meeting spaces and a digital suite.

The parc is already providing extensive support to entrepreneurs and start-ups through, for instance, an accelerator program and innovation challenges that are focused on decarbonization. According to Coull: “There’s significant funding available in Scotland for businesses of all sizes that can demonstrate the right ideas, technologies and concepts to go forward. MSIP doesn’t fund directly, but we advise companies on what’s available and how to access it.”

Scotland is becoming a real exemplar in environmental performance and we want to be at the forefront of the nation’s ongoing green revolution.
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Wood

Scotland leads the economy away from fossil fuels

Over the past decade, Scotland’s Railway has been transforming the service it offers customers throughout the nation.

From investing in new trains and reopening long-closed railway lines, the rail industry in Scotland has been growing capacity, introducing new services and cutting journey times across the country.

Rail is a key contributor to Scotland’s economic and social development, supporting over 13,000 direct jobs and creating opportunities for Scottish companies and suppliers of all sizes. Scotland’s Railway—a partnership between Network Rail Scotland and ScotRail—encompasses some of the most remote parts of the U.K. network and some of its best-known landmarks, such as the Forth Rail Bridge and Glenfinnan Viaduct, which plays a starring role in the Harry Potter film series. The railway links Scotland’s seven cities as well as serving the needs of hundreds of towns and rural communities. Each year, over £1 billion is spent operating, maintaining, renewing and enhancing Scotland’s rail network.

For over a decade, Scotland’s Railway and the Scottish government have placed a strong focus on expanding rail travel into new communities and reconnecting parts of the country cut off from rail by the Beeching closures of the 1960s, which saw tracks ripped up across Britain. In the central belt between Edinburgh and Glasgow, the line from Andre to Bathgate was reopened in 2010, creating a new direct rail route between the country’s two biggest cities. A new 35-mile line into the Scottish Borders, between Edinburgh and Tweedbank, followed in 2015, helping to fuel economic growth by opening new commuting, social and educational opportunities and making it easier for tourists to reach historic sites in the south east. A 16-kilometer line in new lines is ongoing, with work underway on the Levenmouth Rail Link, which will reconnect the Fife coast to the network and create two stations, while a new station for Inverness Airport will boost growth in the Highlands. New stations at East Linton and Reton will be completed by 2023 as well, improving travel links for communities to the east of Edinburgh.

As the greenest form of mass public transport, the rail industry in Scotland has also long been focused on electrifying urban centers and key commuter routes. Since 2007, government investment of over £8 billion has been committed to electrification projects and new, greeter train fleets. Between 2014 and 2019, 325 kilometers of Scotland’s central network were electrified and 75 percent of Scotland’s Railway’s customers now travel on zero-emission trains. Electrification has been extended up to Stirling and between Glasgow and Edinburgh, via routes to the north and south of the cities. In the future, more electrification work will see even greater decarbonization of the network.

Scotland’s Railway has been going green for six decades since the electrification of the west coast main line from Glasgow to London in the 1960s. “Today, Scotland’s Railway has one of the U.K.’s largest electrified networks outside London, but we’ve not just decarbonized rail transport, we’ve made it vastly better. It’s now modern, clean and dependable,” says Alex Hynes, managing director of Scotland’s Railway. “Over the next three years, the Barrhead to Motherwell to Wishaw line will be electrified, and the Borders to Edinburgh line will be electrified.”

Wood’s philosophy is that a net-zero world is possible. We are on a quest to unlock solutions to the world’s most critical challenges — working at the heart of the energy transition, discovering the answers that will create a cleaner, more efficient future.

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While rail contributes just 1 percent to the U.K.’s total annual greenhouse gas emissions, the industry is well placed to help lead the wider economy away from its reliance on fossil fuels. Rail is in the unique position of currently being the only mode of transport capable of moving both people and heavy goods using a zero-carbon solution. As a result, the railway has huge potential to play a vital role in decarbonizing the economy by providing reliable, green transport for individuals and industries alike. In 2020, Scotland’s Railway moved more than 4 million metric tons of goods—the equivalent of 170,000 lorries—and has ambitious plans to grow the freight sector. Each freight train takes 76 trucks off the road and, if just 10 percent of Scotland’s heavy goods vehicle movements were switched to rail, it would reduce almost as much annual CO₂ emissions as the entire rail industry emits,” states Hynes.

Off the tracks, Scotland’s Railway is looking at how to reduce the carbon footprint of its offices, depots, stations and other infrastructure. It is focused on taking a whole-business approach to identifying ways to reduce its impact on the environment. The railway is embedding circular economy principles in the early design of projects and conducting material and waste management plans for all major investment works. At the recently redeveloped £120-million Glasgow Queen Street station, for example, more than 95 percent of the demolition material produced during the rebuild has been recycled into a range of products including house and road building projects and the bio-mass industry.

Some of it even returned to Scotland’s third-busiest station for reuse as part of the aggregate base layer for the new building. The carbon footprint of the demolition work was also significantly reduced by carrying out the recycling within Glasgow.

The railway is refining its approach to interacting with Scotland’s nature as well, with a dedicated team of ecologists working to help limit its impact on wildlife. With a network covering over 2,800 miles of track, much of it running through countryside and farmland, the railway plays host to a diverse range of wildlife. From protecting native trees and shrubs to offset the effects of necessary tree felling near the tracks to installing bat and bird boxes in areas where trees have been removed, the railway is working more closely than ever to promote biodiversity and the sustainable management of its infrastructure.

Additionally, the wider challenge that Scotland’s changing climate presents to rail infrastructure is being addressed and, between 2014 and 2024, over £750 million will be invested in earthworks, drainage and bridge strengthening projects around Scotland. The industry is also using new technologies and monitoring techniques to make the network more robust. For instance, Scotland’s Railway is the first part of the U.K. network to establish a full-time, 24-hour weather monitoring team within its route control room. As the country continues to recover from the impact of the COVID-19 pandemic and works to meet the climate challenge, Scotland’s Railway is ready to play its part.

“We’ve not just decarbonized rail transport, we’ve made it vastly better. It’s now modern, clean and dependable.”

Alex Hynes, Managing Director, Scotland’s Railway
Scottish degrees: A badge of excellence

Scotland is home to an outstanding network of 19 first-class universities, each of which has a highly distinctive positioning.

She is delighted that the University of St Andrews is now being recognized for not only its world-leading status, but also its commitment to sustainability and social responsibility. “The university system in Scotland is small enough for us to act together effectively. In the past five years, our universities have dramatically widened access for students from disadvantaged backgrounds in a way that hasn’t been achieved in England. The sector offers hope for future generations of students, society, the world in terms of the fruits of our research, and it also offers a model for how global institutions can function in a manner that is collegial, ambitious and inventive. In the post-pandemic world, we need institutions that transcend nationalism to focus on the greater good. Scotland’s universities do that better than any others, in my opinion.”

Richard A Williams, principal and vice-chancellor of Heriot-Watt University, agrees. “Scottish universities are at the forefront of shaping the future and teaching people for that future.” With five campuses in Scotland, Dubai and Malaysia, as well as 46 percent of its students studying remotely, 202-year-old Heriot-Watt stands out as a highly international educator. “We’re wholly integrated and students can spend time in any of our locations, while our degrees don’t specify where they studied,” he says. Heriot-Watt is possibly best known for its pioneering of future business leaders and as a boutique engineering university. “We’re globally prominent in oil, gas and new energy technologies, such as floating renewables, for example. Another strength is marine sciences, particularly sustainable fishing and the development of marine communities,” notes Williams.

“Right now, Scotland is a country with universities that are all set to help deliver a transition to a sustainable and fair future,” adds Ian Gilmore, principal and vice-chancellor at the University of Dundee. He describes that institution as “a campus university in the heart of the city, which is triple依照 University Times and Times Higher Education’s geographical area extends from our campus to the Queen Elizabeth University Hospital, one of Europe’s largest hospitals, where some of our clinical innovation is based. Within the innovation district, particularly around life sciences and biotechnology, we’ve been developing spaces to allow industry to collocate with us, as well as spaces for our active spinout companies. “We’re about to open an £116-million Advanced Research Centre next to an innovation cluster we’re creating, for instance. This will act as an incubator for spinouts and local small and medium-sized enterprises, as well as housing interdisciplinary research that can attract industry,” he explains.

The University of Glasgow’s socioeconomic influence on Scotland is already impressive. It directly employs more than 9,000 people, including 4,800 research and teaching staff, while it also plays a role in widening access to education. Muscatelli comments. “Around 27 percent of our Scottish undergraduates are from the most deprived areas of the country as we believe education can be a route to social mobility. Additionally, our focus on research has a massive economic impact: a recent study, based on 2018-19 data, showed that our contribution to the Scottish economy amounted to £4.4 billion. We’ve grown since then, so that figure will be similar or even higher now. Essentially, the University of Glasgow embodies a powerful combination of skills, research and innovation that positively impacts our economy and society.” It also aims to have a positive impact on the environment. The city is largely a zero-emissions zone and is on the frontline of the commitment and the University of Glasgow itself has a highly ambitious, achievable plan to reach net zero by 2030.

Muscatelli’s goals for the university are for it to continue to be a world-leading institution that tackles global challenges, to help Scotland and the U.K. with their post-COVID economic recoveries and to become even more internationally connected. “We want to work with the very best. Whether you’re a leading company looking to collaborate with our scientific experts or a student thinking about studying in one of the world’s best cities, have a look at what Glasgow has to offer.”

www.country-reports.net
The Scottish higher education system ranks exceptionally highly in terms of global competitiveness. You can see that in research rankings, publications and student satisfaction,” asserts Sir Jim McDonald, principal and vice-chancellor of the University of Strathclyde.

“The Scottish system has the highest proportion of students publishing research results, with 53% publishing research in their first year of study,” he continues. “This is above the U.K. average of 30% and is the highest in the world. However, we still need to improve our research impact scores.”

The University of Strathclyde has a £300-million research portfolio (THE), which currently places it fourth in the U.K. for student satisfaction. “We have very high employment statistics, because the graduates we produce are smart, highly motivated and ready for the workplace,” states McDonald. THE also ranks it in the top 20 for research intensity, he adds. “This year, our research funding has a 225-year history, that’s an important part of our identity. However, we seek to drive the place like a startup. We try to be innovative, relevant and competitive.”

The university has a substantial economic impact on the country. As do its expansive research activities. The Open University ranks in the top third of U.K. universities for research, which it collaborates on with partners that include the BBC, the National Health Service, the United Nations and NASA. “We’re world leaders in areas like digitalization, coding, business management and the green economy,” states Sir Gerry McCormac, principal and vice-chancellor, Strathclyde.

The university has more than 200,000 students in total, making it the U.K.’s biggest academic institution and the only one with a footprint in all four of its nations, says Susan Stewart, director of The Open University in Scotland. “We offer transformational opportunities for everyone, regardless of their prior educational qualifications, which is quite unique.” The university has a world-wide reputation as a pioneering global provider of high-quality, supported online distance learning. Its degrees, qualifications, short courses and skills-based training options can be studied in modules, which are developed by teams of academics, educational technologists and media specialists, she states. “The beauty of our model is that people don’t need to move to study with us. We’re the fourth-largest university in Scotland with over 20,000 students, 24 percent of them have disabilities and 23 percent live in remote, rural parts of the country.”

The model’s flexibility also means people can learn when and where they want. “There’s no need to take time out of work or other commitments. Employability is another attractive feature: three-quarters of our students study with us to advance or change their career. Whatever their aspiration, there’s no need to take time out of work or other commitments.”

“In addition to helping individuals, society and businesses to navigate the pandemic, the university’s continued focus on targeting Scotland’s skills gaps in areas like digitalization, coding, business management and the green economy has a substantial economic impact on the country. As do its expansive research activities. The Open University ranks in the top third of U.K. universities for research, which it collaborates on with partners that include the BBC, the National Health Service, the United Nations and NASA. “We’re world leaders in space research, while international development and inclusion is another of our many strengths. At a U.K. level, our research addresses government research priorities in each of the four nations and adds more than £72 million to the economy annually,” states Stewart.

Sir Jim McDonald  Principal and Vice-Chancellor of Strathclyde

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At the forefront of the Scottish university sector’s successful efforts to promote excellence in education is The Open University, which was founded with the mission of widening access to tertiary-level study 50 years ago.

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Engines for economic and social change
Knowledge transfer and the development of entrepreneurs generate national and global benefits

Universities make a vital contribution to the Scottish economy, while a number of them are also responsible for more localized economic impacts that are equally substantial.

Based at a stunning campus just outside Aberdeen, which QS ranks among the UK’s top 10 cities for students, Robert Gordon University is one of those institutions. “We’re a major player in economic regeneration both nationally and in the north east of Scotland. Aberdeen is seen as the energy capital of Europe and we have a big role in transitioning some of its industries into the green economy,” says its principal and vice-chancellor, Steve Olivier. With 17,000 students on campus and online, the university’s 11 academic schools offer an extremely broad portfolio of study options. However, one common thread runs through all its programs: enterprise. “We stand out for our professional focus, business interface and industry connections. In addition, we put tremendous emphasis on creating not just the entrepreneurs of the future, but also an entrepreneurial mindset in all our students. Overall, we punch above our weight in two areas: graduate employability and student satisfaction,” asserts Olivier. The sector’s main ranking bodies back this statement up. For instance, Robert Gordon University is first in Scotland and second in the UK in the graduate employment rate measure, according to QS, while The Times and Sunday Times Good University Guide named it the best modern Scottish university for student experience in 2022 and the U.K.’s top business school in 2020.

The university engages in world-class research that delivers effective solutions for business and industry, comments Olivier. “We’re the largest knowledge-transfer partnership provider in the north of Scotland. Our research encompasses four interdisciplinary themes: environment, energy and sustainability; health and wellbeing; living in a digital world; plus inclusive and sustainable development. Among its many activities is an in-house startup accelerator program that is open to both internal and external entrepreneurs, states Olivier. “Each edition of the program is themed and the most recent one was for projects that solve global challenges—specifically, reducing inequalities, responding to COVID-19 and innovations around mental wellbeing. We provide entrepreneurs that get onto the program guidance and mentoring, while the best ideas get seed funding, workspace and other benefits. In 2020, we were shortlisted as the U.K.’s outstanding entrepreneurial university of the year by Times Higher Education.” Innovative projects the university is currently accelerating include an e-energy app that helps customers calculate the price of locally installed renewable technologies, a vertical farming concept for reducing the environmental impact of food production, a real-time emission monitoring solution that uses drone technology, and a real-time emission monitoring solution that uses drone technology. Despite its location on the northern northern coast, Robert Gordon University attracts many international students and staff. “Aberdeen is a very cosmopolitan city that has always had an international outlook, while the university is a great, collegiate place to work. We currently have students from 135 countries and our international recruitment has shot up in the last two years. That’s partly because of our reputation for employability and student satisfaction, but also some of our very specific programs and courses. Scotland and Robert Gordon University are excellent places to study. Here, you are imbued with the spirit of curiosity you will learn and you can be successful in whatever field you choose,” he concludes.

According to Sir Paul Grice, principal and vice-chancellor of Edinburgh’s Queen Margaret University, “The relative weight of Scotland’s university sector puts it right up there with some of the nations major industries like whisky, oil and finance as absolute engines of economic growth, as well as engines of social change. As such an engine, we at Queen Margaret University strive to make Scotland, the U.K. and the world better, happier, more successful places.”

The university has been working toward that goal ever since it was founded in 1875 to help working-class women expand their career options. Today, Queen Margaret University’s teaching and research programs are focused on business, creative industries, social sciences and tackling two of Scotland’s biggest challenges: education and health. “Educating the teachers and health workers of the future are two of our strengths. Another area where we’re making a real difference is food and wellbeing,” he says.

With around 4,500 students on its campuses, Grice describes the university as being “big enough to make an impact, but small enough to treat each student, member of staff and partner as an individual.” 97 percent of its undergraduate students are in graduate-level positions within 15 months of leaving the institution. In addition, he says, “A large percentage of students study for our degrees through our transnational educational partners in, for instance, Greece, India, Nepal and Egypt. That gives us an international perspective, as does the fact that our on-campus student body is truly international.”

Steve Olivier
Principal and Vice-Chancellor
Robert Gordon University

Sir Paul Grice
Principal and Vice-Chancellor
Queen Margaret University

Steve Olivier
Principal and Vice-Chancellor
Robert Gordon University

Queen Margaret University’s research focuses on projects that bring both economic and societal benefits. “Our Institute for Global Health and Development is recognized worldwide for its work. Additionally, we’re a leader in researching person-centered practice and biomechanics in healthcare. We’re also doing interesting research around food, such as looking at substitutes for palm oil,” notes Grice. Next year, the university is expected to start constructing a new Food and Drink Innovation Hub and a wider innovation park, he adds. “This will provide us with additional potential to partner with industry and help more small and medium-sized enterprises. We’ve had a lot of success in that area already through our on-campus business innovation zone that gives entrepreneurs practical support.” Most of the startups the university works with are female-led, as it believes entrepreneurs are under-supported elsewhere, he comments. “That’s a huge missed opportunity for the U.K. and we can make an important contribution to redressing the balance.”

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The common good is where it starts and ends

Social innovators in education and research are helping the world to tackle some of the biggest challenges it has ever faced.

An excellent illustration of the out-sized global influence of Scottish educators is Glasgow Caledonian University, one of the top 70 universities worldwide in terms of impact toward achieving the United Nations’ Sustainable Development Goals (SDGs), according to Times Higher Education.

“We have a strong sense of purpose as a university for the common good. We were aligned to the goals before they had been articulated and were already delivering on climate change, poverty, inequalities and socially responsible business models,” explains Pamela Gillies, principal and vice-chancellor. The university’s education and research specialties include health, social and life sciences, renewables, engineering, construction, management, business and law, she notes. “What distinguishes our approach is interconnectedness, as every SDG is related to others. With that and a clear eye on the need for impact, you can become fifth in the world for your work on gender equality, as we are.”

There are many other examples of how Scotland’s leading modern university for research power is impacting SDGs, says Gillies. “We look at engineering and the built environment through a sustainability lens, with an emphasis on how we can promote clean water, energy efficiency and low-emission practices. Our contribution to health is also significant: we produce the largest number of health professionals for the nation, host Health Protection Scotland and we’re at the forefront of infectious disease control.” Glasgow Caledonian University’s innovation generates an annual £1.4 billion for the U.K. economy. “Over 300 businesses work with us in our areas of excellence and we’re the leading provider of graduate apprenticeships in Scotland, as businesses know that upskilling workforces is the most cost-effective way of meeting environmental, social and governance challenges. We’ve also been providing low-cost upskilling with high social impact in Africa for many years.”

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It has nearly 22,000 students, who study at its campuses in the heart of Glasgow, London and New York. Gillies gives one reason why internationalization is important. “COVID made it clear the world has to rebuild community resilience from the bottom up. That’s as true in Glasgow as it is in Delhi or New York. We have to reach out and work together to tackle complex problems like health inequalities and climate change. Universities with a commitment to the common good make a huge contribution to communities, not just economically, but in terms of innovation and the development of resilience in the face of some of the biggest challenges the world has ever taken on.”

Social innovators in education and research are helping the world to tackle some of the biggest challenges it has ever faced.
Scotch whisky: An all-time bestseller

First distilled in the country over 500 years ago, Scotland exports more whisky than Ireland, Japan, and America combined. “The preeminent world whisky is Scotch,” says Graeme Littlejohn, the Scotch Whisky Association’s director of strategy and communication. “Global interest in the spirit has grown in recent years, he comments. “People try others, but they always come back to ours. That’s due to heritage, provenance, quality and our unique landscapes producing spirits with so many different characteristics.” In 2021, the country’s 138 whisky distilleries generated 21 percent of all U.K. food and drink exports. Those exports were worth £4.5 billion, 19 percent more than the sector earned in 2020, he reveals. “We export to around 180 markets, with 44 bottles being shipped every second. We’re not back to our 2019 levels of £6.9 billion, but we’re optimistic about future growth.” As well as CO2 and Brexit, in 2020 Scotland’s single malt whiskies were impacted by a 25 percent tariff imposed by President Trump as part of a wider trade dispute. Its suspension in 2021 was welcome, he states. “We’re now building back in the U.S., our largest global market by value.”

With a rich heritage that dates back to at least 1772, Loch Lomond Group is among Scotland’s most historic and lauded independent whisky distillers and blenders. “We have three distilleries, including our iconic Glen Scotia Distillery. In 2021, it was recognized as the Scottish Whisky Distillery of the Year at the annual Scotch Whisky Awards, while the 25-year-old expression of our Glen Scotia single malt was named Best Whisky in the World at the San Francisco Whisky awards last year,” says Colin Matthews, Loch Lomond Group CEO. The distillery was founded in 1832 in Campbeltown on the Mull of Kintyre peninsula, an area that was considered to be the whisky capital in the 19th century. Glen Scotia is one of only three distilleries still operating in the region and the range of fine whiskies crafted there has a distinctive taste that offers fruit, a salty and a salty tang of the sea. Another of the group’s distilleries is also unique, notes Matthews. “Our Loch Lomond Distillery houses grain and malt. We use the grain in blended whisky and the malt in both single malt and for blending. The key flavor profile for our Loch Lomond whiskies is fruit and honey, with a tiny bit of soft smoke.” In addition, the group has secured the last remaining casks from the nearby Littlemill Distillery. Scotland’s oldest licensed distillery that is sadly no longer standing. Every year, expressions of this 250-year-old distillery are released in highly priced limited editions. “Because of the different types of casks we have overall, we can actively manage our flavor profiles, which makes us the most flexible whisky business in Scotland,” the CEO explains. That has helped to support a diverse portfolio of successful brands beyond Glen Scotia, Loch Lomond and Littlemill, such as Spearhead, High Commissioner and Inchmurrin. Loch Lomond Group has also developed award-winning brands with other spirits, he adds. “Cézé, Vodka is the second-biggest vodka brand across the U.K. Our Ben Lomond Scottish Premium Gin has experienced strong growth as well and now comes in a number of flavors, with some of the botanical ingredients being hand picked from the beautiful, wild Ben Lomond mountains that overlooks our distillery. Currently, we’re developing new rums and tequilas, and we’re about to finalize the acquisition of a high-quality champagne winery in France.”

As well as expanding its portfolio, the group has invested heavily in its distilleries and its bottling plant since it was acquired from the original family owners in a 2013 management buyout led by Matthews. “We still use traditional methods, but we’re not against modern practices that allow us to make the very best whisky. I’m committed to further investing in constantly improving our quality and our carbon footprint,” he says. Loch Lomond Group has also substantially extended its international footprint over the last decade. “In 2013, our brands were only available in three countries outside the U.K. Today, they are sold in distributed in 128 countries around the world. In key markets like the U.S., we’ve established our own structures and management, which adds dynamism to our business, and we’ve built a fantastic relationship with Blue Ridge Spirits & Wine Marketing there, which has a strong national distributor network.” One of the group’s strategies for increasing brand awareness is investing in sports sponsorship. Matthews comments. “In golf, for instance, we’ve been a key sponsor of The Open Golf Championship and Women’s British Open for five years. As a result of all our efforts, our brands are stronger and much more visible. Now it’s our job to capitalize on that by driving on with the exciting new projects we have in our pipeline,” Matthew asserts.

Despite having 80 years experience as a respected whisky broker and bottler, Ian MacLeod Distillers only acquired its first distillery, Glen Goynday, in 2003. “Traditionally, single malt represented a small fraction of the Scotch whisky industry, managing director Leonard Russell reveals. “It now accounts for over 10 percent of sales volumes. That’s remarkable enjoyment to be had from sipping single malt and a good one to start with would be our Tamdhu, as it’s matured in sherry casks and easy to drink—then just follow your nose!”

One reason for expanding interest in Scotch whisky is consumers’ increasing concern about the sustainability of goods they buy. It is crafted from just three ingredients—water, yeast and cereal—and the sector has made significant progress in boosting its sustainability. “39 percent of energy used in production is now from renewables and we’ve reduced greenhouse gas emissions by 53 percent since 2009. In 2021, we launched a new sustainability strategy, which sets out our plan to become one of the most respected and successful distillers worldwide,” he adds. “Glen Scotia today is one of just three distilleries still operating in the area that was considered to be the whisky capital in the 19th century. Glen Scotia is one of only three distilleries still operating in the region and the range of fine whiskies crafted there has a distinctive taste that offers fruit and honey, with a tiny bit of soft smoke.”

“We’ve built a diversified portfolio of distinctive, premium quality, great tasting, authentic brands that are rooted in strong traditions.”

Peter Gordon, Director, William Grant & Sons

In the U.S., William Grant’s single malts are the whiskies of choice for bartenders, mixologists and consumers all over the country. These include the original Glenfiddich, rare and limited-edition expressions of the signature whisky that have been aged for between 12 and 50 years, plus The Balvenie range of handcrafted, luxuriously smooth single malts, which was first distilled in 1892. Their popularity has increased as more consumers appreciate whisky in the same way they have always appreciated wine, explains Gordon. “People now understand what fine whisky is about, the advantages of it coming from a specific place, the way age assists in developing whisky and how it interacts with wood in the cask.” Other highlights in the distiller’s portfolio are award-winning blended whiskies like Grant’s, Monkey Shoulder and the Irish Tullamore D.E.W., Sailor Jerry rum and Drambuie liqueur. However, Gordon states, “Beyond our whiskies, our most important brand in the U.S. is the cucumber and ginger infused Hendrick’s Gin, which is distilled and bottled in Scotland. We’re also seeing strong growth with our Milagro tequila range made from Jaliscan blue agave, and our 2020 acquisition of a Mexican tequila distillery shows our long-term commitment to that brand.”

All of its spirits are created by master craftsmen who retain many of the industry’s traditional practices, but who never stop experimenting. Since 2018, for instance, the company has launched eight products, including Firefall of Bourbon, its first American whisky. Gordon feels a strong sense of responsibility as part of the fifth generation of the family to steer the company. “What’s unique about the business is that we are selling many ages of whisky and benefiting from decisions people made decades ago. That makes me conscious of making choices that are right for the long-term. We talk within our family about being a relay race—my purpose is to be able to pass the baton on in better shape than when I received it.”

“Women now understand what fine whisky is about, the advantages of it coming from a specific place, the way age assists in developing whisky and how it interacts with wood in the cask.”

Colin Matthews, CEO, Loch Lomond Group

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Colin Matthews, CEO, Loch Lomond Group
A driver for fintech and green financing
One of Europe’s leading financial centers, Scotland has a global reputation for expertise and innovation in financial services

Scotland is the U.K.’s second-biggest financial hub and home to over 2,000 local and multinational businesses offering diverse financial services. “These are companies such as Lloyds Banking Group, the U.K.’s largest retail and commercial bank and its only integrated provider of banking, insurance and wealth propositions. Under its umbrella are many household names, including Lloyds Bank, Halifax, Bank of Scotland, the nation’s oldest bank, and Scottish Widows, the insurance, pensions, savings and investment services specialist. According to Grant, “Scotland is important to us and vice versa. We have around 25 million customers across the U.K. and support about 2.5 million in Scotland. Approximately 150,000 Scottish businesses bank with Bank of Scotland alone; we’re very aware of the responsibility and importance of the group to Scotland’s business and economy.”

The group is also the U.K.’s biggest digital bank and the pandemic accelerated its development strategy for digital services, he reveals. “It’s been a forcing mechanism for simpler and cleaner ways of working and thinking. Our opportunity we’ve taken up is simplification and broadening our proposition was our recent acquisition of Embark Group, a fast-growing fintech business with a large site in Dundee.” The rationale behind the purchase of Embark and its leading investment platform is straightforward. “The application of its technology will mean we can transform many of our propositions, such as retirement, to give customers more flexibility and choice. It allows us to create a direct-to-consumer investment proposition using the strength of our group brands as well,” asserts Grant. Embark is just one of over 175 fintech firms that currently have a base in the country and the sector is growing exponentially, he says. “We’re establishing an ecosystem that allows for mutual benefits arising from innovative fintech firms developing alongside established brands and financial services businesses.”

Scotland boasts a range of financial services organizations that are dedicated to sustaining the nation in highly distinct ways.

From the world’s oldest surviving building society to a new national development bank, financial firms are invested in Scottish communities

One example is the Scottish Building Society that was founded in 1848 and is mutually owned by its 33,000 members, the vast majority of whom are Scottish. “We’re the world’s oldest remaining building society and we’ve stuck true to our original business model and purpose,” says CEO Paul Denton. That purpose is acting as a safe haven for savings and using the funds raised from those to provide residential mortgages. Everyone who opens a savings account or takes out a mortgage becomes a member of the society, he states. “Because of our mutual model, we don’t pay dividends to corporate investors. Instead, our profits are kept for future investment or paid out to our savers.”

Awarded Building Society of the Year for the third year in a row at the Scottish Mortgage Awards in 2021, the society’s concern for supporting its community was evident throughout the worst of the pandemic, when it banned repossessions and gave extended mortgage breaks to hard-hit members. “COVID was disruptive, however despite record-low interest rates, 2021 was our most successful year ever for profits. Stamp duty relief created a surge in demand for new mortgages, while most households actually increased savings during the crisis and that helped our funding. In 2020 alone, we grew our mortgage book by 22 percent. We’re not the U.K.’s biggest building society, but we saw higher growth than any other that year,” asserts Denton.

A much younger organization is Scottish National Investment Bank, the U.K.’s first mission-led development bank that will be capitalized with £2 billion in public funds over 10 years. “Our missions are scaling up innovative businesses, reducing geographical inequality and financing the transition to a just net zero,” says its chair, Willie Watt. “Projects have to meet one of our missions and be commercially viable — although we don’t compete with the private sector, we think our job is to crowd in private capital. We launched in 2020 and have already committed nearly £1.4 billion to housing associations that is directly linked to environmental goals.”

“Scottish Building Society, which is already carbon neutral, prides itself on being a personal, flexible and sustainable lender. We don’t look at mortgages on an algorithmic basis. Each case is personally reviewed and underwritten,” notes the CEO. “This helps explain why, at a time when many in its industry are closing branches, the society is opening new ones in key Scottish cities. “In-person banking used to be transactional. That’s changed and it’s not just about younger people wanting digital banking, and millions of older people wanting face-to-face. We find our younger members want to transact digitally but welcome advice in person as they’re less experienced in financial matters, so we will continue to foster physical relationships with customers and to offer robust online capability. We may be a traditional, values-led building society but, at the back end, we’re a remarkably modern financial services provider,” he says.
Legends to festivals: The feast of Scotland

Host of the world’s biggest arts festival, Scotland offers a uniquely magical mix of natural, historical and cultural treasures

From its majestic mountains, glorious glens, legendary lochs and rugged coastline to prehistoric remains, crumbling castles, picture-perfect fishing villages and vibrant cities, Scotland is an extraordinary place to visit.

“There are so many unmissable things to see and experience here, but it’s the way everything comes together that makes Scotland utterly unique. There’s romance, mystique and great richness in our heritage and culture, with each part of the nation having its own, very special stories to tell,” says Malcolm Roughead, CEO of VisitScotland, the national tourism organization.

Almost 220,000 people work in Scotland’s tourism sector, which accounts for around 5 percent of its gross domestic product and brings approximately £12 billion into its economy every year, he notes. “Between 2011 and 2019, the number of international tourists we welcomed increased by 17 percent, with the U.S. being our largest market at almost 500,000 visitors. As Scotland is very accessible, both internationally and internally, the growth in tourism has sustained many of our fragile rural and island communities, and allowed them to flourish. That’s important, because those communities are one of the things that makes Scotland so exceptional. It also makes it easy for people to tour round our whisky distilleries or 13 UNESCO-listed sites, for example.”

The country is rising in popularity as a destination for agritourism, plus outdoor activities such as kayaking and mountain biking. “We also have a global reputation now for holding business and sporting events. As the home of golf, we’ve hosted the Ryder and Solheim Cups, while the first UCI Cycling World Championships will take place here in 2023, followed by the World Athletics Indoor Championships in 2024,” states Roughead.

Cabinet Secretary for the Constitution, External Affairs and Culture Angus Robertson points out that: “Scotland is a beautiful country with a tremendous history that people around the world know about and want to explore. At the same time, this is an exceedingly contemporary nation in terms of the skills, technology and creativity that are being developed here.” The creative arts have been a central part of Scotland’s identity for centuries and that tradition continues today, he says. “We’ve got a new generation coming to the fore now who are incredibly talented. Despite being a country of just over 5 million people, we’re producing a vast amount of amazing talent in music, the performing arts and across the entire cultural space. As in all countries, our arts community had a very challenging time during the pandemic, but this is the year that we can start enjoying Scotland’s wonderful cultural offering again. And what’s programmed to happen in art, music, theater, cinema and television this year looks absolutely fantastic.”

Diverse creative industries generate nearly £5 billion a year for Scotland’s economy. “One significant recent development is the burgeoning success of our television and film sector, with our production studios currently working at full pace on top-level content,” Robertson reveals. Isabel Davis, executive director of the agency that promotes this sector, Screen Scotland, backs up his statement. “We’re busier than ever with enquiries from national and international companies looking to base productions here. Scotland has grown from a destination for location-based filming into a very competitive option for entire productions, including shoots, visual effects, post-production and animation.”

Reasons for this include a doubling in public funding for the sector since 2018 and new large-scale production facilities. The launch production at Edinburgh’s FirstStage Studios was Amazon’s thriller The Rig in 2021, and the streaming giant is working there again on an adaptation of Neil Gaiman’s Anansi Boys at the moment. A further substantial production space, Kelvin Hall, will open in Glasgow shortly, providing an additional complement to the existing smaller studios around the country. Scotland also offers an extremely varied range of urban and rural locations. Recent productions to take advantage of this include DC Films’ The Batman and Batgirl, Lucasfilm’s upcoming Indiana Jones movie, the BBC’s Peaky Blinders and Starz’s long-running series Outlander.

“‘There’s romance, mystique and richness in our heritage and culture, with each part of the nation having its own, very special stories to tell.’”
Malcolm Roughhead, CEO, VisitScotland

Above all, says public body Creative Scotland’s CEO Iain Munro, “Scotland is a festival nation.” Throughout the year events are held to celebrate arts, foods, sports and many other aspects of Scottish life, with a few unique highlights being the Highland Games, Hogmanay and Burns Night. “The emblem of the nation, however, is the Edinburgh summer festivals, including the International Festival, which is 75 years old this year, as well as the Fringe, Art, Jazz and Blues, and Film Festivals,” Munro insists. Over the years, Edinburgh’s summer festivals have enabled the country to form strong creative ties across the globe, he adds. “They’ve become a powerful cultural brand for Scotland and helped the world to recognize that—built on dynamism, creativity and the warmth of our people—we’re an ambitious, forward-looking and progressive country that has culture very firmly at its heart.”