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Everton
in the Community

Sustainable Communities

How Green is Your Pitch and Patch?

Positioning Everton FC as a Sustainable
Football Club

Final Report

February 2021

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Liverpool Hope University
SEARCH



THE
PEOPLE'S
CLUB

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HOW GREEN IS YOUR PITCH AND PATCH?

FINAL REPORT

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EXECUTIVE SUMMARY

Sustainability is one of the most significant issues affecting all businesses in the contemporary world, as we move beyond the Covid-19 coronavirus pandemic. At the same time, the very concept of sustainability is highly contended and can become so widely used as to be meaningless or, even, contradictory and antithetic to the conventional meaning of the term, in relation to environmental conservation. The perspective of the authors of this report is to understand sustainability as a process of continued refinement rather than a thing-in-itself.

Even so, the approach adopted here is to focus on the environmental implications of sustainability practices, in order to limit the scope of this research and report to manageable proportions. We examine the ways in which sustainability practices are being understood and implemented amongst global sports clubs. Following this we consider the strategies that the leading global football authorities are taking in respect of environmental sustainability.

Thence, we present the findings of an empirical piece of research, which connects the sustainability practices of the twenty English Premiership football clubs with the extent to which the localities in which they are based exhibit the characteristics of 'greening markets'. Data collected by the BBC and charity Sports Positive, from recent surveys of the sustainability actions of the football clubs, is compared with our own large-scale database of evidence on the greening of markets, across Great Britain. The relative club-to-market comparisons for each club, modelled for the most recent two seasons, is presented, alongside standalone data on the degree of 'greening' taking place in each locality where the Premiership clubs are located.

The Premiership clubs are sorted into three categories, according to whether they are 'leading', 'in-line' with or 'lagging' behind their localities, in respect of their sustainability practices, compared with the extent to which the culture of their localities reflects a preference for green initiatives. One of the main findings of this research is that Everton FC occupies a pivotal position as, possibly, the club that is most aligned with its local community, in terms of sustainability action, compared to the cultural orientation, towards environmental markets, of its locality in the 'Blue Mile' and the Liverpool city-region. We consider that this degree of alignment, between club and community, stems from the ground-breaking work of Everton-in-the-Community, reflecting the core values of The People's Club. This has major implications for the sustainability activity of the club moving forward.

Following a presentation of the methods, findings and interpretation of this research, we examine the ways in which Everton FC is, both, moving forward and lagging behind other Premiership clubs in implementing sustainability practices. We consider the forthcoming move of the Everton FC stadium, from Goodison Park, in Liverpool 4 postal district, to its new location on the North Liverpool waterfront, at Bramley Moore Dock. On this basis, we present a forty-point outline Comprehensive Sustainable Development Plan (CSDP) for Everton FC, in its next phase of activity. Given the modest scale of this initial research project, the outline CSDP is no more than an initial statement of headline sustainability actions. Nevertheless, it does indicate how Everton FC can move forward, taking its leadership role, within the community, to the next level, in terms of social and environmental responsibility. Whether this is possible only time will tell. If it is, then, a much fuller piece of action research, into the precise sustainable development actions of Everton FC, will be required.



1. INTERPRETING SUSTAINABILITY

Introduction

The aims of this report

This report will cover four main areas:

- A brief introduction to the theme of sustainability.
- A survey of some of the main sustainability practices in operation within global football and sports stadia.
- An analysis of data, derived from LHBS's Greening Markets research project database and recent BBC/ Sport Positive surveys of sustainability within the English Premiership.
- The outline of a 40 step Comprehensive Sustainable Development Plan (CSDP), related to Everton's move to a new stadium at Bramley Moore Dock.

The historical problem of 'sustainability'

"It's very hard to chase an exponential curve". This was the eye-catching comment from Nigel Topping, UK High Level Champion for Climate Action and COP26, at the recent Green Horizons Summit, at Mansion House, London, in mid-November, 2020 (Chisnall, 2020). The point was that those businesses which are slow to transition to a Net Zero development business model will probably never catch-up with the social, legal and climate action requirements of an, increasingly, demanding public, in terms of meeting the need to ensure that increasing global temperatures do not exceed 2 degrees Celsius above pre-industrial levels. This was the objective of the Paris Agreement (Conference of the Parties, COP21), requiring an entire economic and social transformation in the ways in which we live, move about and eat.

It raises the question: what do we mean by 'sustainability?' In many respects we can understand 'sustainability' as a chaotic conception. It has such a wide usage as to be almost meaningless. A simple Google search of the term uncovers more than 300 million citations, which is exactly double the number that a writer on the history of the term netted only 7 years ago (Caradonna, 2014). That author comments that the hugely influential environmentalist Bill McKibben (1996) referred to the word as being a 'buzzless buzzword', a generation ago. But, by the second decade of the 21st century it had become "...a galvanizingly powerful term whose application subsumes a number of other movements, environmental perhaps most of all" (ibid, p3).

Equally, as Ulrich Grober (2012) points out, once the term has been robbed of any coherent meaning, it is ripe to be deployed in any way that a person or organisation wishes to do so. Such usages are, frequently, the very opposite of what most people would understand by 'sustainability'. For example, Grober quotes many commercial timber companies, who claim to be operating 'sustainable forestry'. This phrase is used to cover their taking over large tracts of tropical rainforest from indigenous peoples. The argument is that it would be 'better managed' as a source of timber, than being left to grow unchecked and naturally (ibid, p18), within an ecosystem that supports native forest people. As such, King (2013) suggests that the word has become so corrupted - and used as a competitive tool for obscuring real issues - that it should be banned from public discourse. Of course, the reverse has happened.

One of the most peculiar features of the modern idea of 'sustainability' is that it is argued to be a set of principles which belongs to the post-Enlightenment world. Indeed, Caradonna (2014) begins his history from the late 17th century. Grober takes us back,

earlier, to Francis of Assisi's 13th century 'Canticle of the Sun', for an understanding of how humanity is to care for the Creation. But, other writers find the origins of sustainability in far more ancient cultures.

Mark Usher (2020) examines how sustainable systems were part of the worldview of ancient Greece. Ying Li *et al* (2015) finds these principles within the Confucian tradition of harmonious development. Despite Lynn White (1967) arguing that the Genesis injunctions to Adam and Noah - to have 'dominion' over the Earth and its creatures - provided a biblical basis for the ecological crisis, others, such as Gerstenfeld (2002), claim that the Tanakh (Hebrew Bible) is the primary source for modern environmentalism.

Similarly, Failla (2014) argues for 3000 years of sustainability in ancient Egyptian culture. In similar vein, Magni (2017) and Gratani *et al* (2016) identify indigenous peoples' as rooting sustainability in pre-literate cultures. And, Caldararo (2014) argues that sustainability and environmental consciousness is a fundamental feature of all human cultural systems, as well as the source of inequality, when it is misappropriated. That said, when Usher (*op cit.*) compares antique Rome with ancient Greece he discerns a distinctive tendency to oppose Nature and Culture, as did Freud in the 20th century (Roach, 2003), such that Roman civilisation had the objective of 'taming the world' and any culture that sought to identify itself with the natural.

The point is that the origins of 'sustainability' and environmental consciousness are lost in the mists of time. That said, the contemporary meaning is usually associated with debates about global limits and 'sustainable development' that surfaced most fully during the late 1960s-80s. These follow the 1969 Moon landing and astronaut Eugene Cernan's famous aphorism: "we went to explore the Moon and discovered the Earth", through the photo of Earthrise. Then, came reports such as *Limits to Growth* (1972), the first Earth Day of 1970 and books such as Fritz Schumacher's "Small Is Beautiful" (1973). So, 'sustainability' has a long, often confusing history. Even so, it is one that needs to be

recognised when we come to contemporary debates about these themes in such arenas as the world of sports and football.

Defining sustainability – from three-legged stool to four-stage process

So, how should we define 'sustainability' or 'sustainable development'? A very general definition is: 'the ability of human society to live within the biosphere in a constant way'. This has, conventionally, been understood in terms of meeting the demands of Triple Bottom-Line Accounting (TBLA) (Elkington, 1997). This followed the three-legged stool approach of the Brundtland Report, *Our Common Future* (1987), to understand 'sustainable development', as requiring business to account not only in financial terms (Profit) but, also, in respect of social needs (People) and the long-term needs of natural and ecological systems (Planet). Other three-legged models have focused on ESG (environmental, social and governance) reporting and the 'triangle of sustainability', from the Rio Earth Summit of 1992 (ecology, economy and social justice).

Even so, these three-fold principles have evolved considerably over the past three decades. In particular, the United Nations' Millennium Development Goals, for 2015, were superseded by 17 Sustainable Development Goals, including those related to sport and culture, which are to serve until 2030. As these have matured, they have, increasingly, reflected a fourth pole, which has become fundamental, in recent years.

This is the demand on business, from consumers, other economic stakeholders and society, itself, to engage in a debate about the 'meaningfulness' of business. Businesses need to account for their actions based on ethics, in terms of governance, culture, values and the commitments that they align themselves with, for ensuring that life has significance and meaning (Drewell & Larsson, 2017, Mayer 2018) or *Purpose* (Stroeble, 2019).

This is the fourth dimension of what is,

increasingly, recognized as Quadruple Bottom-Line Accounting (QBLA) (see Bradley, 2022, forthcoming), which completes a cycle, from People, through Purpose and Planet, to Profitability. Of course, it is hard enough to measure monetary, social and natural capital values, without asking how to account for meeting the need for meaning.

Yet, that is what society, increasingly, craves, especially in an era where the call is to 'build back better', after a global pandemic. And, when we do insert Purpose into the other three poles of People, Planet and Profit we can identify that sustainability reflects a process (see Fig 1).

Sustainability is not a thing, *sui generis*, it is

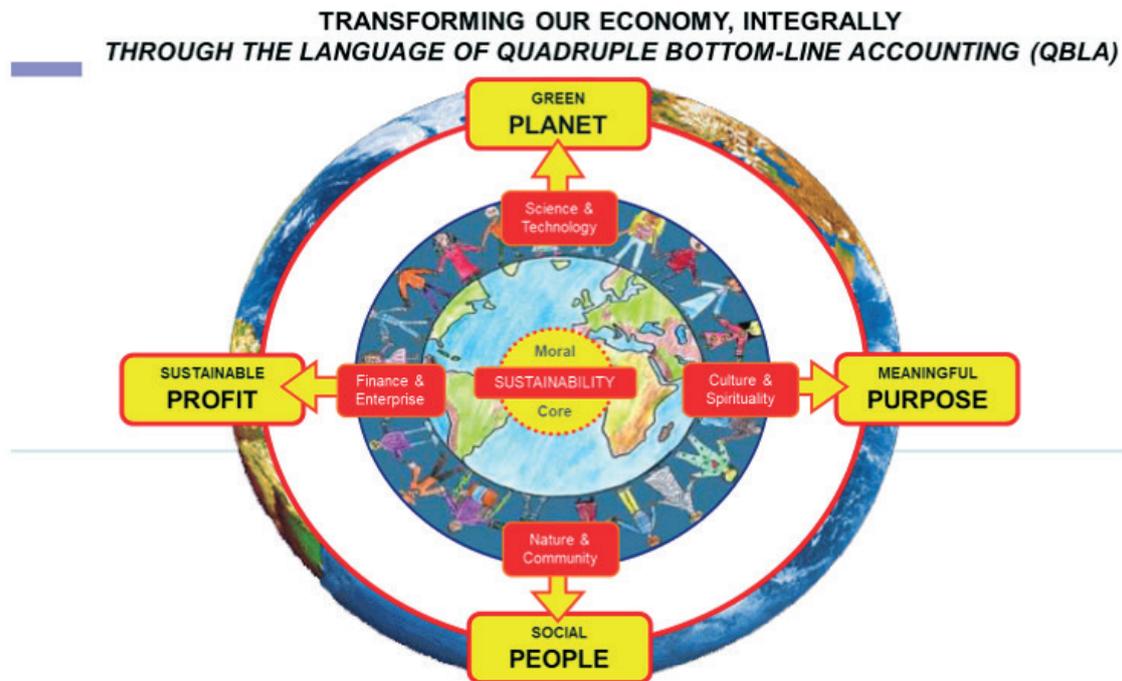


Fig 1. The Sustainability Transformation Cycle (Bradley, 2021, after Lessem & Schieffer, 2010)

a cycle of increasing refinement, as we spiral around the four poles, from People, through Purpose and Planet to Profit. We can see that the sustainability transformation cycle parallels other fourfold models of systems theoretical refinement, such as the Shewart (1931/1980) process of economic control, the Deming Cycle (1986, based on the work of S Mizuno, at the *Tokyo Institute of Technology*, in 1959), David Kolb's (Sims, 1983) experiential learning cycle, *Motorola's* 6-sigma (Tennant, 2001) and the generic process of continuous quality improvement (CQI), reflected in the Japanese principle of *kaizen* (Masaaki, 1986). Indeed, it is possible to reflect this process of increasingly refined sustainability as a model of 16 (4 squared),

64 (4 to power 3) (Bradley, 2019¹), or, in theory, 256 (4 to power 4) and, even, 1024 (4 to power 5) steps of refinement.

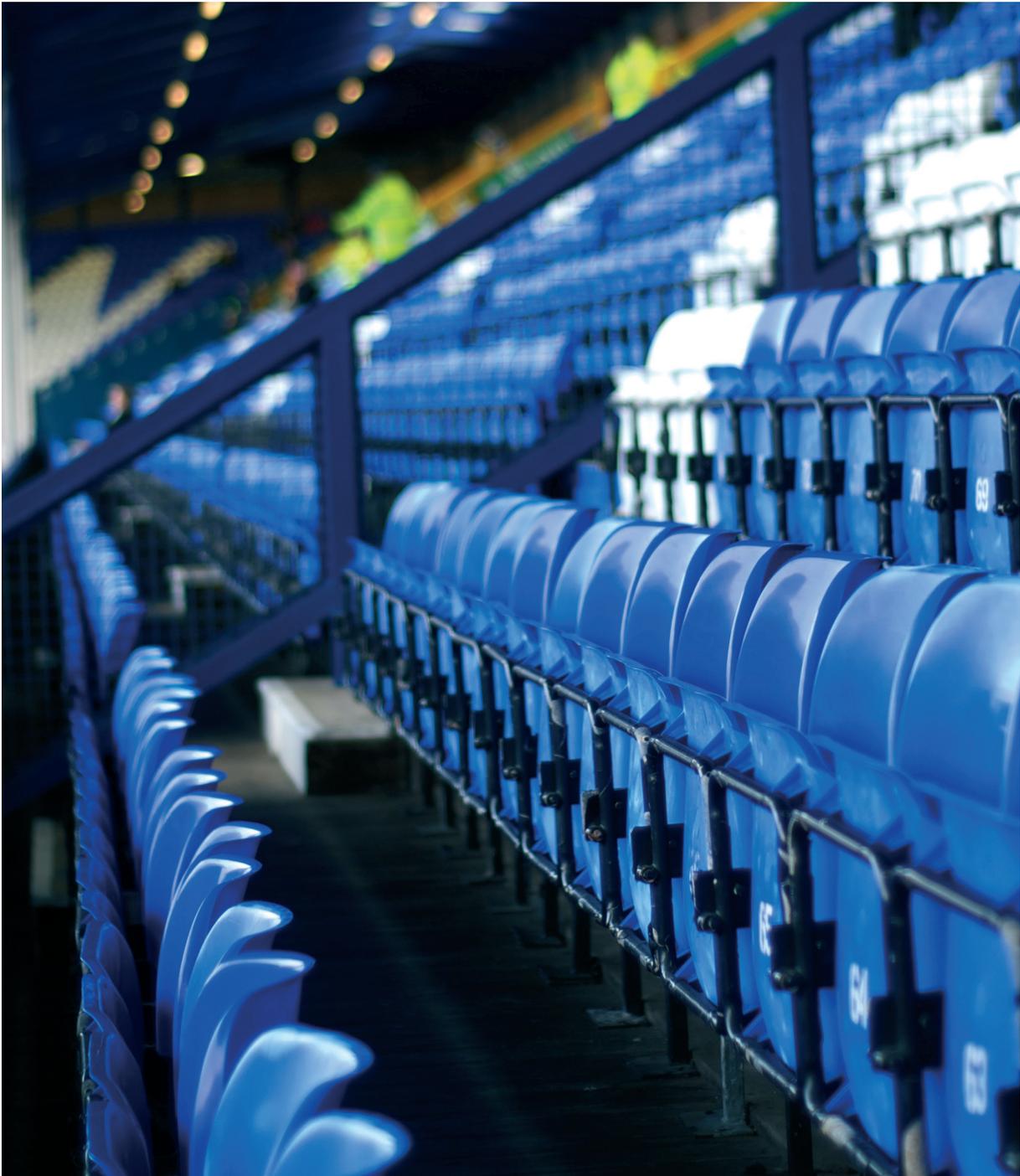
Nevertheless, one challenge of the demand for a purposeful economy is that meanings are multi-valent and vary widely from culture-to-culture and time-to-time. Localities will express different priorities in terms of lived meaning and purpose. We might expect that a meaningful life in Liverpool may contain alternative facets to those that are sought after in Leamington or Lymington, for that matter. Consequently, we cannot identify a single process of sustainability. The sustainability transformation cycle will vary from place-to-place, geographically, culturally

¹ In Bradley's doctoral thesis he presents a 64 (4 to power 3) step improvement process of sustainable development.

socially and, in relation to the current report, between economically productive sectors. In this respect, the examples and models presented here are those that pertain to the global development of sustainability within football, as applied to Everton FC.

As such, even those who might seem to be, superficially, from the same culture - such as Premier League football fans - are likely to be, partly, motivated by the lifestyles

and value-oriented features of their home communities, as much as by their common love of *'the beautiful game'*. On that basis, for this research, we wanted to ask the question: *to what extent are English Premier League football clubs in-line with their local communities, in respect of their green agendas?* Or, to put it another way: "how green is your pitch and patch?"



2. SUSTAINABLE DEVELOPMENT AMONGST GLOBAL CLUBS

Greening sports and stadia

Over the past five to ten years - as the climate emergency has been deepening - sports clubs, venues and stadia have been, increasingly, recognising the significance of leading by example, in providing models of environmental sustainability. There are a range of reasons for this movement, some 'push' factors and others 'pull'. It is, partly, a recognition by clubs, themselves, that they can influence local communities and culture, by demonstrating alternative ways of doing things. These may be regarded as Purposeful and Planetary dimensions, towards sustainability. The example of the *Seattle Climate Pledge Arena*, as below, is a primary case of this phenomenon.

Equally, questions of Profitability play out, in terms of reducing materials, energy and land or real estate costs, as well as the 'green marketing' benefits to sponsors of teams and venues. But, perhaps, of most vital significance is that, at least in some cities, locations and amongst fan groups, the People who attend sporting fixtures and venues require the clubs that run them to be more sustainable. And there is a developing recognition that this extends beyond environmental sustainability, to embrace social values, in terms of governance and finance, not least in respect of the price of attending events. Once the pandemic is over, it is likely that these People pressures will, only, increase, as fans identify the relationship between damage to 'natural capital' and the conditionality of the Covid-19 virus.

Phases of sustainable development among sport's clubs

So, as sporting clubs have been 'greening', many venues and stadia have attracted

attention. We can identify three phases of these developments:

1. Prior to the advent of the Sustainable Development Goals (SDGs): pre-2015
2. First phase of the SDGs: 2015-2019
3. The Deepening Crisis phase: 2020 onwards.

It is worth commenting on some of these cases and their sustainability innovations, to get a feel for what is possible in the sphere of sports stadia sustainability. In the final part of this report we apply these various steps for sustainability to Everton FC's imminent move to a new stadium at Bramley Moore Dock.

Phase 1: Pre-SDGs

Initially, greening stadia and clubs were using lower carbon-emitting renewable energy sources, such as wind and solar-power technologies. Some of the early adopter stadia were (Power Technology, 2014):

- US National Football League (NFL) Philadelphia Eagles, *Lincoln Financial Fields Stadium* (wind and solar power)
- *Brasilia National Football Stadium*, Mane Garrincha (solar power, rainwater harvesting, LED lighting)
- New England Patriots, American Football *Gillette Stadium* (solar powered stadium and shopping mall, reflective roof, low-volatile organic compound paints, and LED lighting)
- *Kaohsiung Stadium*, Taiwan (world's first entirely solar-powered stadium)
- *Thyagraj Stadium*, Delhi, football and athletics (solar power and gas recycling, vapour absorption system for air conditioning).

Phase 2: Early SDGs phase

As the UN SDGs debate began to penetrate the sporting world, the range of environmental sustainability objectives became more extended. These include, in addition, to green energy initiatives:

- Water preservation - related to grass irrigation, cleaning venues and providing washing facilities – through rainwater collection, harvesting and recycling ‘grey water’.
- Materials with lower emissions, pollution and recyclability/ circularity, especially in respect of plastics and paper.
- Reducing community externalities and risks, such as toxin-free building materials and enhanced fire safety regulations.
- Lower financial investments, through reduced operational costs, use of recycled materials, reduced energy, water and utilities expenditure, cheaper insurance premiums and the appreciation, rather than depreciation, of buildings.

On these bases, some of the world’s most sustainable stadia, were constructed (Cascadia, 2019), three of which were, as below:

The Amsterdam (Johann Crujff) ArenA (Ajax Football Club)

Key Features:

- Retractable roof with 4200 solar panels
- Rainwater collection and recycling
- Pitch-side sustainable heating system
- Pitch level, controlled monitoring of nutrients, water and light
- Electric car charging points
- Discounted tickets for arrivals by public transport, augmented by limited carparking and the creation of a parkland, surrounding the stadium, in which families can recreate and children can play.
- 80% lighting with energy-efficient LED bulbs

- Europe’s largest recycling unit for electric batteries, to provide back-up power
- On-site wind turbines.

The CEO of the Johann Crujff ArenA, Henk Markerink, adopts a quadruple bottom-line approach to sustainability, when he indicates that:

“...we feel balancing people, planet and profit has to be part of your DNA and core values... The Johann Crujff ArenA can work on creating the best fan experience in and around the stadium, offer our visitors sustainable meal options and other top-level services, be a test lab for innovative solutions regarding safety and mobility for our neighbours and benefit our partners all at once. It’s truly worth the investment as it creates sustainable value. (IAMAmsterdam, 2019).

Although he doesn’t use the ‘purpose’ word directly, his approach is to identify that the triple bottom-line is generated by having the correct sustainability values grounded in the approach. This impacts a circular economy perspective to the way both the stadium and the club operates, from planning and design, through decision-making to management of the fan experience.

The Mercedes-Benz Stadium (Atlanta Falcons football team)

Key features:

- Recently achieved LEED (Leadership in Energy and Environmental Design) platinum certification, having previously achieved silver and gold awards.
- Save 29% in energy usage compared to a typical stadium design.
- 4,000 solar panels, which generate 1.6 million kwh pa of renewable energy (sufficient to power 160 houses in Atlanta; or, more than nine Atlanta Falcons home games).
- Electric car charging stations
- Onsite edible landscaping

- 680,000-gallon cistern, which is used for water recapture and reuse, to provide for pitch and land irrigation.
- 1 million gallon storm vault and cooling tower.
- Uses 47% less water than baseline standards for a stadium of this type and scale.

The M-B Stadium was singled-out on the first US Green Sports Day, in 2016, as having achieved remarkable progress in sustainability, since its initial construction in 2007. Arthur Blank, the billionaire owner of the Atlanta Falcons and the M-B stadium, also, recognizes the need to commit to an ethical purpose, as a core aspect of sustainability. He comments that “It’s the right thing to do and we believe that most things we do, we do for the right reasons and worry about whether the economics make sense later” (MBS, 2021).

Golden 1 (Credit Union) Centre (Sacramento Kings)

Key features:

- 100% solar energy powered.
- LEED Platinum certified.
- Use of Delta Breeze ambient enhanced cooling system.
- Low-flow water recapture implementation.
- Member of the US Green Sports Alliance.
- World’s first arena to achieve both 100% solar powered and LEED Platinum certification.
- Farm-to-court traceable and hyper-local food philosophy.

Whilst the Golden 1 Centre had achieved the reputation of being one of the world’s most sustainable sport’s venues, by 2017 (US Sports Business Journal), this might have been claimed by other leading stadia. But, what sets this venue apart is it’s approach to the food economy. Sacramento, California claims to be the farm-to-fork capital of the world. As such, the Golden 1 has introduced a wide range of policies and practices as part of its “Food and Sustainability Charter”.

Their 10-point Food Charter includes:

- 90% of culinary ingredients are sourced from within a 150-mile radius of the Golden 1.
- Menus and recipes are based on the availability of fresh, seasonal ingredients.
- Stakeholder and supplier relationships with farmers and growers are based on a Slow Food ethos, in which the Centre works with suppliers to plan scalable and fair contracts.
- Aim to trade with other local businesses and recruit staff from the immediate locality, enabling a multiplier-effect local economy.
- All edible leftover food is donated to local food banks and charities.
- Other food waste is used within an on-site biodigester, to reduce green waste and remote composting, whilst leftover frying oil (from local rice bran oil) is converted to biodiesel by a local family-run business.
- Golden 1 provides a food education centre for children, young people and families.
- Guests, leaders and Board members are encouraged to drive the food sustainability agenda and mission, often recruited for their expertise in food economy sustainability (Golden1Centre, 2021).

Phase 3: Current sustainability phase

The coronavirus pandemic plunged the global economy and societies into the most insecure and deadly period that the world had seen since the Second World War, with the UK being one of the worst-affected countries. Nevertheless, 2019-20 had already turned into a pivotal year, in terms of many issues of sustainability, particularly in relation to the climate emergency. One small indicator of this was that the Oxford English Dictionaries declared ‘climate emergency’ as the “word of 2019”. The incidence of this phrase multiplied by one hundred times, over the period of the previous year (Zhou, 2019). Hundreds of towns, cities and entire countries declared ‘climate emergencies’ during 2019.

Such global consciousness, particularly amongst younger adult cohorts, only increased in the following year, as evidenced

by a recent survey of more than one million respondents (UNDP, 2021). Fascinatingly, whilst this was a global survey, it was found that young people in the UK were the most environmental aware and concerned about the climate emergency, when compared with their peers in other countries and cultures. This increased awareness of global environmental crisis has had an impact on sport, as well as on many other areas of society, culture and the media.

One example, related to the findings of this report, was that 2019 marked the first year in which *Sport Positive*, together with the BBC, produced a sustainability league table of all English Premiership football clubs. As a result, many stadia began to take issues of energy, transportation, food sustainability, and the circular economy use and manufacture of materials, more seriously.

Contemporary examples of sustainable stadia

Some of the most recent stadia and sports clubs to attract attention for their sustainability practices are:

Climate Pledge Arena (Seattle Kraken Ice Hockey)

This stadium, partly funded by Jeff Bezos, the CEO of Amazon, one of the world's largest corporations, boldly aspires to the goal of being "...the most progressive, responsible and sustainable arena in the world" (ClimatePledgeArena, 2021). Strikingly it is not named after its sports team, city, or sponsoring corporation. Rather, it has taken the name of Amazon's commitment to:

- Net Zero emissions by 2040
- 100% energy usage from renewable sources by 2025,
- Regular reporting on progress, and
- The credible off-setting of current carbon emissions, to neutralize their impact (on the journey to 2040).

This Pledge is, in turn, a reflection of the commitment of the Arena to support the practices enshrined in the 2015 Paris Protocol

Agreement (COP 21, Conference of the Parties). That is the largest international agreement on Nationally Determined Contributions (NDCs) to date. It will be followed-up, in November, 2021, by COP26, in Glasgow, which was postponed for one year because of the coronavirus pandemic.

Key features:

- Meet the demanding requirements of the International Living Futures Institute process and certification, towards net zero carbon emissions (see Zero Carbon | Living-Future.org (living-future.org)).
- Expand underground, to reduce embodied energy use in new-build construction.
- Conserve the historic roof of the previous arena.
- Eliminate all fossil fuel consumption in the daily use of the arena.
- 100% renewable energy generation, from solar panels on the atrium and at other key sites.
- Institute a fully integrated transport plan, including subsidized transportation, electric vehicle charging stations, and investment in the Seattle Center Monorail.
- Operate all events at net zero, by purchasing reliable off-sets, including for transportation-related emissions.
- Be the first NHL Team to eliminate single use plastics from the arena by 2024.
- The 'Rainwater to Ice' system will harvest water from the roof and turn it into 'green ice', with zero emissions from ice-making.
- Installation of waterless urinals and ultra-efficient showers.
- Retention of stormwater for landscaping purposes, relevant to the arena's proximity to Puget Sound (cf Bramley Moore Dock's proximity to the Mersey).
- Re-useable bottle water filling stations throughout the arena.

In addition to their own progress towards net zero, the Arena has, also, created a signatories list, to facilitate other large

corporations holding one another accountable for meeting the Climate Pledge. Included amongst the more than thirty corporations signed-up by January, 2021, are UK-based Unilever, Canary Wharf Group and ITV, together with global giants Coca-Cola, Mercedes-Benz, Microsoft, Siemens, Atos and Uber, inter alia.

As Christiana Figueres, former Executive Secretary at the UN, comments, in respect of The Climate Pledge:

“When you understand that the whole economy is actually a web, a value chain that is interweb, then you understand that any company that decarbonizes helps all of the people that are downstream... we need every single company—particularly the large ones—to decarbonize upstream and help those downstream. So, to take the pledge of coming in 10 years early to carbon neutrality, is actually a huge contribution to ambition”.

Tokyo Olympic Games, July – September, 2021

The Japanese Olympic Games should have taken place in the Summer of 2020. Due to the coronavirus pandemic the Games were postponed for 12 months. As we write, in early February, 2021, the organisers say that they are confident that the Olympic Games will go ahead, from July 23rd – August 8th, with the Paralympics from August 24th – September 5th (Bloom, 2021). According to the Japanese authorities, further postponement is not an option. Even so, question-marks remain surrounding the extent of the Olympic activity, the numbers of spectators and elite athletes who will be able to attend and, indeed, whether the Japanese confidence is rhetoric or reality.

Nevertheless, the main showcase stadium for the Olympics has already been, substantially, constructed, with a number of profile features, in terms of environmental sustainability. The claim is that Tokyo, 2020-21 will be the most environmentally friendly Olympics in history, under the slogan “Be Better Together, for the Planet and the People”, although that may not be a difficult target to meet. That said, whilst

some commentators remain sceptical about the claim, there are some impressive firsts in the Tokyo Olympic profile, including the pledge to be carbon neutral, inclusive of travel (TOCOPG, 2020).

Key Goals:

- 1st Olympic Games to implement the UN Guiding Principles on Business and Human Rights
- 99% of procured goods, either reused or recycled, based on rental and leasehold use agreements.
- 100% electricity procured from renewable sources.
- Zero wasting, aiming for full utilisation of resources.
- “Towards” Zero carbon.
- 65% of waste generated during the Games to be reused or recycled, including sorting and collecting food waste, using non-recyclable waste for animal feed and making new plastic items from used plastic bottles.

Key Features:

- All 5000 medals minted from ‘scavenger’ metals, sourced from redundant mobile phones, laptops and games consoles.
- Olympic torches, torchbearer uniforms and podiums all manufactured from recycled plastics
- The Opening and Closing Ceremonies will be scaled-down on ‘splendour’, with the aim of demonstrating a ‘sustainable Games’, to align with the 17 UN SDGs.
- 8% reduction in carbon footprint for the Games, compare to ‘business as usual’ (280,000 tonnes saved on a gross carbon expenditure of 3.01 million tonnes).
- 500 fuel cell electric vehicles introduced as passenger cars, alongside low-impact public transportation.
- Local businesses carbon credit donations, to off-set all carbon emissions produced by the Games.

- Use of hydrogen to fuel Olympic cauldrons, within centres across the Olympic Park and at other venues.
- 22,050 sustainable actions recorded in the 'Nationwide (Japan) Participation Programme'.
- 37,540 trees conserved and 72,000 trees planted at new, permanent venues.
- Greening venues through tree planting, green walls, sustainable drainage systems, boosting biodiversity in marine environments close to the Games venues.
- Use of Good Agricultural Practice (GAP) and Sustainable Sourcing Codes with supply chain stakeholders.

Equally, there is a clear QBLA approach to the Tokyo 2021 Games. The five main sustainability themes mapping to:

- People (Human Rights, Labour and Fair Business Practices)
- Purpose (Involvement, Co-operation and Communications Engagement)
- Planet (Carbon neutrality related to climate change and natural environment-city within nature and biodiversity – nature-in-the-city strategy), and
- Profit (sustainable resource management).

As might be expected from a Japanese perspective - given that the Deming Cycle () of continuous quality improvement (kaizen) was created within Toyota, during the 1960s - the Plan-Do-Study-Act process has been incorporated, as a circular economy model, to audit sustainability progress, in parallel with a QBLA approach. The approach of the Games, in prospect, was summarised by one of the Japanese Paralympian triathletes, Hata Yukako: "Sports and environmental issues are closely connected. Right now I want to prioritise the future". It remains to be seen whether or not the 2021 Games take place and what their sustainability legacy turns out to be.

Forest Green Rovers – the future of football?

At the very opposite end of the sporting spectrum, from the Tokyo 2021 Olympic Park, is a minnow in global impact terms, but with a reach far beyond its own locality. That is *Forest Green Rovers* (FGR), owned by Dale Vince, the Chief Executive of green energy company *Ecotricity*. Their ambition is to 'build the greenest football stadium in the world' (FGR, 2021).

The ethos of FGR and their current venue at The New Lawn is defined as: "Sustainability is central to everything we do at FGR. From solar panels and electric vehicle charging points at The New Lawn, to our vegan matchday menu, we strive to be the greenest football club in the world".

Key features:

- Green energy – the club is powered by 100% green electricity and carbon neutral gas, from Ecotricity (20% is generated by Ecotricity, with the remainder sourced from other green generators in the UK, from Bulkworthy, Devon to Butterstone, Perth and Kinross).
- Organic pitch, with grass grown using recycled water and no pesticides or herbicides.
- Electric mow-bot – the grass is cut with a solar-powered, GPS-directed electric lawnmower
- Rainwater is collected in underground channels beneath the pitch for irrigation recycling.
- Use of electric vehicle charging points, and giving advice on sustainable travel to matches.
- The world's first completely vegan football club, with fully plant-based food prepared for players, staff and fans.
- Zero carbon emissions from electricity and a reduction of 80% emissions from gas usage 2019-20 (resulting in Dale Vince being made a UN Climate Champion, and certified by the UN as the world's first carbon-neutral football club).

- Focus on environmental standards in (the big) three areas of energy, transport and food which account for most of each person's carbon footprint.
- Communicating with fans, staff, players and other stakeholders about how to improve their sustainability.

The communication and action principles of FGR are:

- Maximum environmental gain from minimal environmental impact.
- Continuous, cyclical reduction of environmental impact.
- Where there is an apparent conflict between environment and finance, the environment wins out.
- All strategic and operational decisions are measured according to ethical, social, biodiversity, climate and other sustainability impacts.
- Behavioural change is advocated for and encouraged amongst all staff and across the organisation.

- All stakeholders must provide evidence that they are not engaged in factory farming, animal slaughter, animal testing, armaments, the tobacco industry, nuclear power, fracking (shale gas), genetic modification or any other ethically questionable business.
- All policies and actions are measured against an environmental management system (EMS).

The significance of Forest Green Rovers is that, despite its minute size, when compared with the English Premier Division clubs, it is demonstrating a route map to 360-degree sustainability, from a QBLA perspective. Similar practical cases are, also, being shown, as above, by the plans being drawn up for the Tokyo Olympics, 2021 and the Seattle Climate Pledge Arena. Equally, in the previous phase of sport's sustainable development, leadership was being demonstrated by Sacramento Kings, Atlanta Falcons and the Dutch football club Ajax. In the next section we consider the steps being taken by international (FIFA and UEFA) and national (EPL) football authorities towards placing sustainability at the heart of the beautiful game.



3. SUSTAINABILITY STRATEGIES FROM GLOBAL FOOTBALL AUTHORITIES

As we turn from sport's clubs to the leading role of the football authorities, in championing environmental sustainability, we see that there is considerable variation in the extent to which they have embraced this challenge. Some, such as FIFA, appear to have addressed their position in global sport as a stimulus to taking-on the mantle of global responsibility. Equally, that ethical leadership is less evident within UEFA.

The position of the English Premiership authorities (EPL) lies somewhere in between, with taking responsibility in respect of its own stadia, but being less willing – perhaps because of the independent power of the Clubs, themselves, vis-à-vis the EPL – to advocate for the mandatory implementation of specific sustainability practices. As such it has been left to the individual clubs, as we present, below, to adopt their own positions and practices in respect of environmental actions, to mitigate the climate and biodiversity catastrophes.

FIFA, Sustainability and Qatar, 2022

The FIFA Sustainability Strategy presents a new direction for the world's governing body of football, in advance of the Qatar World Cup, 2022. It builds on previous initiatives such as the Green Goal environmental initiative of the 2006 Germany World Cup, which set specific environmental protection targets (Jenkins, 2012). But, for the first time, FIFA has joined with the organisers of a World Cup event, in this case Qatar 2022 LLC (Q22), and the football events infrastructure services and legacy programme, co-ordinating with the host nation's governmental authority, the Supreme Committee for Delivery & Legacy (SC), to produce a series of sustainability benchmarks, objectives and practices for the World Cup. Equally, the way

in which this strategy has been developed demonstrates a clear QBLA approach.

Each of the elements of a QBLA process can be identified within the document, through the opening comments by Fatma Samoura, the FIFA Secretary General, in her Foreword to the FIFA (2020) Sustainability Strategy Report:

People

“...we pledge to safeguard the rights and welfare of workers engaged on FIFA World Cup 2022™ sites and to promote their rights in projects and supply chains directly linked to the FIFA World Cup™, leaving a legacy of world-class standards and practices for workers in Qatar and internationally. To achieve this, we will continue to build on the excellent work of the SC and its Workers' Welfare Department to protect workers engaged on FIFA World Cup 2022™ sites and use our leverage with our sponsors, licensees and suppliers to seek to prevent and mitigate adverse human rights impacts for their workers”.

Purpose

“We are also committed to delivering an inclusive FIFA World Cup 2022™ tournament experience that is welcoming, safe and accessible to all participants, attendees and communities in Qatar and around the world. This means taking a firm stance against discrimination of any kind, ensuring that safety and security practices at FIFA World Cup 2022™ sites and events are aligned with international human rights standards and respecting and helping to protect the rights of media representatives and human rights advocates in relation to the FIFA World Cup 2022™”.

Planet

“Through this strategy, we seek to align our efforts to advance sustainable development with the UN’s Sustainable Development Goals (SDGs) that aim to protect the planet and ensure that all people enjoy peace and prosperity by 2030. The SDGs were a key input for the strategy’s development and were used to define the initial list of potential material sustainability topics to be addressed as well as inspire the development of our objectives, initiatives and targets”.

Profitability

“Also central to our joint strategy is a commitment to demonstrate accountability in managing sustainability impacts beyond our direct operations. We will do this by using procurement and licensing practices as a tool to promote sustainability outcomes in our direct and indirect supply chains... I also know that delivery of the [SD]goals by 2030 is highly ambitious, and no organisation, institution, government or business can achieve it alone. We need to find new ways of working together to drive the systemic change needed to achieve this vision”.

These effecting outputs, in terms of **profitability**, are, further, emphasised by Sheikh H.E. Hassan Al Thawadi, Q22 Chairman and SC Secretary General, in his Foreword to the Report. He comments that: “we will aim to further catalyse economic growth and diversification in Qatar and the region by linking local businesses to FIFA World Cup 2022™ value chains and innovation opportunities, and facilitating the development of tournament sites as well as their infrastructure and services that enable future events, attract new business ventures and address relevant community needs”.

The FIFA core commitments

The full FIFA/ Q22 Sustainability Report Strategy contains five core commitments, in line with the comments of Fatma Samoura and Sheikh Al Thawadi:

- Develop human capital and safeguard workers’ rights.
- Provide an inclusive tournament experience.
- Catalyse economic development.
- Deliver world-class environmental solutions.

To reinforce the approach to sustainability adopted in this report to Everton-in-the-Community - and by Liverpool Hope Business School - we would reorder these five commitments into a QBLA process, for providing an inclusive tournament **GENE**rative experience and cycle:

Step 1: **Ground** the event in its **People** potential and social solidarity.

Step 2: **Emerge** a **Purposeful** culture of good business, leadership, governance and sustainability.

Step 3: **Navigate** towards **Planet-**conserving technical and process solutions.

Step 4: **Effect Profitability** practices that lead to the next round of sustainable development.

Our approach to sustainability is completely congruent with the elements of the Q22 inclusive tournament commitments. But, we would suggest that it would lead to a more coherent and integral process, if these separate elements are ordered into a dynamic cycle, which can be increasingly refined as the fourfold progression is repeated, in the manner of kaizen and continuous sustainability quality improvement (CSQI), as indicated in Chapter 1.²

UEFA’s Sustainability Commitment

So far as the European football authority, UEFA, is concerned, sustainability is embedded within its corporate social responsibility stakeholder relationships (see UEFA, Football and Social Responsibility pages). As such, there is far less of an

² FIFA have, recently, produced their World Cup Qatar 2022 *First Sustainability Progress Report*. This is available at: [q1sdb17ipsax0ndjqyup.pdf \(fifa.com\)](https://www.fifa.com/q22/sustainability/progress-report).

emphasis placed on sustainability processes. The various stakeholder commitments and relationships appear to be far more piecemeal and discrete than in the FIFA strategy.

UEFAs specific commitments

Nevertheless, the main aspects that UEFA lists are:

- Seeking to ensure that football has a positive impact on society.
- Education for skills development, particularly through its Education Unit programmes.
- Reducing CO2 emissions from its UEFA campus in Nyon, Switzerland.
- Ensuring that 'all materials meet sustainability standards', although these are unspecified.
- Recovery and recycling of paper and stationery plastics.
- Development of staff HR competencies, following recruitment of high-talent staff.
- Anti-match-fixing, anti-doping and diversity and inclusion training.
- Developing medical support for physical and psychological well-being.
- Comprehensive strategy for ensuring integrated safety, security and service at stadia.

UEFA's context of a sustainable society

From this list of discrete policy objectives, it is clear that, whilst UEFA has a commitment to developing sustainability dimensions, these are quite limited in extent. They form a small part of the European Football Association's wider priorities, in terms of addressing issues that are regarded as areas of concern for football. They are less pertinent to addressing football's contribution to wider issues of a sustainable society.

Nevertheless, although the environmental sustainability credentials of UEFA appear less developed than those of FIFA, the European body has sought to account for its

social benefits. FIFA's GROW Programme has developed a Social Return on Investment (SROI) model, to measure football's societal added value (Campelli, 2021). It seeks to quantify both the social and economic impact of football. The SROI accounting model, developed by Dr Tim Crabbe, chief executive of Substance, has been applied to 25 national football associations, since 2017, with the estimate that the 8.6 million registered footballers, within these countries, generate a total of EURO39.5bn in positive economic, social and health benefits.

Some of the most impressive social benefits relate to improvements in health outcomes and the narrowing of inequalities. For example, in Germany, 90% of the health benefits accruing from playing football came from the subjective well-being and positive mental benefits of participation in the game. Even so, whilst these SROI measures are impressive it remains to be seen if FIFA is able to match its accounting for social and governance impacts with those deriving from a complete QBLA cycle approach to sustainability.

The Football Association's FAST programme

In comparison with both UEFA and, to a lesser extent, FIFA, the English FA (Football Association) have a more substantial pedigree in respect of sustainability. The construction of the 'new Wembley Stadium' led, in 2007, to the FA staging Live Earth, an iconic music and entertainment event, aimed at profiling the planetary climate and biodiversity crises. This was early in the public's consciousness of these issues, coming only a year after significant environmental benchmarks, such as The Stern Report (on the impact of climate change on economies: Stern, 2006) and Al Gore's "An Inconvenient Truth" film, tour and book.

Since then, Wembley Stadium has achieved other notable firsts. It was the first sporting venue to receive the Carbon Trust's Triple Standard (2014). ISO 20121 certification was secured, in 2019, for the stadium's event

sustainability management system. The FA's strategy is overseen by FAST, the FA's Sustainability Team, which was shortlisted in the 2019 Business Green 'Sustainability Team of the Year' awards.

The FA's policy for sustainable event's management

In producing its 2019 Sustainable Events strategy the FA has engaged in a wide range of stakeholder consultations. This has led to policy formulation, related to events management, in the following areas:

- Energy and climate action.
- Waste, related to materials, water, consumables and food.
- Integrated transport, for artists, event staff, athletes and fans.
- Community engagement, to provide education in relation to diversity and inclusion.
- Health and safety action and awareness.
- Transparency around principles, practices and communication of the FA and stadium's policies.
- Procurement and supply chain relationships, particularly in relation to plastics and other environmental procurement.
- Employment of staff and suppliers, related to eradicating modern slavery.

Conclusions on stadia and international associations

Overall, there are several main conclusions to draw from this brief survey of some of the world's most impressive stadia, in terms of sustainability practices, and the steps that international associations are making towards improving the QBLA cycles of football. First, it is clear that many new stadia are raising their game, in respect of the challenges of integrating People, Purpose, Planet and Profitability. This has significant implications for the way in which Everton FC should be addressing the construction of its new

stadium at Bramley Moore Dock; building in a range of features that address environmental, social and governance issues of sustainability, from the planning and design stage.

Second, the world's leading football bodies have recognised the significance of their role in delivering on the UN Goals and targets for addressing the climate crisis and other emergencies affecting human populations. They have understood the power of football as a 'game-changer' in respect of social attitudes, values and commitments. For example, the European Union-funded LIFE TACKLE Project (2021) interviewed football fans, coaches and players, between May 2019-January 2020, on environmental responsiveness. This survey found that 70% of fans believed that football clubs should increase their messaging about the importance of environmental issues. Even more strikingly, 78% of football professionals identified that clubs needed to do more (or far more) in improving the behaviour of fans, once inside stadia, related to environmental practices, such as the use of plastic bottles, food consumption and transport to and from matches.

Third, whilst there are a wide range of responses in respect of the broad range of sustainability strategies it is clear that, although not always understood, the ways in which football bodies are thinking about these issues takes a more systemic approach. Although the language of QBLA may not be explicitly used, it is implicit in many of the strategies and statements of clubs and associations. As such, it should be important for Everton to consider how it is performing on a range of metrics related to each aspects of the QBLA cycle. Nevertheless, as we turn to the specifics of our particular research for Everton-in-the Community we recognise that we, ourselves, were dealing with a narrower range of 'green' rather than overall sustainability issues.

4. CONTEXT AND METHODS OF THE CURRENT RESEARCH

As we turn to the specifics of the empirical research carried out for Everton in the Community and Everton FC, we need to, firstly, explain the context and, secondly, the methods of the research. In respect of context, we made the decision to consider sustainability through the more particular lens of environmental sustainability. It would require a far more developed piece of research to examine the full sustainability transformation cycle in respect of Premier League football clubs, in general, and Everton FC, in particular.

That said, certain aspects of the People, Purpose and Profit dimensions have been included in the preceding chapter and surface in what follows. But, these are not systematically addressed, in terms of the spiral of refining sustainability, indicated in the opening chapter. It was necessary to limit the scope of the current piece of research and its reporting framework.

Green vs Sustainable

Whilst in other contexts we would, usually, consider sustainability in terms of QBLA (see Bradley, 2020), the objectives of this research were far narrower. We considered the question of the extent to which Everton, and the other 19 Premier League clubs (from the 2019-20 and 2020-21 seasons), were leading, in-line with, or lagging behind, the 'green cultures' of each of their localities. We recognize that 'green' or environmental and natural capital-related issues are only one, albeit important, facet of the QBLA cycle.

At the same time, we considered it beyond the scope of this, relatively modest, piece of research, to consider the entire sustainability cycle. Furthermore, as it turned-out, some of the understandable difficulties of accessing detailed information from the Club (Everton) and Charity (Everton-in-the-Community)

would have rendered this extremely difficult. Rather, we made the decision, early in the research process, to confine our attention to questions of the relationship between the 'green' behaviour of each of the Premier League clubs and the 'depth of green-ness' of each of the localities in which they are grounded.

But, it is important to recognize the varied usage of the terms 'green' and 'sustainable'. For some, the former is a narrower subset of the latter. Others consider it to be the other way around, in that 'going green' invokes a broader range of issues, to do with social justice, identity politics and embracing liberal cultural values, compared to 'sustainability' which, primarily, considers the planetary impacts of industrial, business and production processes. Whilst this may sound like an issue of semantics, it is important to clarify what is meant by these terms, so far as this report is concerned.

Greening Local Markets

The two researchers behind this research and report co-lead the Greening Markets Research Group, based within Liverpool Hope Business School. Our definition of 'greening markets' is: those localities in which there is an intersection of supply and demand for environmentally sustainable products, good and services, with a significant local engagement in green politics. To this end we have been involved in compiling an extensive database of more than 250,000 data points, on green economic supply and demand, together with the 'supply' of green elected representatives and each local electorate's 'demand' for such, exercised through the ballot box.

As such our model of greening markets has comprised four compound 'latent variables' (see the methodology section, below): green

economy supply; green economy demand; green political supply; green political demand. We have utilized these four latent variables – each comprised of a compound of particular empirical variables – to identify the level of ‘greening’ that is taking place in each of the localities, in which the 20 English Premier League football clubs are located. We explain this in more detail in the methodology section of this report. Its significance here is to point out that we have not addressed – so far as this research is concerned – the sustainability and resilience of these localities, although we are addressing that in other research projects (cf Bradley et al, 2021).

Sustainability in Premier League Football Clubs

Nevertheless, we have tackled aspects of sustainability, in respect of business practices, in this research, in relation to each of the Premier League clubs. Of course, evaluating as complex a range of behaviour, as can be included in any measure of organizational sustainability, requires a very considerable amount of data, if it is to be based on primary research. As such, we made the early decision to rely on secondary data sources.

These were from two surveys, which sought to assess the sustainability ranking of the clubs: one from the sustainable business forum company *Edie*; and the other from a piece of original survey work, conducted for the BBC by the charity *Sport Positive*. Each of these surveys were carried-out in the second half of 2019, a year earlier than the collection of our primary research data, on the greening of local markets, which was collated into our GMRG database in Summer, 2020.

Methods of the current research project

Measuring ‘Greenness’

In order to effectively measure the ‘greenness’ of each Premier League club’s market, we gathered data on 20 different measures (variables) of greenness across 2816 postcode areas, resulting in a dataset

of 56320 data points. The 20 variables are individually listed and described in Table 2 at the end of this report. Each variable is a measure of ‘green’ or environmentally or socially conscious behaviour (or more general measures that strongly correlate with such behaviours) within one of four green market categories.

Those categories reflect: green economic demand, such as energy consumption per capita in the postcode area; green economic supply, such as the number of organic restaurants in the area; green political demand, such as the number of local environmental groups in the area; and green political supply, such as the local council passing a climate emergency action resolution. Data was primarily gathered between May and September 2020 with an additional data gathering and analysis completed in February 2021 after the release of a new 2020 BBC/Sport Positive sustainability ranking report.

Defining Geographic Markets

Premier League clubs have difficult-to-define markets. Any quantitative measure of a geographic market will inevitably include some areas/people uninterested in the sport/club while also missing fans who are in other locations. To minimize this problem but still make our measure of club markets as reasonable as possible, we selected a simple geographic measure that was easy to understand. We use basic postcode areas to define each club’s geographic market.

Using postcode areas makes the data more precisely measurable and allows readers to easily understand the geographic regions we analyze. To define the geographic market for each club we have used the postcode area where the club is physically based as well as the larger postcode ‘letter’ area (i.e. all L postcodes for the Liverpool area). See Table 3 at the end of this report for a list of postcodes for each club.

This measure means that Everton and Liverpool have the same geographic market. Chelsea and Fulham also share the same

geographic market. Other clubs (Manchester City/Manchester United and Arsenal/Tottenham) share the same postcode letter area, but not the same specific postcode area (Everton and Liverpool are both located in L4).

To create each club's market greenness measure, we weight the smaller postcode area (L4 for Everton) as one-third of the market greenness measure and the larger postcode letter area (all L postcodes for Everton) as two-thirds of the measure. See table 4 at the end of this report for a complete list of market greenness results for each club's postcode area, postcode letter, and the weighted measure used for the final results.

Quantifying 'Greenness'

To achieve these measures of greenness, this report utilizes an exploratory factor analysis method to transform our 20 different indicators into 4 distinct measures of market greenness. Factor analysis is a statistical method that reveals underlying correlations between a number of indicator variables. Essentially, it reveals unmeasurable concepts (latent variables) from a number of measurable concepts (the variables and data we gathered in Table 2).

We use it to take our 20 indicators of market greenness and reveal the latent variables of green economic demand, green economic supply, green political demand, and green political supply as theorized in our previous research (Ziniel and Bradley 2018). The indicators produced factors that roughly correlated with these four conceptual components of a market's greenness (although the model fit diagnostics suggested the best fit was with five factors where the economic supply variable was essentially split in two).

The results for these five latent variables were then averaged to produce our measure of market greenness for each postcode area. We then used our postcode definition of each club's geographic market (as described

above) to identify a numerical score for the specific greenness of each club's local market. The ranking of each club's market greenness can be found in Figure 2 in the next chapter.

Comparing Clubs to their Markets

To create the comparison between club greenness and market greenness, we used the findings from two different reports on Premier League club sustainability. These were the BBC/Sport Positive 2020 rankings³ (Skelton & Lockwood, 2019, Lockwood, 2021) and the Edie Premier League Sustainability 2019 rankings⁴. We chose to use a combination of two different measures because they each approached the task of measuring sustainability in a different manner.

While one measure may be better than the other, we have no objective way of knowing which is the better or worse measure. Therefore, using both reduces the possibility of aberrational findings. However, because the BBC/Sport Positive rankings are one year more current than the Edie research, we weighted BBC/Sport Positive as 60% of our final measure and Edie as 40% of our final measure. We normalized the rankings and combined them to produce our measure of club greenness.

Both our own green market rating and the club rating were normalized to make them comparable. The difference between the two measures was used as the distance between club and market greenness. These results can be seen in Figure 3 in the next chapter. A full list of market and club results can be found in Table 4 at the end of the report.

As this research was in progress, BBC/Sport Positive came out with an updated 2020 ranking which improved upon their previous 2019 ranking. We initially conducted our analysis using the 2019 ranking and averaged it with the Edie ranking to produce our club sustainability ranking and our club to market comparison. The results of this outdated analysis are contained for reference in Appendix A.

³ <https://www.bbc.co.uk/sport/football/55790760>

⁴ <https://www.edie.net/news/7/Every-Premier-League-team-ranked--by-sustainability-/>

5. MAIN FINDINGS AND THEIR INTERPRETATION

Understandably, football clubs are concerned to see themselves as high as possible in their league table standings. Even so, in this case, there is an important additional factor to take into consideration, which should modify this concern. The findings of the BBC/ Sport Positive and Edie surveys of Premier League football club positions, within a league table of sustainability, need to be seen, in respect of our research findings, as reflections of the relationship between each club and its local 'greening market'.

Positioning the clubs on a scale of sustainability leadership

As such, we show the extent to which each club is positioned in respect to their locality, along a spectrum from 'green leaders', through those that are 'in-line with' the greening of their local market and, thirdly, those that are 'laggards', behind the local market 'greening'. To understand where every team sits, the next two pages present our primary empirical findings. Figure 2 on the next page shows a full ranking of each Premier League team's geographic market and how that market measures along a green/sustainability scale. The methods for computing these results can be found in

the previous chapter on methods. Among the various Premier League geographic markets, Everton ranks 17th (tied for 17th with Liverpool). Out of 20 clubs, Everton has the 17th most green/sustainability minded market. Essentially, demand for greenness in the Liverpool area is fairly low compared to most other Premier League clubs' markets.

Now that we have a clearer picture of the greenness of Everton's market, Figure 3 on the page after contains a comparison between each club's market and the club's own sustainability record. This is a more advanced analysis than simply looking at the greenness of each club. By comparing each club's greenness ranking to it's market's ranking, Figure 3 reveals which clubs are true green leaders who are ahead of their market and which clubs are green laggards who are behind their market. Figure 3 splits the clubs into 3 groups: 5 green leaders at the top, 10 clubs in the middle who are most like their market, and 5 laggard clubs at the bottom who are the most behind their market. Here Everton ranks 11th, right near the middle. This means that Everton, in terms of sustainability, has matched the green demand of its market quite closely.



#17
-0.70

The top number represents the Green ranking of each team's geographic market: from 1 to 20. Everton and Liverpool are tied at 17 as they have the same geographic market.

The bottom number represents the Green rating of each team's market. Positive values are above average, negative values are below average. A full methodology explaining how green market ratings are computed can be found in the full report.

Fig 2. How Green is each market?



#11
-0.17

The top number represents the relative ranking of each club to its geographic market: from 1 to 20. The top 5 clubs are coloured green, the middle 10 clubs are amber, and the bottom 5 clubs are red.

The bottom number represents a comparison rating of each club's environmental and sustainability practices (as measured by Edie and BBC/Sport Positive) to their market's green demand (as seen on the previous page in Figure 2). Those teams who are ahead of their market have a positive ranking while teams behind their market have a negative ranking. A full explanation of the methodology behind these measures is provided in the methods chapter.

Fig 3. Club to market comparison: Green Leaders or Laggards?

We will come back to interpreting the important findings in these two figures in a moment, but now that we have a better sense of where each team ranks, both in terms of market demand for sustainability and club sustainability leadership, Table 1 below gives

a summary of the sustainability ranking, in relation to its market, for both the 2020-21 (column 1; see Figure 3) and 2019-20 (column 2, see Figure 5 in Appendix A) seasons, and, also, reflected in the two sets of BBC/ Sport Positive survey measures.

Premier League Club	Club to Market Ranking 2020-21	Club to Market Ranking 2019-20	BBC/ Sports Positive Ranking 2020	BBC/ Sports Positive Ranking 2019
Manchester United	1 (-)	1	2= (-1)	1=
Tottenham Hotspur	2 (+2)	4	1 (-)	1=
Liverpool	3 (+2)	5	5 (+4)	4=
Manchester City	4 (-2)	2	3 (-3)	1=
West Bromwich Albion	5	--	6=	--
Arsenal	6 (+3)	9	2= (-1)	1=
Wolverhampton Wanderers	7 (-1)	6	9= (-1)	4=
Chelsea	8 (-)	8	6= (+3)	4=
West Ham United	9 (-6)	3	8 (-7)	2=
Leeds United	10	--	11=	--
EVERTON	11 (-)	11	7 (-2)	3=
Newcastle United	12 (-2)	10	9= (-6)	2=
Fulham	13	--	10	--
Leicester City	14 (-2)	12	11= (+1)	6=
Aston Villa	15 (-8)	7	13 (-12)	3=
Southampton	16 (+3)	19	4 (+9)	6=
Crystal Palace	17 (-1)	16	9= (+7)	7
Sheffield United	18 (-5)	13	11= (-7)	3=
Burnley	19 (-5)	14	12 (-8)	4=
Brighton & Hove Albion	20 (-)	20	2= (+3)	2=

Table 1. Changes to the Club-to-Market and 'simple' sustainability league positions, 2019-20 to 2020-21

Shifts in the sustainability league table

As with all League Tables, clubs go up and down. To show this more vividly, we have colour-coded the shifts over the two years. Only two clubs – Liverpool, close to the top of the sustainability tables, and Southampton, close to the bottom – have improved their sustainability rankings on, both, the 'simple' BBC/ Sport Positive measure and our more complex measure of club-to-market greening comparisons. By contrast, seven clubs have

demonstrated a reduction in relative position in sustainability: Manchester City, which has marginally lost ground, whilst retaining a position close to the top of the table; Wolves and West Ham, in mid-table and four teams in the bottom-half: Newcastle, Aston Villa, Sheffield United and Burnley.

Indeed, it is interesting to note that there are twice as many teams that have reduced their club-to-market sustainability position in the lower half of the table, when compared to the upper half. Generally, these are some of the

less financially wealthy clubs, with some of the richest clubs, such as the two Manchester, Liverpool and the London clubs of Spurs, Arsenal and Chelsea, together with West Ham, in the upper half of the sustainability table. This indicates that those clubs that have more money to spend have taken larger strides, relative to their local 'patch', in greening their 'pitch'.

The first may be last: the relative position of Brighton and Hove Albion

The position of Brighton & Hove Albion is worthy of particular comment, as it demonstrates the contrast between the 'simple' BBC/ Sport Positive measure and our more complex analysis. According to the BBC/ Sport Positive survey Brighton & Hove Albion is almost at the top of the league in terms of sustainability, and has, in actuality, risen three places in the most recent survey, published in January, 2021. But, on our measure of club-to-market greening it is, firmly, rooted at the bottom of the league, for both years. This appears to be a contradictory finding. What this reflects is our more nuanced and cultural understanding of sustainability, which reflects the QBLA approach presented here, when compared to one that 'simply' focuses on environmentally-related measures of sustainability.

Brighton & Hove Albion has made considerable modifications to their stadium, fan offering and energy usage, on measures of greening the 'pitch'. But, nonetheless, given that the Brighton 'patch' and locality has one of the greenest markets in the country, as reflected in our own survey work and in such touchstone factors as electing the UK's only Green Party MP, in Caroline Lucas, it has the lowest club-to-market greening comparison in the entire league. In other words, if Brighton & Hove Albion was to become a sustainable football club, to the extent demanded by its local community, culture and 'patch', it would have to invest far more than the world's wealthiest clubs, such as Manchester United, Ajax and Barcelona.

We consider this to be an important finding from our survey work and statistical analysis. It indicates that a more process-oriented approach to sustainability, particularly one that connects QBLA (People, Purpose, Planet and Profit) to a cultural understanding of greening (see Bradley, 2022, forthcoming), yields a more realistic interpretation of how to enable large corporations, such as Premier League football clubs, to identify their greening requirements, in relation to the local communities and 'patches' in which they are located. Of course, for many corporations, the precise geographical location in which they are physically located, either as head offices or production facilities, is incidental when compared to the product and service markets that they serve. But, for football clubs, the relation between the 'pitch and patch' is crucial. Responding to the cultural needs and economic demands of supporters, within the geographic boundaries of their city regions, should be a paramount concern.

The pivotal position of Everton FC

When we come to the crucial position of Everton FC and, especially, the role of Everton-in-the-Community - as one of the most important and ground-breaking institutions for fostering that pitch-to-patch relationship, as a vital sign of The Peoples' Club - the sustainability position of the club-to-market comparator is of paramount significance. As reflected in Table 1, Everton is one of only four clubs that has remained as a non-mover in relative terms, in our league table of club-to-market comparisons. It has retained its exact position as the mid-table club, eleventh out of twenty, being the leading club in the bottom half of the sustainability league.

Nevertheless, the significance of this, in terms of sustainability and local culture is shown in Figures 2 and 3 (for 2020-21), in the main report, above, and Figures 4 and 5 (for 2019-20), in Appendix A. As mentioned previously, we have divided the club-to-market comparisons into three categories. These are, firstly, those clubs that are 'leading' their local communities and cultures in terms

of sustainability. Secondly, those clubs that are 'in-line' with their localities, in respect of greening markets. Thirdly, those clubs that are 'lagging behind' their localities, in terms of enhancing their sustainability offering.

Traffic lighting the shifts up and down the sustainability league table

In the Figures, we have traffic-lighted these three measures of leading (green), in-line-with (amber) and lagging-behind (red). As indicated above, the 'laggards' are most reflected by the position of Brighton & Hove Albion, which, whilst engaging in significant sustainability improvements, according to the BBC/ Sport Positive survey, lags way behind its local culture, in terms of its greening market activity, values and aspirations.

Also, included in the sustainability 'laggards' are some of the more financially and, in football success terms, challenged clubs, such as Burnley, Crystal Palace, Sheffield United and Southampton. Once again, the south coast club, of Southampton, is making significant improvements in its sustainability offering, up 9 places, to fourth, in the BBC/ Sport Positive survey (see Table 1). But, as with Brighton, some of the greenest markets in the UK occur along the belt of the south of England. Indeed, if Bristol City were a Premier Division club it would, probably lag even further behind its locality than either 'the Seagulls' or 'the Saints'.

At the other end of the cultural sustainability league table are some of the richest clubs, such as the two Manchester clubs, Spurs and Liverpool. Most intriguing amongst these 'leading green' clubs is West Bromwich Albion, from the West Midlands. This is neither a wealthy nor a relatively successful club, in footballing terms, although it won promotion from the Championship in 2020. But, in comparison to its locality, to the north-west of Birmingham - on the edge of the so-called 'Black Country', reflecting its heavy industry and industrial polluting heritage, from the early decades of the Industrial Revolution through much of the 20th century – it is a

leading example of a business that has placed sustainability as one of its primary goals.

Everton FC: the Premiership club most aligned with its local community

In the middle of Figure 3 and Table 1, are those clubs that are most 'in-line' with their local communities. Crucially, alongside the likes of Arsenal, at the leading edge, and Aston Villa, just ahead of the 'laggards', is Everton. Once again, The People's Club is exactly in the centre of the Table. It can be said to be most in-line out all the clubs in the Premier League, in terms of the fit between its sustainability progress and the nature of the greening market in its immediate locality (Liverpool 4, postal district) and its city of Liverpool. It can be argued that this represents something of an 'own goal', given the lowly position of Liverpool, as a greening market city, at seventeenth out of twenty (see Figure 2; ranked 18th= on the comparisons for 2019-20, in Figure 4). Even so, in cultural and local identity terms this is a significant success story.

The implications of alignment for community leadership

Indeed, this can be recognized as clear evidence of the power of Everton-in-the-Community. The Toffees are closely aligned with their local culture and represent the position of their locality in sustainability terms. Undoubtedly, this is not a great place to be in, if the measure of success is, simply, the ability of the football club to demonstrate its sustainability credentials. Nevertheless, it signifies that Everton, whilst starting from a low base, currently, has the social and cultural capacity to lead its community, local 'patch' and culture in a more sustainable direction, moving forward.

Arguably, clubs like Man United, Man City, Spurs and Liverpool are out-of-step with their local communities. This is, most vividly,

the case, in respect of Liverpool, that has seen a marked increase in, both, its 'simple' sustainability and club-to-market rankings (Table 1) in recent years. But, given that, uncharacteristically, for two Premier League clubs, Liverpool and Everton share the same postcode and city localities, it seems that The Reds are less aligned with their community than The Toffees.

Liverpool may be attempting to lead the way in sustainability terms. Alternatively, Everton displays the greater capacity to take its local community with it. It is on this basis, in the light of the prospective stadium move to Bramley Moore Dock - and the evident surge in footballing fortunes of Everton, during the 2020-21 season - that we turn to our recommendations for The People's Club, as an aligned cultural leader, to enable an, equally, significant surge in its activities on sustainability.

Recommendations for leading the community in sustainability

From the evidence (Figure 3) and the preceding analysis, it is possible to argue that Everton and Leeds United are the two

most culturally aligned football clubs in the Premier League. But, given that Leeds United were only promoted in the current season, Everton's sustained continuity in the top-flight of English football suggests that they are the single most culturally sustainable club in the Premiership. Whilst our evidence can't prove this, we would suggest that there is a high degree of probability that this cultural sustainability stems from the long history of Everton's work in its locality and, most specifically, in recent decades, is the result of its singular local engagement, through Everton-in-the-Community.

This represents an important platform on which to build a strategy for, both, enhancing its environmental sustainability offering, as a club, and, using its powerful influencer status, through EitC, as a means for improving the city's greening markets. Equally, the prospect of a new stadium, at Bramley Moore Dock, offers a near perfect opportunity to demonstrate the club's sustainability aspirations and to, quite literally, take its supporters and the city with it, on its journey from Goodison Park and 'the Blue Mile'.



6. RECOMMENDATIONS FOR EVERTON FC'S ENHANCED ENVIRONMENTAL SUSTAINABILITY

Based on the preceding evidence of Everton's strength of alignment with its local community and the activities of global and national sports and football clubs, in respect of environmental sustainability, we suggest the following recommendations for the football club and the charity. What follows represents a recognition of, both, how Everton has made progress in sustainability, partly through the development of its Everton for Change brand.

Equally, we take examples of new practices, from the range of schemes commented on in the earlier chapters, and apply them to Everton, in the light of recent sustainability developments in the Liverpool city-region. Whilst these reflect the broad variety of initiatives indicated above, we recognize that it would be beyond the capacity of any one club, such as Everton, to implement every possibility. Nevertheless, it is important to indicate the range of options, from which the club can select, as it proceeds towards the new stadium at Bramley Moore Dock.

Enhanced sustainability at Everton FC, 2019-2021

Since the previous BBC/ Sport Positive survey of the Premier League football clubs (ibid., 2019) - as part of its "Everton for Change" (2019) initiative - Everton FC have made considerable strides forward in their environmental sustainability. In particular, these have been in the areas of:

Sustainable Transport:

The 2020-21 survey includes the following notes:

- *AV equipment, Microsoft Teams and Skype available at all sites to reduce unnecessary travel for meetings*

- *The Club's Bike 2 Work scheme for staff helps minimise the use of fossil fuels and provides a pollution-free mode of transport*
- *Advocating for fans to travel via public or active transport has been included in the plans for the proposed Bramley-Moore Stadium (see Everton F.C. – Sport Positive Summit 2021).*

Waste Management:

In addition to the activities included in the previous year's survey:

- *Between 97% and 98% of waste diverted from landfill*
- *Club stationary has been redesigned so it can be used for multiple seasons without wastage*
- *At Goodison Park, all contaminated waste is collected and incinerated*
- *At USM Finch Farm (training ground), for any large tree pruning around site, they chip the branches themselves and use the chippings in the beds*
- *Use of organic fertilisers*

Plant-based and low carbon food:

This has been a significant area of sustainable development:

- *Catering partner Sodexo offers sustainably sourced vegan food options in the stadium lounges or at functions if requested and vegan options are provided on the concourse*
- *Staff can access vegan options across all sites*
- *Everton Free School and Everton in the Community offer sustainably-produced and vegan options.*

Perhaps, one area that Everton could improve on, in relation to plant-based and sustainable food, compared to some of the other top clubs, is in developing a local sourcing and supply chain strategy.

Communications and change management

Additionally, since the 2021 BBC/ Sport Positive survey was published, a further development was made in the area of **Communication and Engagement**, with the *Everton for Change: protecting our planet* branding, initiatives and statements of intention being accessible from the main club website navigation. On this basis, Everton has, clearly, developed its environmental sustainability in a significant way, over the previous year. But, so have most of the other clubs in the Premiership, as the pace and momentum for sustainability change has accelerated. As such, over the past year, Everton has marginally reduced its sustainability league position, compared to the other clubs, whilst retaining exactly the same position in the centre of alignment club-to-market, year on year (Table 1).

Twelve Recommendations for alignment with the Premiership's sustainability leaders

Looking at the sustainability areas that Everton has made less progress in, recommendations for enhancing its sustainability offering further can be made in respect of considering the steps being taken by the top four clubs – Spurs, Arsenal, Brighton & Hove Albion and Man Utd - as ranked in the latest BBC/ Sport Positive survey. Twelve top recommendations are:

Clean energy:

- 100% certified renewable energy across all club operations and facilities, with REGO-backed electricity and carbon neutral gas provided to the stadium (Spurs, Arsenal, Brighton), with a policy to source 100%

certified green energy across all facilities (Man Utd).

- Solar panels on training ground rooftop. Full offsetting of carbon emissions in relation to gas (Brighton).

Energy efficiency:

- Building management system for energy efficiency implemented across all sites (Spurs and Brighton). LED lighting (including floodlights) and high-efficiency services systems in place to reduce energy use (Spurs).
- ESOS (Energy Savings Opportunity Scheme) and SECR (Streamlined Energy and Carbon Reporting) compliant energy metering and management across all sites, with a commitment to implementing, documenting and maintaining an Environmental Management System (EMS) (Arsenal).
- Stadium and training facilities are certified as BREEAM (Building Research Establishment Environmental Assessment Method); certified at the 'very good' level (Brighton).
- MUFC carbon-reduction programme has achieved a 31% reduction in energy use, since 2008. Carbon Trust standard certification has been achieved every year since 2015 (Man Utd).

Single use plastic reduction or removal:

- Reduction strategy across all properties; all plastic packaging for recyclable materials cutlery has been eliminated (Spurs; Everton have, also, moved to recyclable materials cutlery and removed some plastic packaging, such as for condiments).
- Cup deposit scheme and 90% reduction in plastic bottle use at training grounds (Arsenal). Re-useable cups introduced (Man Utd).
- Single use plastics policy in place, led by Sodexo. Plastic-free complimentary sanitary products to fans and female players (Brighton).

Water efficiency:

- Comprehensive water efficiency strategy in place (Spurs, Arsenal, Brighton) or reviewed on a quarterly basis by the Senior Management Team (Man Utd).
- Sedum 'green roof' to capture and re-harvest water at training facilities (Spurs).
- Pitch water recycling system (Arsenal) and use in pitch irrigation systems at the main ground (Arsenal, Man Utd) or at training grounds (Brighton).

Sustainability opportunities through the stadium move to Bramley Moore Dock

Finally, in relation to some of the top global stadia sustainability features included above, Everton have a significant opportunity to take a leadership role, within the Merseyside city-region, for demonstrating the practical implementation of environmentally sustainable solutions. It will be important for the Club and external stakeholders to introduce a feasibility plan and third-party monitoring framework. This can ensure that the Club adheres to national, regional and its own local commitments to sustainability, particularly in line with the North West Region's ambition to become the world's first multi-city-region to meet Net Zero 2040 (Manchester Net Zero, 2038).

Towards a Comprehensive Sustainable Development Plan (CSDP)

Some of the main sustainable policy, stadium construction and other features to be considered - in addition to those included in the survey of Premiership clubs - to implement a CSDP for the new Bramley Moore Dock stadium, may include many or most of the 40 steps itemised below. Of course, it must be recognised that these are, simply, headline points.

The precise implementation of such a forty-step CSDP, for Bramley Moore Dock, taking the full QBLA (People, Purpose, Planet and

Profit) process into account, requires a far more detailed period of consultation and reporting. Nevertheless, all of the points included below are in operation at sports venues and facilities around the world, as evidenced in the preceding sections of this report.

Sustainability Policy related to Clean Energy and Emissions Trading

- Commitment to Net Zero 2040, on carbon emissions, in line with The Road to COP26 strategy (launched February 22nd, 2021), outlined by Metro-Mayor Steve Rotherham and the LCR Combined Authority and the Climate Pledge (GMLEP, 2021).
- Framework for regular reporting on progress and the credible off-setting of current carbon emissions, to neutralize their impact (on the journey to Net Zero 2040).
- Policy commitment to 100% green electricity and carbon neutral gas.
- Implement certification processes to ensure adherence to framework and policy commitments e.g. LEED certification (aiming for platinum or gold levels) and *International Living Futures Institute* process.
- Commitment to place sustainability, environmental and natural capital benefits ahead of financial benefits, whilst working towards QBLA processes that generate enhanced financial returns through integrated sustainability.
- All strategic and operational decisions are measured, using state of the art EMS accountability systems and according to QBLA principles and other sustainability impacts.
- Behavioural change is advocated for and encouraged amongst all staff and across the organisation.
- Institute a fully integrated transport plan, including subsidized transportation, electric vehicle charging stations, and investment in tram or light railway construction, together with *Mersey Travel*.

- Pledge to operate all current events at net zero, by purchasing reliable off-sets and donations of carbon credits to local business, including for transportation-related emissions.
- Policy to transition towards 99% of procured goods, to be either reused or recycled, based on rental and leasehold use agreements.
- Policy to transition towards zero waste (starting from a baseline of 65%) full utilisation, recycling, repurposing and circularity of all materials, including sorting and collecting food waste, using non-recyclable waste for animal feed and making new plastic items from used plastic bottles.
- Plan to eliminate all single-use plastics from the stadium by 2025 and implement a comprehensive sustainable packaging regime, in association with the new Wirral and Unilever Natural Packaging Innovation Centre.
- Aim to implement a tidal energy conversion and generation plant, in line with the Combined Authority's plans for the Mersey Barrage tidal energy scheme, capitalizing on the stadium's proximity to the River Mersey and Liverpool Bay.
- Policy for regularly communicating with fans, staff, players and other stakeholders about how to improve their sustainability, as part of the *Everton for Change* strategy.
- Plan to enhance marine biodiversity in the Mersey and Liverpool Bay, adjacent to and in the vicinity of the stadium.

Stadium structure

- Retractable roof with solar-panel generation and LED lighting.
- Utilise underground construction of facilities, to reduce embodied energy use in new-build construction.
- Reusable bottled water filling stations throughout the stadium.

Football pitch and immediate environment

- Pitch-side sustainable heating and cooling system, using ambient energy generation and natural air flow, with monitoring and stabilisation of nutrients, light and water.
- Installation of giant rainwater cistern, storm vault and cooling tower, for rainwater capture, re-use and pitch irrigation, including capture in below pitch underground channels.
- Organic pitch, with grass grown using recycled water and no pesticides or herbicides.
- Electric mow-bot – the grass is cut with a solar-powered, GPS-directed electric lawn-mowers, for enhanced efficiency and control.

Stadium vicinity and connecting to the Blue Mile

- Planting and design of green 'parkland' spaces, for recreation and informal sports activity in the vicinity and, also, within the Blue Mile neighbourhood.
- Tree planting programme, as part of the Mersey Forest and Nature-in-the-City initiatives.
- On-site and local low energy materials construction of wind turbines and mini wind-farms.
- Recycling unit for electric batteries from e.g. JLR, at Speke, to provide back-up power source.

Transport links to the stadium

- Discounted or free ticketing for use of public transport.
- Electric car and vehicular charge points, using renewably sourced energy, from generation.
- Communications strategy for advice on sustainable travel to matches and Club events.

Sustainable circular food economy and cycle

- Grants for establishment of local food (farm-to-fork) traceability and market retailing outlets, focusing on the reuse of food waste and the circular food economy, on the models of *Alchemical Kitchen* (Lucy Antal) and *Homebaked* (at Anfield), at both Bramley Moore Dock and within the Blue Mile.
- 'Edible landscaping' and reintroduction of city-farm small herd of rare breed cattle, for sourcing to local butcheries, alongside allotment and vegetable growing spaces.
- 'Green-cycle' menus and recipes to be based on the availability of fresh, seasonal ingredients.
- Stakeholder and supplier relationships with farmers and growers to be based on a Slow Food ethos, GAP and Sustainable Sourcing Code, through which the Club works with suppliers to plan scalable and fair contracts.
- All edible leftover food is donated to local food banks, charities or through 'kerbside' collections, for local redistribution, via e.g. *Olio*.
- Other food waste is used within an on-site biodigester, to reduce green waste and remote composting, whilst leftover frying oil (from sustainable oil sources) is converted to biodiesel.
- Installation of food education centres, for children, young people and families, at both Bramley Moore and through the EitC education centre.
- Active recruitment of leaders and Board members who will pursue a food sustainability agenda and mission, including local experts in the city-region.

Miscellaneous sustainability solutions

- All trophies, cups, prizes and medallions to be minted from 'scavenger' metals, sourced from redundant mobile phones, laptops and games consoles.

- All professional, training and junior kit to be manufactured from recycled and recyclable textiles, together with uniforms and match furnishings to be manufactured from recycled plastics and other materials.
- Consider installing a Mersey Aquarium and marine ecology education and heritage centre as part of the stadium complex.

Final comments and conclusions

The report outlined here has covered four main areas of concern. These are:

- A brief introduction to the theme of sustainability as a process rather than an output.
- A survey of some of the main sustainability policies, strategic and operations management practices being, currently, implement in the world's of football and sports stadia across the globe.
- An analysis of data, derived from our own Greening Markets database and the recent BBC/ Sport Positive surveys of sustainability within the English Premiership, to indicate and account for Everton FC's position and movement within sustainability league tables, over the past two seasons.
- The present an outline of how Everton can improve on its sustainability position and implement a 40 step Comprehensive Sustainable Development Plan, as a central plank of its move to a new stadium at Bramley Moore Dock.

The chief findings of our own survey work are two-fold:

- Everton FC is one of, if not, the most aligned football clubs in the English Premier League, in terms of its connection to its local community and demographic, in respect of the greening of local markets. Our conclusion is that this must be in large measure to do with the lengthy history of community engagement that *The People's Club* has engaged in through *Everton in the Community*.

- Equally, given this impressive alignment, it has the capacity to act as a pivotal and leading stakeholder, to enable the communities of Liverpool and Merseyside to become greener and more environmentally sustainable. There are many impressive initiatives around the city-region for greening the city, locality and its neighbourhoods. At the same time, Liverpool city and its environs, but it lags behind many other city-regions, across the country, in terms of greening markets. In consequence, the considerable power of the Club to capitalise on its aligned position, in respect of its local community, on these issues, gives it an impressive platform on which to build a leadership position on policies, education and the operation of sustainability processes.

In recent weeks the Combined Authority has committed the city-region to become a world leader on 'the road to Net Zero'. As part of the North West of England, which has instituted a plan to become the world's first

Net Zero economic region, Everton has a vital part to play in leadership across Merseyside, on sustainability. Furthermore, the imminence of the planned move of the football club to a new stadium, on the banks of the Mersey, in North Liverpool, at Bramley Moore Dock, offers a perfect opportunity to put this leadership into practice.

To do so will need the development of a Comprehensive Sustainable Development Plan. A forty-step outline plan has been presented above. Of course, a far more detailed and rigorous consultation and operations implementation process will be required in order to bring such a plan to the point where it can become reality. It remains to be seen whether or not Everton is willing and able to step into the leadership boots that it has already fashioned and become the world-leading sustainable football club that it aspires towards. Only time will tell.



REFERENCES

- Bloom, B (2021) [Tokyo Olympics 2020: Is it still going ahead in 2021, will there be fans and can they cheer? (telegraph.co.uk)] *The Daily Telegraph Online*. 6 March.
- Bradley, T (2019) *Towards an Integral Arts Communitarity: innovation in the culture-economy nexus of the Liverpool city-region, using the Biblical Quaternity Archetype model*. Unpublished doctoral thesis. Johannesburg: Da Vinci Institute.
- Bradley, T (2020) *Course Workbook in Business Sustainability*. Unpublished. Liverpool: Liverpool Hope Business School.
- Bradley, T, Malki, I, Ghalib, A and Ziniel, C (2021, forthcoming) Mapping mutualism: the British geography of reciprocal capital formation (for social quality) in response to the Covid-19 pandemic. *International Journal of Social Quality*, 12, 1. November.
- Bradley, T (2022, forthcoming) *Business Sustainability: an Integral Perspective*. Cheltenham: Edward Elgar Publishing.
- Brundtland, G H/ United Nations (1990) *Our Common Future: the world commission on environment and development*. Oxford: University Paperbacks.
- Caldararo, N (2014) Anthropology, Sustainability and Inequality. *Anthropology*, Editorial, 2, 2, 1-2. DOI: 10.4172/2332-0915.1000e119.
- Campelli, M (2021) [Quantifying the economic and social impact of football – Sustainability Report]. 28 January.
- Caradonna, J L (2014) *Sustainability: a history*. New York: Oxford University Press.
- Cascadia Sports Systems (2019) [Sports and Environment: Green Initiatives in Stadiums | Cascadia Sport Systems Inc].
- Chisnall, P (2020) The Green Horizon. *UK Finance blogpost*. [Available at: The Green Horizon | UK Finance]. 13 November.
- Climate Pledge Arena (2021) [SUSTAINABILITY — CLIMATE PLEDGE ARENA]. Seattle.
- Deming W E (1986) *Out of the Crisis*. Cambridge, MA.: Massachusetts Institute of Technology.
- Drewell, M and Larsson, B (2017) *The Rise of the Meaningful Economy: a megatrend where meaning is a new currency*. Stockholm: ForeSight Press.
- Edie (2019) [Every Premier League team ranked (by sustainability) (edie.net)]. 8 August.
- Elkington, J (1997) *Cannibals with Forks: the triple bottom line of 21st century business*. London: Capstone.
- Everton F C (2019) [Everton For Change | Everton Football Club (evertonfc.com)].
- FA, The (2019) *Driving Change with the FA Sustainability Team (FAST)*. [Sustainability | What we do | The Football Association (thefa.com)].
- Failla, N (2014) Over Three Thousand Years of Environmental Sustainability in Ancient Egypt. *Colorado State University*. Anthropology 515.
- FIFA World Cup Qatar 2022 (2020) [fifa-world-cup-qatar-2022tm-sustainability-strategy.pdf].
- Forest Green Rovers (2021) [Eco Park | WE ARE FGR].
- Gerstenfeld, M (2002) *Jewish Environmental Perspectives*. Jerusalem Centre for Public Affairs, Paper 3. January/ Tevet 5762.
- GMLEP (2021) [Green growth ambitions shared at North West Net Zero (gmlep.com)]. 23 February.
- Golden1 Centre (2021) [Sustainability | Golden 1 Center]. Sacramento.
- Gratani, M et al (2016) Indigenous Environmental Values as Human Values. *Cogent Social Sciences*, 2:1, 1185811, DOI: 10.1080/23311886.2016.1185811.
- Grober, U (2012) *Sustainability: a cultural history*. Dartington: Green Books.
- I Amsterdam (2019) [Johan Crujff ArenA is bringing sustainability to sports, entertainment and major events | I amsterdam].
- International Living Future Institute (2021) [Mission + Impact | Living-Future.org (living-future.org)].

- Jenkins, H (2012) The Environmental Impacts of Sport: the case of football. *Cardiff University case studies in Human Geography: social geography and social inclusion*. Cardiff: Department of Geography.
- King, D (2013) Why the word 'sustainability' should be banned. *The Guardian Online*. [Available at: www.theguardian.com/environment/blog/2013/aug/29/meaningless-word-sustainability-banned]. 29 August.
- Lessem, R and Schieffer, A (2010) *Integral Economics: releasing the economic genius of your society*. Abingdon: Routledge.
- Life Tackle (2021) [LIFE TACKLE]. European Union.
- Lockwood, D (2021) [How green are Premier League clubs? Tottenham top sustainability table - BBC Sport]. 25 January.
- Magni, G (2017) Indigenous knowledge and implications for the sustainable development agenda. *European J of Education Research, Development and Policy*. Special Issue: Education for People, Prosperity and Planet – can we meet the sustainability challenges, 52, 4, 437-47. September.
- Masaaki, I (1986) *Kaizen: the key to Japanese competitive success*. New York: McGraw-Hill Inc.
- Mayer, C (2018) *Prosperity: better business makes the common good*. Oxford: Oxford University Press.
- MBStadium (2021) [Sustainability - Mercedes Benz Stadium]. Atlanta.
- McKibben, B (1996) Buzzless buzzword. *New York Times*. 10 April.
- Meadows, D H, Meadows, D I, Randers, J and Behrens, W III (1972) *The Limits to Growth: a report for the Club of Rome's project on the predicament of mankind*. San Francisco: Earth Island.
- Power Technology (2014) [Available at: Team green - the world's most environmentally friendly sports stadiums (power-technology.com)].
- Roach C M (2003) *Mother/ Nature: popular culture and environmental ethics*. Bloomington: Indiana University Press.
- Schumacher, E.F. 1973. *Small Is Beautiful: Economics As If People Mattered*. Harper and Row Publishers, Inc., New York, New York.
- Shewart, W A (1931/ 1980) *Economic Control of Quality of Manufactured Product*. New York: D van Nostrand Co. Inc.
- Sims, R R (1983) Kolb's experiential learning theory: a framework for assessing person-job interaction, *Academy of Management Review*, 8, 3, 501-9.
- Skelton, J and Lockwood, D (2019) [How green are Premier League clubs? - BBC Sport]. 13 November.
- Sport Positive Summit (2021) *Everton FC*. [Available at: <https://www.sportpositivesummit.com/epl-sustainability-table-evertonfc/>].
- Stern, N (2006) *The Economics of Climate Change: the Stern Review*. London: HM Treasury.
- Strohle, J C et al (2019) How to Measure Performance in a Purposeful Company. *Future of the Corporation Working Paper*. London: British Academy.
- Tennant, G (2001) *Six Sigma: SQC and TQM in Manufacturing and Services*. Aldershot: Gower Publishing.
- TOCOPG (2020) [Tokyo 2020 Olympic Games - Homepage]. Tokyo.
- UEFA [Football and Social Responsibility | Inside UEFA | UEFA.com].
- Usher, M D (2020) *Plato's Pigs and other Ruminations: ancient guides to living with nature*. New York: Cambridge University Press.
- White, L Jr (1967) The Historical Roots of our Ecologic Crisis. *Science*, 155, 3767, 1203-07.
- Ying, L et al (2015) Sustainability from a Chine cultural perspective: the implications of harmonious development in environmental management. *J of Environment, Development and Sustainability*, 18, 1, 679-96.
- Zhou, N (2019) [Oxford Dictionaries declares 'climate emergency' the word of 2019 | Reference and languages books | The Guardian]. The Guardian Online. 21 November.

LATENT VARIABLES	MEASURABLE VARIABLES	DESCRIPTION
Green Economic Supply	Ethical Junction	Count of Ethical Junction businesses.
	Green Achiever	The number of Green Achiever businesses.
	Organic shops, markets, bakeries	The number of Organic shops, markets, bakeries & specialists.
	Organic restaurants, cafes & pubs	The number of Organic restaurants, cafes & pubs listed.
	Organic farms	The number of Organic Farms.
	Happy Cow vegan restaurants	The number of Happy Cow vegan restaurants.
Green Economic Demand	Energy Consumption Per Capita	Per capita energy consumption - combined gas and electricity.
	Travel	ONS data, average distance travelled to work in kilometres.
	Higher Degree	Number of people with higher education degrees.
Green Political Supply	Local Authority resolution	Local Authority action resolution passed on Climate Emergency.
	Council Percentage	Percentage of the council that is third party.
Green Political Demand	Transition Town Projects	Number of transition town projects going.
	Fairtrade Town 2017	If the district has attained Fairtrade Town/Area status 2017 data.
	Transition Town local groups	The number of Transition Town local groups in the area.
	Extinction Rebellion local groups	The number of Extinction Rebellion local groups in the area.
	Weekly Enviro Strike number	The number of weekly, regular School Enviro Strikes in the area.
	Covid-19 Mutual Aid Groups	The number of Covid-19 mutual aid groups (early).
	Greenpeace local groups	The number of Greenpeace local groups in the area.
	Friends of the Earth local groups	The number of Friends of the Earth local groups in the area.
Royal Soc for the Protection of Birds	The number of RSPB local groups in the area.	

TABLE 2. Greening Markets variables incorporated in the latent variables.

Club	Club Location	Postcode Area	Postcode Letter
Arsenal	N7 7AJ	N7	N
Aston Villa	B6 6HE	B6	B
Brighton & Hove Albion	BN1 9BL	BN1	BN
Burnley	BB10 4BX	BB10	BB
Chelsea	SW6 1HS	SW6	SW
Crystal Palace	SE25 6PU	SE25	SE
Everton	L4 4EL	L4	L
Fulham	SW6 6HH	SW6	SW
Leeds United	LS11 0ES	LS11	LS
Leicester City	LE2 7FL	LE2	LE
Liverpool	L4 0TH	L4	L
Manchester City	M11 3FF	M11	M
Manchester Utd	M16 0RA	M16	M
Newcastle Utd	NE1 4ST	NE1	NE
Sheffield Utd	S2 4SU	S2	S
Southampton	SO14 5FP	SO14	SO
Tottenham Hotspur	N17 0BX	N17	N
West Brom	B71 4LF	B71	B
West Ham Utd	E20 2ST	E20	E
Wolverhampton	WV1 4QR	WV1	WV

TABLE 3. Postcode locations of English Premier League football clubs.

CLUB	Market area: Postcode area (ie L4) - smaller area		Market area: Postcode letter (ie all L postcodes) - larger area		Market area: weighting of one-third smaller area (L4) and two-thirds larger area (L)*		Standardized results for Club and Market Greeness**		Club to Market Comparison results ****	
	5 Factor Average	Ranking	5 Factor Average	Ranking	5 Factor Average	Ranking	Club Green Scores ***	Market Green Scores	Club to Market Difference Rating	Difference Ranking
Arsenal	3.465296609	3	0.230298818	9 tie	1.308631415	3	1.481464597	0.745917627	0.74	6
Aston Villa	-0.344944969	9	-0.716913815	16	-0.5929242	15	-1.213032169	-0.572389719	-0.64	15
Brighton & Hove Albion	12.97831518	1	1.671816345	1	5.440649288	1	1.010787266	3.610556176	-2.6	20
Burnley	-0.517526227	12	-0.706228543	15	-0.643327771	16	-1.603161337	-0.607333423	-1	19
Chelsea	-0.392127946	10 tie	0.564482018	3 tie	0.24561203	6 tie	0.449052071	0.008949298	0.44	8
Crystal Palace	-0.575769174	13	0.077078722	11	-0.140537243	12	-1.045630023	-0.258759634	-0.79	17
Everton	-0.582588907	14 tie	-0.753506805	18 tie	-0.696534173	17 tie	-0.809240388	-0.64422027	-0.17	11
Fulham	-0.392127946	11 tie	0.564482018	3 tie	0.24561203	6 tie	-0.537831522	0.008949298	-0.55	13
Leeds United	-0.777705491	16	-0.447570653	12	-0.557615599	14	-0.696825907	-0.54791103	-0.15	10
Leicester City	0.832255298	7	-0.614615087	13	-0.132324958	11	-0.892941461	-0.253066235	-0.64	14
Liverpool	-0.582588907	15 tie	-0.753506805	18 tie	-0.696534173	17 tie	0.612250336	-0.64422027	1.26	3
Manchester City	1.246498107	6	0.265508521	7 tie	0.59250505	5	1.479362656	0.24944272	1.23	4
Manchester United	-1.130086008	18	0.265508521	7 tie	-0.199689655	13	1.559910818	-0.299768721	1.86	1
Newcastle United	2.044286707	4	0.496866686	5	1.012686693	4	0.052617081	0.540745558	-0.49	12
Sheffield United	1.359089832	5	-0.621919068	14	0.038417232	9	-1.049833904	-0.13469437	-0.92	18
Southampton	3.530924635	2	0.762659273	2	1.685414394	2	0.30056739	1.007133111	-0.71	16
Tottenham Hotspur	0.053890394	8	0.230298818	9 tie	0.17149601	8	1.326674094	-0.042433734	1.37	2
West Brom	-2.258771432	20	-0.716913815	17	-1.230866354	20	-0.06084837	-1.014661205	0.95	5
West Ham United	-0.957256327	17	0.387100459	6	-0.06101847	10	0.133165243	-0.20363099	0.34	9
Wolverhampton	-1.16196642	19	-1.122393168	20	-1.135584252	19	-0.496506471	-0.948604186	0.45	7

* The values found in these two columns make up the "How Green is each market?" report page.

** Normalizing data allows data measured using different ranges or distributions to be mathematically comparable. We subtract the mean of the variable from each data point (to set the new mean to zero) and then divide all data points by the standard deviation of the variable.

*** Club Green Scores were pulled from the BBC/Sport Positive and Edie Club sustainability rankings. Both rankings were normalized. They were then weighted, combined (BBC 60%, Edie 40%), and normalized again to make a measure comparable to our Market Greeness Scores.

**** The values found in these two columns make up the "Club to market comparison: Green Leaders or Green Laggards" report page.

TABLE 4. DATA DESCRIPTION TABLE (2020-21): Data Analysis.



#18
-0.70

The top number represents the Green ranking of each team's geographic market: from 1 to 20. Everton and Liverpool are tied at 18 as they have the same geographic market.

The bottom number represents the Green rating of each team's market. Positive values are above average, negative values are below average. A full methodology explaining how green market ratings are computed can be found in the full report.

APPENDIX A 1 (previous 2019/2020 analysis)

Figure 4. How Green is each market? (2019/2020)



#11
0.29

The top number represents the relative ranking of each club to its geographic market: from 1 to 20. The top 5 clubs are coloured green, the middle 10 clubs are amber, and the bottom 5 clubs are red.

The bottom number represents a comparison rating of each club's environmental and sustainability practices (as measured by Edie and BBC/Sport Positive) to their market's green demand (as seen on the previous page in Figure 4). Those teams who are ahead of their market have a positive ranking while teams behind their market have a negative ranking. A full explanation of the methodology behind these measures is provided in the methods chapter.

APPENDIX A 2 (previous 2019/2020 analysis)

Figure 5. Club to market comparison: Green Leaders or Laggards? (2019/2020)

CLUB	Market area : Postcode area (ie L4) - smaller area		Market area : Postcode letter (ie all L postcodes) - larger area		Market area: weighting of one-third smaller area (L4) and two-thirds larger area (L)*		Standardized results for Club and Market Greenness**		Club to Market Comparison results *****	
	5 Factor Average	Ranking	5 Factor Average	Ranking	5 Factor Average	Ranking	Club Green Scores ***	Market Green Scores (Weighted results)	Club to Market Difference Rating	Difference Ranking
Arsenal	3.465296609	4	0.230298818	8 tie	1.308631415	3	1.325514798	0.670430034	0.655	9
Aston Villa	-0.344944969	12	-0.716913815	17	-0.5929242	16	0.113168049	-0.687789955	0.801	7
Bournemouth (R)	-0.281958653	11	-0.111238861	12	-0.168145459	14	-0.806497001	-0.384384168	-0.422	15
Brighton & Hove Albion	12.97831518	1	1.671816345	1	5.440649288	1	0.524220291	3.621797443	-3.098	20
Burnley	-0.517526227	14	-0.706228543	16	-0.643327771	17	-0.785687025	-0.723791604	-0.062	14
Chelsea	-0.392127946	13	0.564482018	3	0.24561203	8	0.580160904	-0.088850508	0.669	8
Crystal Palace	-0.575769174	15	0.077078722	10	-0.140537243	13	-1.746972028	-0.364664509	-1.382	16
Everton	-0.582588907	16 tie	-0.753506805	18 tie	-0.696534173	18 tie	-0.472195349	-0.761795225	0.29	11
Leicester City	0.832255298	9	-0.614615087	14	-0.132324958	12	0.297884193	-0.358798738	0.061	12
Liverpool	-0.582588907	16 tie	-0.753506805	18 tie	-0.696534173	18 tie	0.189918638	-0.761795225	0.952	5
Manchester City	1.246498107	7	0.265508521	6 tie	0.59250505	6	1.520635931	0.158924014	1.362	2
Manchester United	-1.130086008	19	0.265508521	6 tie	-0.199689655	15	1.423075364	-0.406915173	1.83	1
Newcastle United	2.044286707	5	0.496986666	4	1.012686693	5	0.914462556	0.459046242	0.455	10
Norwich City (R)	4.393190129	2	-0.603215281	13	1.062233189	4	-1.196739266	0.494449994	-1.691	17
Sheffield United	1.359089832	6	-0.621919068	15	0.038417232	10	-0.277074216	-0.236843085	-0.04	13
Southampton	3.530924635	3	0.762659273	2	1.685414394	2	-0.827306978	0.939553991	-1.767	19
Tottenham Hotspur	0.053890394	10	0.230298818	8 tie	0.17149601	9	0.935272533	-0.141789196	1.077	4
Watford (R)	1.077313494	8	-0.075048458	11	0.309072193	7	-1.732651369	-0.043522956	-1.689	18
West Ham United	-0.957256327	18	0.387100459	5	-0.06101847	11	0.81690199	-0.307866807	1.125	3
Wolverhampton	-1.16196642	20	-1.122393168	20	-1.135584252	20	-0.200323627	-1.075394569	0.875	6

* The values found in these two columns make up the "How Green is each market?" report page.

** Standardizing data allows data measured using different ranges or distributions to be mathematically comparable. We subtract the mean of the variable from each data point (to set the new mean to zero) and then divide all data points by the standard deviation of the variable.

*** Club Green Scores were pulled from the Edie and BBC/Sport Positive Club sustainability rankings. Both rankings were standardized and then averaged. The average was then standardized again to make it comparable to our Market Greenness Scores.

***** The values found in these two columns make up the "Club to market comparison: Green Leaders or Green Laggards" report page.

APPENDIX A 3:

TABLE 5. DATA DESCRIPTION TABLE (2019/2020). Data Analysis



LIVERPOOL HOPE
UNIVERSITY

175 YEARS OF ACADEMIC
EXCELLENCE



Everton
in the Community

How Green is Your Pitch and Patch?

Liverpool Hope University
SEARCH