



Scoping a Woodland Impact Rating

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1. Introduction

Impact investment is a relatively new approach in which investors seek social and environmental impact alongside a financial return. In 2013 leading impact investors allocated over £9bn to the sector globally¹.

At the same time, on-going developments in the world of sustainability reporting are helping to highlight wider opportunities and risks that the management of natural capital, such as woodland, can present for corporates.

Woodland projects that can measure and report their social and environmental impacts in way which responds to these emerging trends could be well placed to attract significant additional investment in future.

2. Objectives

This study explores different approaches to measuring and reporting the social and environmental impacts, including the role that rating is playing in attracting a wider audience of investors, and makes recommendations on future strategy with regards impact investment in relation to woodland.

Chapters 3 and 4 provide background on impact investment, and corporate reporting respectively, highlighting links to future investment in woodland creation.

Chapter 5 sets out strategic options for measuring and reporting woodland impacts, and approaches to rating.

Chapter 6 explores that role that existing woodland measurement and reporting systems could play in the development of impact investment transactions

Chapter 7 concludes with a set of recommendations on future strategy

¹ 'Perspectives on Progress' JP Morgan and the Global Impact Investing Network (GIIN) (2013)

3. Impact Investment & Woodland Creation

This chapter provides an introduction to impact investment, comparing it to other styles, identifying different approaches to measurement and reporting, key stakeholders and recent developments in the UK.

3.1 Overview

Environmental social and governance factors can be integrated into investment decision making a variety of ways. Table 1 below lists different approaches to have emerged in recent years.

Type	Investment approach
Traditional investors	Limited or no focus on ESG factors of underlying investment
Responsible investors	Integrate ESG related risks in their selection process e.g. negative screening to exclude investment in businesses engaged in harmful products, processes or services.
Sustainable investors	Focus on enhanced financial returns associated with overall ESG performance e.g. through their investment selection, portfolio management and shareholder advocacy.
Thematic investors	Focus on one or a cluster of issues where social or environmental need creates a commercial growth opportunity offering market rate or market beating returns e.g. a clean energy fund, emerging market healthcare fund or microfinance structured debt product.
Impact-first investors	Focus on one or a cluster of issues where social or environmental need requires some financial trade off e.g. a fund providing debt or equity to social enterprises and/or trading charities.

Table 1: Different investment approaches

The Global Impact Investing Network (GIIN) define impact investment as ‘investment made into companies, organizations, and funds with the intention to generate measurable social and environmental impact alongside a financial return²’. Since both the thematic and impact-first investment style involve tracking environmental and/or social impact alongside financial return, both can qualify as impact investing.

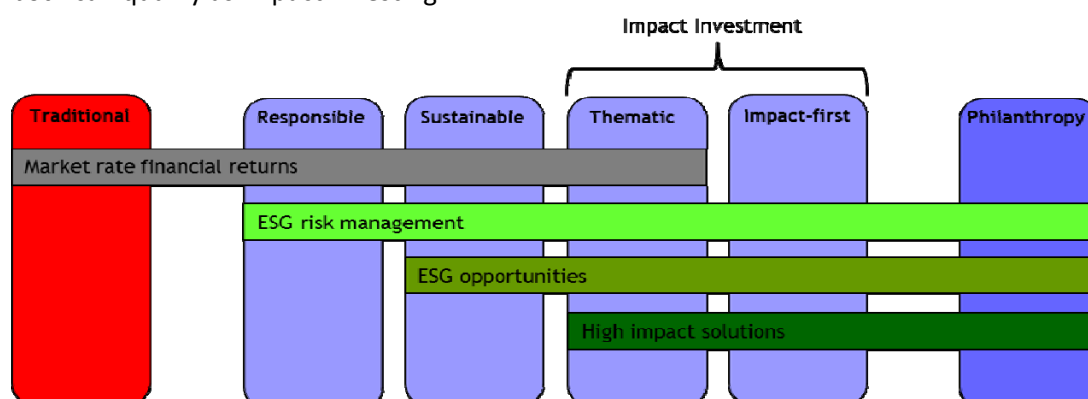


Figure 1: Impact investment in context

² <http://www.thegiin.org/cgi-bin/iowa/resources/about/index.html>

A recent global survey of 99 leading impact investors, including fund managers, development finance institutions, foundations, and diversified financial institutions, revealed they allocated a total of \$9bn for investment in 2013; approximately two thirds indicated that they were principally pursuing market rate returns..

Four factors have converged to generate this interest and activity³:

- Broader considerations of risk inherent in 'conventional' investment decisions, triggered by the 2008–2009 financial crises;
- Growing recognition that existing resources are insufficient to address severe poverty, inequality, environmental destruction and other complex, global issues, especially among Western nations that are already reducing their aid budgets and domestic social spending;
- An emerging set of activities demonstrating that it is possible to finance 'scalable' business models that create social and environmental value; and
- The transfer of wealth in industrialized countries to a generation of high net worth individuals seeking to embed their values in the allocation of their capital

3.2 Approaches to Measurement & Reporting

The relationship between a project input (e.g. money) and its impact (e.g. net carbon sequestration) can be broken down into a 5 stage 'results chain': input, activity, output, outcome and impact.

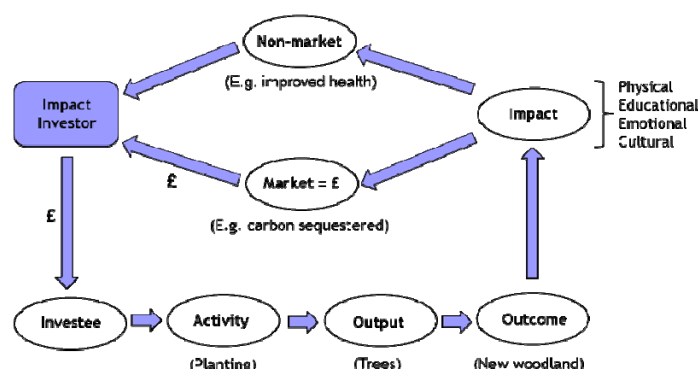


Figure 2: A results chain for woodland creation

Figure 2 above illustrates a possible results chain for woodland creation. In theory measurement and reporting can take place at any stage in this chain.

Within the impact investment community 'impact'⁴ is often used figuratively, rather than literally – the majority of 'impact' investment transactions in fact use indicators of output (e.g. area planted) and/or outcome (e.g. carbon sequestered) as proxies for impact (e.g. net carbon sequestered), which itself requires the development of (potentially complex/resource intensive) 'non-project' baselines. 'Impact first' investors are the most likely to seek explicit measurement of impact (and most likely to accept sub-market rate returns).

³ 'The Power of Advice in the UK Sustainable and Impact Investment Market' Nicklin, S (2012)

⁴ The measurement of impact (long term net outcomes) requires the development of hypothetical 'without project' baselines

The approach that investors take depends to a large extent on their investment objectives and interests. To date explicit measurement of impact has been of most interest to impact first investors, who prioritise social and/or environmental impact over financial return, whilst thematic investors, who seek market rate financial returns, are more likely to accept measurement and reporting of outcomes as a proxy of underlying impact.

3.3 Stakeholders

Aside recipients of funding, the impact investment industry can be divided into five stakeholder groups: standard setting bodies/networks, asset owners, asset managers, financial advisers/intermediaries, and exchanges/trading platforms.

3.3.1 Standard Setting Bodies & Networks

Lack of transparency and credibility in how funds define, track, and report on the social and environmental performance has led to relatively high transaction costs and a limited ability to understand the impact of investments. A range of standard setting bodies and networks have emerged to address this.

Global Impact Investor Network (GIIN)

The GIIN is a not-for-profit organization established to highlight successful examples of impact investment, track industry progress, and share market information and best practices with the diverse impact investor community, potential impact investors, and the general public. GIIN manages the Impact Reporting and Investment Standards (IRIS), a set of metrics that can be used to describe an organization's social, environmental, and financial performance, and ImpactBase, an online global directory of impact investment vehicles.

IRIS is a free to access catalogue of generally accepted performance metrics that impact investors can use to measure social, environmental, and financial success. Users select a set of IRIS metrics specifically relevant to their own activities, impact objectives, and stakeholder requirements, among other potential criteria. Users are encouraged to register their IRIS use on the IRIS registry and to cite IRIS metrics in external reports and communications. By highlighting which indicators are commonly reported in particular sectors IRIS supports comparability and consistency in the reporting and analysis.

Impact Base is a global online database which profiles asset managers and their products, enabling investors and investment advisors to search and access financial information (e.g., fund raising status, target IRR) and non-financial summaries (e.g., social and environmental impact goals).

As of January 2014 Impact Base listed 44 investment products with a forest or forestry-related theme; 6 involved fixed-income (bonds etc.), 38 involved equity and/or mezzanine⁵. Box 1 below highlights examples of each, comparing the indicators chosen to measure and report their social and environmental impact.

⁵ A hybrid of debt and equity financing that is typically used to finance the expansion of existing companies. Mezzanine financing is basically debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full.

Box 1: Comparing impact metrics used by forest investments listed on ImpactBase

The Cochabamba Project Ltd, a UK registered Industrial Provident Society, sought to raise \$8m through the issue of unsecured loan stock, with a target IRR of 9%. Proceeds would be used to cover the on-going project costs of ArBolivia, an established reforestation project in Bolivia. The project is a partnership with Bolivian farmers, with net revenues from the timber shared equally between investors and the farmers; the former provide investment capital and the latter providing land and labour. Core impact metrics tracked included:

- Carbon Absorbed (based on Verified Carbon Standard)
- Income Multiplier

Ecotrust Forest Management, a US fund management company, launched Ecotrust Forest II, LLC fund aiming to raise \$75m, with a target IRR of 8%. The fund plans to 'identify and acquire high priority, ecologically significant forestland in the US, with the goal of demonstrating a sustainable forest management strategy and ultimately transitioning ownership to local land stewards like land trusts, state, federal and local agencies, conservation groups or tribes.' Core impact metrics tracked included:

- Annual FSC Timber Harvest
- Annual Timber Growth
- Acres Managed to FSC Standards
- Total Acres under Ecological Forest Management
- Acres under Conservation Easement
- Acres of High Conservation Value Forests under FSC
- Total Feet of Streams
- Feet of Streams under Conservation Easement
- Feet of Shoreline under Conservation Easement
- Number of Conservation & Restoration Projects Completed
- Number of Types of Rare Species Present
- Name, Status and estimated Number of Rare Species Present
- Full-Time equivalent Local Jobs Supported
- Total Full-Time equivalent Jobs Supported
- Quantity of Timber Sold to Local Mills and Processors
- Public Recreation Access (acres)
- Number of Native American Tribes Engaged
- Number of Parcels under Conservation Easement
- Number of acres transferred to long term owners / strategic buyers
- Number of Carbon Credits Sold
- Acres Enrolled in Conservation Agreement for Carbon Credit Generation
- Total CO2 Sequestered

Source: ImpactBase

The Social Return on Investment (SROI) Network

The SROI Network is a social enterprise⁶ established to promote the use and development of SROI, a stakeholder-led methodology for gathering perceptions of outcomes, the quantity of these outcomes and corresponding value to stakeholders, and likely baseline scenarios.

⁶ A social enterprise is a business that has both social and commercial goals. What makes it different from other enterprises is that it places a firm emphasis on tackling social problems.

Project specific indicators are developed on the basis of this analysis, and results expressed in both qualitative and quantitative ways, according to the perspective of the stakeholders experiencing or contributing to changes recorded.

To date there is limited practical experience with SROI in the context of UK woodland. A recent study exploring the use of SROI for valuing green infrastructure in Scotland highlights some of the potential opportunities and challenges that may exist (See Box 2 below).

Box 2: SROI in UK community environmental projects

Greenspace Scotland, a social enterprise established to support the planning, development and sustainable management of green spaces and green networks, undertook a two year study into the use of SROI by community environmental groups entitled 'Greenspace is good – so prove it'. Study findings and recommendations include:

- Stakeholders need to be aware of the commitment, resources and time scale required
- The technical language of SROI is a barrier to engagement
- A simple Greenspace guide to SROI should be produced
- Linkages between SROI and other outcomes based evaluation should be explored
- Long term success should be reviewed (e.g. did it help to deliver funding)

The programme produced a range of publically available resources including financial proxies, indicators, evaluation frameworks and engagement techniques

Source: Greenspace Scotland <http://www.greenspacescotland.org.uk>

Investors and project developers can access insights on experience gained by SROI practitioners elsewhere via the recently launched Global Value Exchange (See Box 3 below).

Box 3: The Global Value Exchange

The Global Values Exchange is an open source online resource that facilitates sharing information and experience by practitioners, encouraging common use of language, and the adoption of a consistent approach to the use of indicators and financial valuations for social and environmental outcomes. The Exchange lists a range of widely used approaches to measuring economic, social and environmental impact and returns. Metrics are also sourced directly from other widely-used indicator frameworks such as IRIS.

Source: <http://www.wikivois.org/>

B Labs

B Lab is a US-based non-profit that supports social entrepreneurs and impact investors through three interrelated initiatives:-

- B Lab created, and awards, the B Corporation certification for for-profit organizations. The "B" stands for beneficial and indicates that the certified organizations voluntarily meets certain standards of transparency, accountability, sustainability, and performance, with an aim to create value for society, as well as for traditional stakeholders such as the shareholders.

- In the US B-Labs campaigns for legislation which gives legal protection to entrepreneurs wishing to pursue a higher purpose than profit, and the public greater transparency to protect against pretenders.
- In 2013 B-Lab launched B Analytics, a customizable platform for benchmarking, measuring, and reporting on impact (see Box 4 below).

Box 4: B-Analytics

As the number of new investors entering the space has grown, so too has demand for tools which support investment analysis approaches more familiar in conventional markets. The recently launched B Analytics platform provides measurement and reporting options including:-

Custom Metrics: enabling investors to create a set of IRIS metrics or build Custom Key Performance Indicators (KPIs).

Thematic KPIs: enabling investors to select KPIs from pre-built lists covering topics such as job creation, poverty alleviation, using multiple lists to cover different aspects.

B Impact Assessment: enabling investors to access verified data for a target company or fund. Data are gathered via annual surveys differentiated by geography, size of company and sector, which comprises approximately 160 questions across five categories: Leadership, Employees, Environment, Community, and Products & Services. Reporting companies are subject to a documentation review at the time of their initial rating and 20% of all annual surveys are randomly selected for a rigorous onsite audit review of their survey answers. Data is self-reported by companies and reviewed by a third-party verification service provider, Deloitte & Touché, before a company can receive a rating.

GIIRS Ratings: enabling investors to compare investment opportunities and benchmark the performance of investments relative to other GIIRS rated companies and funds using a variety of filters. Benchmarking is the process of comparing business processes and performance metrics to industry bests or best practices from other sectors – an approach widely used throughout the finance sector. To date 63 funds and 409 companies from 30 countries have been GIIRS-rated, and 21 institutional investors have declared an investment preference for GIIRS-rated investments in their impact investment portfolios¹.

Source: www.b-analytics.net

3.3.2 Asset Owners

This group includes high net worth individuals and families, institutional investors, companies, foundations, governments. These stakeholders are the ultimate source of impact investment funds. Whilst some invest directly, the majority do so via asset managers and/or with the assistance of specialist advisers and intermediaries.

Box 5: Big Society Capital.

Big Society Capital, launched in April 2012, invests in social investment intermediaries so they can provide a greater range and scale of financial services and products to front line civil society organisations. BSC will be capitalised over the next five years with £400m transferred from dormant bank accounts, and £200m from four high street banks. Since it became operational in April 2012, Big Society Capital has committed £56m in 20 investments.

Source: Big Society Capital

3.3.3 Asset Managers

This group includes fund managers, banks, government investment programmes. These stakeholders hold and invest funds on behalf of asset owners according to a pre-agreed strategy. Alongside specialist impact investment managers, such as NESTA a number of mainstream asset managers have recently launched impact investment funds aimed at institutional investors (see Box 6 below).

Box 6: Threadneedle UK Social Bond Fund

Threadneedle Investments manages over £84bn on behalf of individuals, pension funds, insurers and corporations. In November 2013 the group launched the Threadneedle UK Social Bond aimed at both retail and institutional investors. It will invest in fixed income securities issued by companies, associations, charities and trusts in 'social intensity' areas including affordable housing and property, community services, employment and training, financial inclusion, health and social care, transport and communications, and utilities and the environment.

Source: Threadneedle Investments

3.3.4 Financial Intermediaries/Advisers

Specialist financial intermediaries working on behalf of different asset owners (e.g. high net worth individuals) and asset managers (e.g. impact investment funds) to identify potential impact investment opportunities. As such they often have insight on both areas of impact, and reporting and measurement preferences, of different investors.

Where they have sufficient confidence in the underlying potential of a project intermediaries are increasingly prepared to work with prospective investees at an early (pre-investment) stage, supporting the development of appropriate measurement and reporting. The Investment and Contract Readiness Fund (see 3.3 later) has been a key enabler of such development work in relation to social enterprise.

3.3.5 Investment Platforms

A number of impact investment platforms and exchanges have emerged which directly link investors with impact and sustainable investment opportunities.

Box 7: Ethex

Ethex is a not-for-profit ethical investment intermediary that allows retail investors to browse and compare investments, and get a better understanding of the social and financial returns each offers. An investment profile offers insight into the triple bottom line of each business, allowing investors to assess how well each performs against the impacts they want to support. Social and environmental performance indicators show how the business is performing, both in terms of its key social mission and a number of other standardised indicators. Governance and people performance indicators give an idea of who owns the business and how it is run, as well as the people behind it.

Source: Ethex

3.4 The Investment Process

The first stage in the impact investment process is a decision by asset owners to incorporate consideration of impact into their investment strategy. In turn strategy informs the development of an investment mandate which could include:-

- Specific sectors, outcome areas, and geographic locations
- The beneficiary group
- The balance of interest among direct impact (on beneficiaries), wider impact on communities, sectors and society at large, and impact upon investee itself
- The objectives of individual investments
- Balance of interest amongst newer approaches to impact, and more established methods
- Overall appetite for impact risk

Best practice impact investment can be broken down into five stages:-screening, analysis, investment decision making, monitoring & evaluation, and reporting⁷.

The *Screening* stage involves high level assessment of projects in order to identify those that better match the investment objective or mission of the investor. Figure 2 below highlights five questions that investors might seek to answer at this stage.

Screening focus	Key question
Mission	Is there an effective and well-designed mission?
Proposed use of capital	Will capital support the organisation and impact?
Governance	Is the impact underpinned by effective governance?
Profits and assets	Are profits and assets aligned with mission?
Impact evidence and transparency	Is the mission being achieved and is there regular and transparent reporting of impact?

Figure 3: Stages in the screening of potential impact investments

⁷ 'The Good Investor' (2013) Adrian Hornsby, Gabi Blumberg, Investing for Good CIC

At the *Analysis* stage investors look to gain a deeper understanding of the methodology by which the impacts of interest are generated. The key areas of attention when devising and working with a methodology, and performing analysis, are the impact plan⁸, impact risk⁹ and impact generation¹⁰.

The *Investment Decision* process merges impact analysis with conventional financial analysis, weighing up impact generation, impact risk, financial return and financial risk in a final assessment of the extent to which the prospective investment is aligned with the investor mission and strategy.

The *Monitoring & Evaluation* process, in addition to tracking the financial performance, enables the investor to determine whether an investment is having the intended effect, and thus proving to be an impact effective way to use capital. Crucially systems must be able to deliver robust evidence of progress towards anticipated impacts.

3.5 Developments in the UK

Whilst impact investment is a global in nature, the UK is a central player in its ongoing development.

The UK government has played a leading role in promoting the use of Payment by Results ('PbR') contracts by government departments, agencies and foundations that fund development and implementation of social policies/programmes. Rather than paying upfront, PbR contracts enable these groups to pay service providers against delivery of pre-agreed social outcomes related to the policies/programmes in question. Initial finance required by providers creates an opportunity for impact investors interested in both the social outcomes being targeted and financial return achieved for success.

In 2010 a UK based business called Social Finance launched the world's first Social Impact Bond (SIB), creating a financial/ legal mechanism that enables investors to access/invest in PbR based projects indirectly. Service providers work with intermediaries such as Social Finance to structure and issue SIBs; buyers/owners of SIBs are then entitled to future payments made under the PbR contract which they are issued against.

To date the majority of PbR commissioning has focused on social initiatives but interest is growing in projects with linked social and environmental outcomes¹¹. The ability of woodland to support a range of social outcomes is illustrated by projects such as Hill Holt Wood¹² and the NHS Forest¹³. As the use of PbR continues to evolve and grow woodland developers and managers appear well positioned to deliver projects offering commission agents an attractive mix of social and environmental outcomes.

In 2012 the UK government established Big Society Capital (see Box 5 earlier) to catalyse investment into UK social enterprise and businesses via specialist asset managers (see 3.3.3). Further support is provided via a £10m Investment and Contract Readiness Fund to better equip promising social ventures interested in seeking new forms of investment and competing for public service contracts.

⁸ An impact plan sets out rationale behind proposal, and mechanism by which impact will be generated

⁹ Impact risk is the degree of certainty that impact will be generated

¹⁰ Impact generation is how much impact could the investment generate, and how will this be measured

¹¹ Personal communications with Simon Evill, Clearly So

¹² <http://www.hillholtwood.com/>

¹³ <http://nhsforest.org/>

In March 2014 the government introduced Social Investment Tax Relief (SITR) to incentivise private investment in social enterprise. SITR will apply to regulated or monitored forms of social enterprise - Community Interest Companies ('CICs') Societies for the Benefit of the Community ('BenComs') and charities¹⁴ - potentially including woodland or woodland related business established in one of these forms.

3.6 Summary

In the UK impact investment is also referred to as social investment and positive investing.

The financial return sought by impact investors ranges from market-rate to zero i.e. the safe return of the original sum invested. In 2013 leading impact investors allocated 9bn to the sector globally; roughly two thirds sought a market rate return.

No standard approach has emerged to measurement and reporting. Approaches adopted reflect investor interest and objectives – the majority focus on outcomes, rather than impacts. In general investors willing to accept sub market financial returns have the strongest interest in measuring and reporting impact explicitly (i.e. net outcomes measured against an appropriate baseline)

Decisions on both what to measure, e.g. carbon sequestration, and how to measure it, e.g. carbon sequestered at a point in time (outcome) or net carbon sequestered over time (impact), tend to be made on project by project basis.

Developing the 'right' approach to measurement and reporting remains a key challenge for project developers. Standards and methodologies have emerged to support market development, e.g. through more consistent use of indicators, and the identification of impacts and indicators considered most relevant by project stakeholders. ImpactBase, a global database of impact investment funds and products, lists 44 forestry-related impact investment products/funds; whilst there is no consistency with regards choice of indicators (i.e. what is measured), all measure relatively straightforward outputs.

Interest amongst private investors is growing at all levels – from major institutional investors to individual 'retail' investors. New products (funds, investment platforms etc.) are emerging to service this interest. Big Society Capital, set up by the UK government to 'pump prime' impact investment in the social sector, is generating publicity and track record; a range of social sector organisations have successfully issued bonds, including Social Impact Bonds.

In the UK much focus has been on business established with explicit social objectives (e.g. fair trade, healthcare, education etc.); the growth in PbR and supporting programmes such as the Investment & Contract Readiness Fund has helped to boost the range and number of potential investment opportunities from the social sector (non-profit and voluntary organisations).

Most recently the introduction of Social Investment Tax Relief could (subject to final agreement on State Aid rules) significantly boost the flow of private capital to regulated forms of social enterprises (e.g. CICs).

¹⁴ HM Treasury

Specialist financial intermediaries working on behalf of different asset owners (e.g. high net worth individuals) and asset managers (e.g. impact investment funds) to identify potential impact investment opportunities. They have insight on both the areas of impact that interest different investors, and likely reporting and measurement preferences. Where they have confidence in the underlying potential of a project intermediaries are increasingly prepared to work with prospective investees at an early (pre-investment) stage, supporting the development of appropriate approaches to measurement and reporting.

Emerging investment platforms such as Ethex adopt a light touch approach, requiring prospective clients to commit to ongoing measurement and reporting in a standardised format as one of their listing requirements, and provide advice on how to comply with these requirements as part of their service.

To date most effort around market development has focused on approaches to measuring impact; this is now shifting to the presentation/ reporting of data in an investor friendly format. Platforms such as B Analytics, which enables investors to benchmark the performance of business/funds against peers in order to gauge relative progress/ performance, are drawing new investors to the space.

4. Corporate Reporting & Woodland Creation

Non-financial corporate reporting is the mechanism through which corporates communicate environmental, social and governance aspects of business performance to key stakeholders. Corporate reports cover underlying sustainability (e.g. carbon intensity per unit of production), as well as wider corporate responsibility ('CSR') activities (e.g. employee involvement in company community investment).

In 2000 fewer than 1000 such reports were produced globally; by 2012 this figure had increased to more than 6000¹⁵. A range of reporting frameworks have emerged over this period. Much attention is now focused on the development of Integrated Reporting, an approach which aims to capture all aspects of environmental and social performance that a company considers material¹⁶ to its future value creation, and integrate this with material information on financial performance and intangibles (such as intellectual capital) to provide a single concise communication of value.

One of the issues that leading businesses are starting to recognise as a material risk (and potential business opportunity) in the context of value creation is corporate impacts/dependencies on natural capital¹⁷. Recent analysis has estimated that global primary production and processing sectors generate unaccounted costs of \$7.3 trillion a year through their environmental impacts and unsustainable use of natural resources.

This chapter identifies some of the leading non-financial corporate reporting frameworks/ tools currently in use, and concludes with a brief summary of their significance as drivers of corporate impact investment in natural capital such as woodland.

4.1 Regulatory Frameworks

4.1.1 Companies Act 2006 (Strategic Report and Directors' Reports) Regulations 2013

Since October 2013 UK-registered quoted companies have been required by law to report their gross emission of greenhouse gases (GHG), and other environmental matters 'to the extent it is necessary for an understanding of the company's business' through appropriate use of key performance indicators (KPIs).

Both DEFRA and the Climate Disclosure Standards Board (CDSB) have published guidance on compliance with the new regulations. The DEFRA guidance covers six categories of impact, addressing why each impact matters to business, what to measure and report, and choice of metrics. The section on carbon includes guidance on reporting of woodland carbon using the Woodland Carbon Code¹⁸.

¹⁵ 'CR Perspectives 2013' Corporate Register.com (2013)

¹⁶ 'A matter is material if, in the view of senior management and those charged with governance, it is of such relevance and importance that it could substantively influence the assessments of the primary intended report users with regard to the organisation's ability to create value over the short, medium and long term.' (International Integrated Reporting Committee, 2013)

¹⁷ 'The elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans as well as natural processes and functions' (Natural Capital Committee, 2014)

¹⁸ The Woodland Carbon Code is the voluntary standard for woodland creation projects in the UK which will make claims about the carbon dioxide they sequester. Independent certification to this standard provides assurance and clarity about the carbon savings of these sustainably managed woodlands.

4.2 Voluntary Frameworks

A number of third party voluntary reporting frameworks are formally coordinated, promoted and developed by third party not for profit organisations, and corporate networks.

4.2.1 The Global Reporting Initiative (GRI)

The GRI Sustainability Reporting Framework, used by over 4000 organisations worldwide, is the world's most widely adopted voluntary corporate sustainability reporting framework. The most recent version of the GRI Reporting Guidelines ('G4'), launched in May 2013, emphasised materiality and introduced new indicators on energy, carbon and supply chain.

G4 requires reporting organisations to determine:-

- The significant economic, environmental and social impacts relating to the organisation;
- The boundary of their report (e.g. how far up/down the value chain); and
- What sustainability indicators to report on (e.g. carbon, water, energy, supply chain risks). Options include metrics for direct and indirect economic impacts; environmental impacts (including impacts in the value chain); labour practices and human rights (including in the supply chain); and wider societal impacts.

GRI is an international not-for-profit organization, with a network-based structure involving more than 600 stakeholders. It has strategic partnerships with the United Nations Environment Programme (UNEP), the UN Global Compact, the Organisation for Economic Co-operation and Development (OECD), and the International Organization for Standardization.

4.2.2 CDP

The CDP¹⁹ is a voluntary reporting system that requests key environmental information from companies and cities on behalf of 184 signatory investors with more than US\$ 13 trillion of assets.

The CDP Forests Programme assists companies and their investors to understand and address exposure to deforestation risks through their interaction with five agricultural commodities that are responsible for most deforestation – timber products, palm oil, soy, cattle products and biofuels. Relative performance of participating companies in the Programme is reported through an annual report.

4.2.3 Integrated Reporting

The International Integrated Reporting Council (IIRC) is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs.

Integrated Reporting has emerged in response to the needs of stakeholders for different information about a company's business model, strategy, performance, and prospects to remain competitive in the long run. It takes aspects of a company's environmental, social and ethical performance material to value creation and integrates them with material information about financial performance and intangibles, such as intellectual capital, to produce a concise communication of value.

¹⁹ Previously known as Carbon Disclosure Project, the organisation rebranded to in early 2013 to reflect its wider role in measuring and reporting corporate interaction with water, forests etc.

Box 8: The IIRC Pilot Programme

In 2011 the IIRC initiated a Pilot Programme, inviting businesses from around the world to contribute to the development of the Integrated Reporting Framework. Globally over 100 businesses have joined the Programme, including Marks & Spencer, Sainsbury, the Crown Estate and NHS London.

"We call the Pilot Programme our "innovation hub" - made up of people who want to push the boundaries just a little bit further, to challenge, or at least question orthodox thinking, and acknowledge the importance of reporting to the way our organizations think and behave" *Paul Druckman, CEO IIRC*

Source: IIRC

In July 2013 the IIRC and CDP announced an alliance 'to achieve greater momentum towards the evolution of better corporate reporting, in order to enable investors and other decision-makers to accelerate a transition to a resource-efficient economy'. CDP reporting on the use and depreciation of natural capital - including carbon, energy, water and forest commodities - is considered integral to integrated reporting.

4.2.4 Corporate Natural Capital Accounting

The Natural Capital Committee, established following the publication of the UK Government's 2011 Natural Environment White Paper, is leading the development of a methodology for corporate natural capital accounting to support consistent documentation of ownership, liability and assets related to natural capital. A pilot project to test and refine an experimental methodology commenced early in 2014 with the aim of producing high-level guidance and a generic accounting framework which can be adapted for use by a wide group of organisations.

On-going work in this area draws on, and feeds into, existing voluntary frameworks and company led initiatives identified elsewhere in this section. Impetus for the adoption of corporate natural capital accounting has been strengthened further by recent commitments on natural capital made by leading players in the global finance sector (see box 9 below)

Box 9: The Natural Capital Declaration

The Natural Capital Declaration (NCD) is a finance sector initiative, endorsed at CEO-level, to integrate natural capital considerations into loans, equity, fixed income and insurance products, as well as in accounting, disclosure and reporting frameworks. Signatories institutions have committed to:-

- Understand the impacts and dependencies of financial institutions on natural capital which can translate into material risks or opportunities
- Embed natural capital considerations in financial products and services;
- Work towards a global consensus on integrated reporting and disclosure;
- Work towards a global consensus for the integration of natural capital in private sector accounting and decision-making.

Source: <http://www.naturalcapitaldeclaration.org/>

4.2.5 London Benchmarking Group (LBG)

The LBG Model is an internationally recognised voluntary framework for measuring corporate community investment (CCI) made in CSR programmes. It is used by more than 300 companies worldwide to measure, manage and report the value, and achievements, of the contributions they make. The Model tracks cash, time and in-kind donations, management costs, key outputs and longer-term community and business impacts.

A recent survey of corporate funders and grant makers undertaken on behalf of LBG found 72% of respondents expected to increase their use of impact measurement over the next three years. The biggest challenges in doing so were reported as capacity and knowledge amongst beneficiaries of funding²⁰.

The LBG itself is a global network of companies managed by corporate responsibility consultancy Corporate Citizenship²¹.

4.2.6 Corporate Responsibility Index (CR Index)

The CR Index is compiled by Business in the Community²², a business-led charity operating in four areas: responsible leadership, community, marketplace sustainability, workplace and employees.

In addition to it being a public exercise in transparency the CR Index is a tool to help companies systematically measure, manage and integrate responsible business practice. It takes the form of an online survey and companies follow a self-assessment process intended to help them identify both the strengths in their management and performance and gaps, where future progress can be made.

4.3 Company-Led Initiatives

As companies seek to better understand and communicate their own performance a number of independent reporting initiatives have emerged.

4.3.1 Environmental Profit & Loss

Environmental Profit and Loss Accounting (E P&L), developed by a consortium led by sports goods manufacturer PUMA, places a financial value on environmental impacts along the entire value chain enabling users to integrate sustainability metrics with traditional business management.

Traditional approaches to environmental impact measurement provide a variety of metrics; hectares for land use, tonnes for carbon and other pollutants, cubic meters for water etc. This makes it difficult to compare the relative contribution of environmental impacts to the overall impact of a company or a product. Valuing environmental impacts in financial terms solves this problem by providing an overarching metric to assess risk and opportunity across operations, products and supply chains. E P&L uses a global environmentally extended input output model (EIO²³), based on modified US input-output tables to value each of the chosen impacts.

²⁰ <http://www.thinknpc.org/publications/funding-impact/>

²¹ <http://www.corporate-citizenship.com/>

²² <http://www.bitc.org.uk/>

²³ Environmentally-extended input-output (EEIO) analysis is a method for evaluating the linkages between economic consumption activities and environmental impacts, including the harvest and degradation of natural resources. EEIO is increasingly used to evaluate the upstream, consumption-based drivers of downstream

The initial results (covering GHG emissions and water use) were published in May 2011, and the full results published in November 2011 (with the addition of land use, air pollution and waste disposal). In publishing these results PUMA became the first company to attempt to measure the immense value of these services to a business, and the true costs of its impact on natural capital.

4.3.2 Total Contribution

In 2012 Crown Estates, one of the organisations contributing to the development of Integrated Reporting via the IIRC Pilot Programme (see box 8 earlier) developed and tested an approach to measuring and reporting called Total Contribution

The methodology employs a range of indicators across economic, environmental and social areas, exploring value in more detail through four case studies based on three fundamental transparency principles: credit, confidence and net contribution. Contributions were broken down into the following segments:-

- Direct – activities carried out by Crown Estate
- Indirect – activities commissioned by Crown Estate, but carried out within its supply chain
- Enabled – activities carried out on its portfolio by customers

Two case studies, Glenlivet Estate²⁴ and Windsor²⁵, placed a value on the economic, social and environmental associated with multiple use woodland. The Total Contribution methodology captures (1) benefits flowing to local communities, both via income generation and employment creation; (2) recreational value created, notably for visitors but also, for wider population; (3) additional ecosystem services generated.

4.3.1 Net Positive Impact

A number of leading corporates are exploring a Net Positive Impact model in which businesses seek to demonstrably contribute more to society and the environment than they take out. Box 7 below highlights the approach taken by Kingfisher to identifying, measuring and reporting the Net Positive Impact of its core operations.

Reporting on Net Positive Impact is, as with company led initiatives identified here, a ‘learn by doing’ endeavour for the corporates involved; experience and insights gained are shared to support wider understanding and on-going development. Box 14 (later in this report) highlights the work undertaken Rio Tinto, IUCN and the Biodiversity Consultancy to measure and report Net Positive Impact in biodiversity. More recently IUCN has convened leading corporates to explore what Net Positive Impact might mean in the context of water.

environmental impacts and to evaluate the environmental impacts embodied in goods and services that are traded between nations.

²⁴ 23,000 hectares, split between agricultural lands, natural and semi-natural woodlands, commercially exploited woodlands and natural and semi-natural grasslands crossed through by paths and mountain-bike tracks to support recreational activities.

²⁵ 6,300 hectares, comprising 3,100 hectares of woodland, 1,600 hectares of parkland, 1,200 hectares of agricultural land, 250 hectares of commercial and residential lettings and another 250 hectares dedicated exclusively to leisure amenities.

Box 10: Net Positive Impact at Kingfisher

Kingfisher has identified timber, energy, innovation and communities as four long term Net Positive priorities, and has begun measuring progress across 50 indicators including:-

Indicator	Target (2020)
Volume of responsibly sourced timber and paper	100%
Amount of energy saved by customers as a result of energy-saving products bought	38TWh of energy
Sales of products and services with eco-credentials	1000 different products with closed loop credentials
Level of community involvement	4,000 community projects that deliver 'Better Homes, Better Lives'

Source: Kingfisher

4.4 Summary

Voluntary non-financial corporate reporting has grown rapidly over the last decade; existing frameworks support measurement and reporting of both corporate sustainability (e.g. carbon emissions) and corporate responsibility (e.g. company community investments). Investments in (non-productive/amenity) woodland generally fall into the latter category.

Corporates measure and report on sustainability throughout the value chain, from the performance of suppliers to the use of products/services. Corporates themselves determine the level of detail applied to different aspects of sustainability performance; frameworks (e.g. GRI) provide supporting tools/guidance (e.g. choice of indicators).

Recent legislation has made it mandatory for UK registered (stock exchange) listed business to report on their carbon emissions and on other aspects of environmental performance to the extent necessary for investors to fully understand the business (e.g. exposure to flooding).

Integrated Reporting, the most recent development in voluntary reporting, takes aspects of a company's environmental, social and ethical performance material to value creation and integrates them with material information about financial performance and intangibles, such as intellectual capital, to produce a concise communication of value. A central tenet of the materiality principle is that effort expended (resources committed to measuring and reporting etc.) should be proportional to potential impact on value creation.

These developments are a driver for business to (a) better understand how the environment could impact their future performance, and (b) identify suitable KPIs to measure and report material risks.

Corporate understanding of 'natural capital' - the elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans as well as natural processes and functions - and its materiality to long term financial performance/ value creation is at an early stage. Developments are being led by a diverse range of stakeholders including industry groups (e.g. WBSCD, IIRC Pilot Groups etc.), the accounting profession (e.g. ACCA), existing reporting frameworks (CDP, GRI etc.) and UN/government agencies (e.g. UNEP FI, TEEB, DEFRA etc.)

In the UK the Natural Capital Committee is leading work to scope out a framework for corporate natural capital accounting as part of its wider remit around natural capital.

Corporate sustainability and corporate responsibility are tracked by a range of third party indices, rankings and ratings, based on public disclosures of performance made by corporates. These play an import role in the appraisal of prospective investment opportunities by fund managers, including thematic impact investors.

5. Strategic Options for Measuring & Reporting Impact

Woodland creation could attract additional investment from impact investment from funds, investment intermediaries, or corporates. To secure investment from any of the sources projects will need to measure and report the impacts they generate in a way which addresses the underlying needs of the investor.

This section briefly outlines strategic options with regard to (a) what to measure, (b) how to measure (whether outcome or impact), and (c) comparing/differentiating projects.

5.1 What to Measure?

A review of the 44 forest and forestry investment products currently listed on ImpactBase, the global database of impact investment products and funds operated by GIIN (see 3.4.1), finds no consistent approach in the choice of indicators – although all relate to outputs. By and large decisions on what to measure are made on the basis of actual/ anticipated investor requirements and the practicality/ cost effectiveness of on-going measuring/reporting from the developers perspective²⁶.

The emergence of Integrated Reporting, and requirement for listed businesses to report material environmental risks, is catalysing efforts to better understand and value social and environmental impacts, including those related to management of natural capital. The Natural Capital Committee has identified areas that should be taken into account in future decision making around forestry. Table 2 lists these, highlighting those for which UK Forest Standard²⁷ Guidance exists.

NCC Forest/Woodland	UK Forest Standard
Opportunity cost	
Timber	
Energy (fuel)	
Habitat and associated species and biodiversity	Biodiversity
Changes in GHG	Climate Change
Cultural heritage	Historic Environment
Landscape amenity	Landscape
Educational opportunities, Recreation	People
	Soil
Water quality, water quantity	Water

Table 2: Natural capital criteria for woodland decisions vs UK FS Guideline categories

Full understanding of the materiality of woodland to value creation could require corporates to undertake an initial review of all decision making areas highlighted by the NCC, with subsequent measurement and reporting focused on any identified as material.

²⁶ Personal communication with Meg Brown, GIIN

²⁷ The UK Forestry Standard (UKFS) is the reference standard for sustainable forest management in the UK. The UKFS, supported by its series of Guidelines, outlines the context for forestry in the UK, sets out the approach of the UK governments to sustainable forest management, defines standards and requirements, and provides a basis for regulation and monitoring.

Two basic approaches can be considered in determining what to measure:-

5.1.1 Expert led

What to measure could be determined by an expert group, requiring all relevant indicators identified to be measured and reported on an on-going basis; this could be narrow e.g. a core sub-set of UK FS, or wide e.g. to capture all aspects of woodland as a natural capital asset.

5.1.2 Developer/investor led

What to measure could be determined on a project by project basis according to the interests of project participants e.g. carbon sequestration for climate focused projects, sense of well-being for social. Relevant indicators would be measured and reported on an on-going basis. The framework would set out best practice guidance on how to measure (e.g. appropriate choice of metric etc.), across a range of possible outcomes.

5.2 How to Measure?

Figure 5 below illustrates a possible results chain for woodland creation. Measurement and reporting could take place at different stages along the chain.

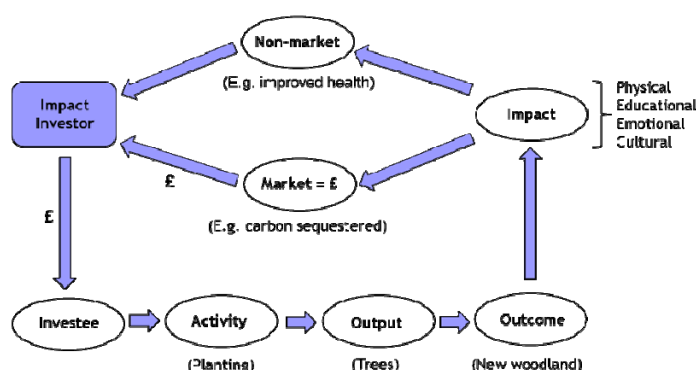


Figure 4: A results chain for woodland creation

As with the choice of what to measure, decisions on 'how to measure' generally reflect investor objectives.

Two basic approaches could be considered:-

5.1.1 Outcomes based

Define a standard set of output indicators. This could cover areas identified by the NCC as relevant to future woodland decision making, or a subset of these.

5.1.2 Impact based

Define a standard set of impact measurement methodologies to be used in conjunction of output indicators. There is range of tools that assess the potential impact of woodland at the initiation of a project (see section 6), but few mechanisms in place that capture impacts achieved over time (an example would be the Woodland Carbon Code).

5.3 Rating

In order to decide whether the social and/or environmental impact offered by a particular woodland creation project is attractive, either relative to other projects, or in absolute terms.

Two approaches could be considered:-

5.3.1 Ranking

A ranking is the relationship between a set of items such that, for any two items, the first is either 'ranked higher than', 'ranked lower than' or 'ranked equal to' the second.

Investors could compare woodland projects on the basis of their relative performance in the outcome/impact areas of interest to them e.g. number of species protected per £ invested.

Most existing approaches, in both impact investment and responsible/sustainable investment more generally, enable investors to compare on the basis of a ranking – e.g. GIIRS (see Box 4 earlier).

5.3.2 Rating

A rating is defined as a classification or ranking of someone or something based on a comparative assessment of their quality, standard, or performance.

Investors could compare woodland projects on the basis of their anticipated/actual performance relative to site specific potential e.g. how well a particular proposal is likely to realise site potential for flood protection.

Bond ratings enable investors to quickly understand the financial risk (default probability) of a bond based on underlying models and analysis developed a rating agency.

6. Existing Measurement & Reporting Systems

Project developers seeking funds from impact investors, or from corporates addressing their own social and environmental impact, need to make a case for the social and environmental impacts their woodland creation projects will generate.

A range of existing woodland management frameworks and tools could support the development of impact investment transactions. This section identifies a selection of these, highlighting potential significance and value.

6.1 National Forest Inventory (NFI)

The current National Forest Inventory – which began in 2009 and will be completed in 2014 – will provide a record of key information about UK forests and woodlands.

Data are collected in the following categories:-

- Forest/woodland area (e.g. woodland creation and loss):
- Forest type (e.g. practicality of harvesting, causes of land use change)
- Management practice
- Forest condition and tree health
- Habitat condition data
- Social and cultural
- Forest and woodland ecology
- Tree measurements

One of the core outputs of the NFI is the digital woodland map of Great Britain, which represents the extent and location of all woodland equal to or greater than 0.5 hectares.

The NFI is undertaken by the Forestry Commission and is a key reference point for people and organisations involved in forestry and land management, as well as in the wider world of planning, policy development and business. The NFI can, where resources permit, collect additional data beyond the core set and tailor analyses to address specific issues, enabling regional, business or sector interests to fund the collection of additional data to answer specific questions.

6.2 Management Plans

Forest management is a branch of forestry concerned with the overall administrative, economic, legal and social aspects and with the essentially scientific and technical aspects, especially silviculture, protection, and forest regulation. Legal requirements for sustainable forest management are set out in the UK Forestry Standard; associated Guidelines outline best practice in General Forestry Practice, Biodiversity, Climate Change, Historic Environment, Landscape, People, Soil and Water.

A management plan sets out the objectives and vision for a woodland, its current condition, (including features, threats, and opportunities) and how it will be managed to meet the owners objectives and deliver wider public benefit in relation to economic, environmental and social values. The length and detail of a plan depend on the size of the woodland and scope for management envisaged. A template for a semi-natural woodland management plans is shown in Appendix C.

Just 53% of UK woodlands are currently managed to a UK FS compliant management plan. The UK government has committed to increasing this to 66% by 2018, prioritising management that 'increases the resilience of the woodland so that it continues to provide multiple benefits to society, such as helping manage flood risk, safeguard clean water supplies and conserve and enhance biodiversity'. Increasing the amount of woodland management driven by economic activity through the sustainable harvesting of wood products is seen as a key driver in achieving this target.

One practical response has been the development of the Woodland Star Rating scheme (see Box 8 below), a 'light-touch' approach that enables woodland owners to get a feel for what management involves and encourages them to identify and report on areas that they should focus on in order to move in incremental steps towards a UKFS-compliant management plan.

Box 11: The Woodland Star Rating

The Woodland Star Rating is a self-assessment scheme which enables woodland owners to get a feel for what the UKFS involves and identify areas of management that they should focus on in order to move in incremental steps towards a UKFS-compliant management plan. The scheme comprises thirty questions based directly upon the UK Forestry Standard, matched to the ecosystem services (e.g. carbon storage, habitat provision, flood alleviation, products and other public benefits) that each of the specified management actions are deemed to enhance.

The Rating provides a measurable indicator of the standard of woodland management being practised and allows others to understand the level of management being undertaken. The scheme is self-assessment only and is not an assurance scheme in its own right as there is no independent verification in place.

Source: Sylva Foundation

6.3 UK Woodland Assurance Standard (UK WAS)

UK WAS is an independent certification standard for verifying sustainable woodland management in the UK. A choice of indicators is available to auditors when verifying different criteria.

Box 12: Example of UK WAS Indicators

The protection of rare species, habitats and natural resources requires that:-

- Areas and features of high conservation value having particular significance for (a) biodiversity including sites important for endangered but mobile species, and/or (b) natural processes in critical situations, shall be identified by reference to statutory designations at national or regional level and/or through assessment on the ground
- The identified areas, species and features of high conservation value shall be maintained and, where possible, enhanced.
- There shall be evidence of ongoing communication and/or consultation with statutory bodies, local authorities, wildlife trusts and other relevant organisations.

Compliance can be verified through:-

- Confirmation that all known areas and features mapped
- Field inspection

Source: UK WAS

By way of example Box 12 above highlights the two indicators that UK WAS for auditing woodland management practices in relation to protection of rare species, habitats and natural resources.

Whilst certification provides independent and widely accepted assurance of sustainability, corporate stakeholders are increasingly interested in the kind of data that supports the process. Box 13 below highlights how one sector, publishing, has addressed this:-

Box 13: The Publishers' database for Responsible Environmental Paper Sourcing (PREPS)

The PREPS system is a joint initiative by twenty-four leading publishers to develop their understanding of responsible paper supply chains at a global level. The group is supported by a database that holds technical specifications and details of the pulps and forest sources of the papers they use. It also holds data on CO2 emissions and water use at the paper mill level. PREPS users are able to access this information and take it into account when making purchasing decisions.

Source: www.prepsgroup.com

6.4 Woodland Carbon Code (WCC)

The WCC is an independent certification standard developed by the Forestry Commission for carbon sequestered and stored in UK woodland creation projects. WCC is specifically designed to measure an environmental impact – the net sequestration of carbon against a 'non-project' baseline scenario. It sets out requirements for the development and validation of this baseline and provides guidance on suitable approaches. Project developers are required to register the location of their project and set out forest management plans that satisfy requirements of the UK Forest Standard, including social and environmental considerations²⁸.

6.5 Woodland Benefits Tool

The Woodland Benefits Tool provides corporates better insight on the long term social and environmental returns generated through investment in woodland creation. The Tool, developed for the Forestry Commission by URS and EnviroMarket, supports consistent and comparable measurement and reporting across four key co-benefits; wildlife, community, water and carbon. A set of proxy indicators²⁹ is used to track the delivery of each co-benefit over the life cycle of a project, from planting to maturity. In its initial form the Tool tracks outputs and outcomes (e.g. gross carbon sequestered) and users can introduce appropriate baselines methodologies as these emerge, facilitating measurement and reporting of impact (e.g. carbon sequestered relative to most likely alternative scenario)³⁰.

²⁸ More information on the WCC can be found at www.forestry.gov.uk/carboncode

²⁹ Based on the UK Forest Standard

³⁰ For further information on Woodland Benefits Tool please contact pat.snowdon@forestry.gsi.gov.uk

6.5 The Biodiversity Metric

As part of its programme to develop the UK market for biodiversity offsets³¹ DEFRA has proposed a Biodiversity Metric. Work to test and refine the UK approach to biodiversity offsetting is ongoing.

Box 14: The Biodiversity Metric

The Biodiversity Metric qualifies the value of habitats against three criteria:-

- Distinctiveness – assessed as low, medium or good – reflecting the rarity of the habitat concerned and the degree to which it supports species rarely found in other habitats
- Quality – rated as poor, moderate or good – based on Higher Level Stewardship ‘farm environmental plan’ manual
- Area in hectares

Source: DEFRA

At international level the Business and Biodiversity Offset Programme (BBOP) is working to develop and implement best practice around use of the mitigation hierarchy³² to achieve ‘no net-loss’ and preferably ‘net gain’ in biodiversity.

Box 15: Net Positive Impact in Biodiversity

Rio Tinto defines net positive impact on biodiversity as ‘ensuring that actions have positive effects on biodiversity that not only balance but are accepted to outweigh negative effects by:-

- Avoiding unacceptable impacts to ecosystems
- Reducing the impacts that may occur
- Restoring impacted ecosystems
- Compensating for residual impacts with offsets
- Seeking additional opportunities to contribute to local conservation

Working with Biodiversity Consultancy the firm has used detailed scenario planning to inform biodiversity offset design and optimise investment.

Source: The Biodiversity Consultancy

6.6 Water Benefit Certificates (WBCs)

The Water Benefit Certificate mechanism uses a market-based approach centred around the idea of financing water related projects based on the benefits they generate. WBCs serve as a common currency for a wide range of water projects and capture these benefits by certifying that a certain volume of water has been saved, supplied or purified by a certain project during a specific period of time. The sale of these WBCs generates revenue that is then used to support the project activity.

³¹ Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for losses in a measurable way.

³² Avoid, Minimise, Restore, Offset

In order to be approved under the scheme and to generate WBCs, projects must go through the WBC certification cycle and meet a set of stringent sustainability criteria. Projects must also demonstrate that they are additional, which means that the project would not have happened without the prospect of generating and selling WBCs. In other words: the project must go beyond the business-as-usual scenario. Transparency is a key principle in the WBC certification process to ensure a high level of credibility, both among potential WBC buyers and WBC project developers.

The initiative is being developed Water Benefit Partners³³ (WBP), a multi-stakeholder public private partnership supported by the Swiss Development Corporation. WBP brings together corporate CSR representatives, technical experts and NGOs with the aim of achieving a broad consensus among all relevant stakeholders. The Gold Standard Foundation is responsible for regulating and distributing WBCs, as part of the Gold Standard Water Programme³⁴.

To date WBC is focused on lesser developed and mid income countries, and a number of pilot projects are currently underway to inform ongoing development of the mechanism.

6.7 DEFRA Best Practice Guidance on Payment for Ecosystem Services (PES)

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DEFRA Best Practice Guidance on PES provides step-by-step advice on designing and implementing PES schemes, including approaches to monitoring, evaluating and reviewing implementation. The guidance highlights potential approaches to monitoring/measurement; direct measurement, modelling and indicators (proxies that can be used to infer the likely level of service provision), and suggests how different ecosystem services might be used in practice (see table 3 below).

Ecosystem service	Measurable parameter	Direct measurement	Modelling	Indicator ('proxy')
Water quality	Nitrate levels in water supply	✓		
	Buffer strips to slow run-off and intercept sediment			✓
	Ecological status of water bodies (eg abundance of indicator species)	✓	✓	
Flood risk regulation	Riparian tree planting			✓
	Synchronisation of water flows	✓	✓	
	Flow rates	✓	✓	
	Floodplain water storage capacity	✓	✓	
	Soil water storage capacity	✓	✓	
Climate regulation	Fluxes in atmospheric gases (CO ₂ , CH ₄ , etc.)	✓	✓	
	Tree planting			✓
	The Woodland Carbon Code carbon lookup tables		✓	
	Tree measurement	✓		
Habitat for wildlife	Wetland creation			✓
	Species richness and diversity	✓	✓	
Tourism and recreation	Visitor numbers	✓		✓
	Environment Agency rod licences	✓		✓
	Spending on nature-related tourism			✓

Source: DEFRA

Table 3: Monitoring ecosystem service provision

³³ <http://www.waterbenefitpartners.org>

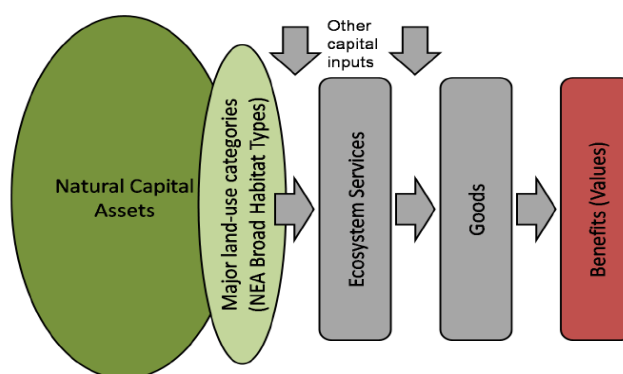
³⁴ <http://www.goldstandard.org/water>

6.8 UK National Ecosystem Assessment

The UK National Ecosystem Assessment (UK NEA) is an independent and peer reviewed analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity.

The NEA frames and analyses the natural environment as:-

- A set of interconnected natural capital assets (stocks) (e.g. clean air, soil, woodland, species)
- Each providing one or more (ecosystem) services - outputs or features (e.g. freshwater, crops, trees, wildlife);
- Which can be used to produce goods, things people receive and use (e.g. good air quality or recreation), that;
- When consumed or used, provide benefits (to people) which can be valued (often in monetary terms)³⁵.



Source: Natural Capital Committee

Figure 5: NEA analysis framework

The first UK NEA, which involved a wide range of government, academic, NGO and private sector institutions reported in June 2011, generated a wide range of data including:-

- The status and trends of the UK's ecosystems and the services they provide at multiple spatial scales from country to catchment level³⁶;
- The key drivers of change affecting the UK's ecosystems, including changes in land-use, infrastructure development, pollution and climate change;
- Plausible futures (scenarios) for the UK's ecosystems and the services they provide;
- Societal response options to secure continued delivery of the UK's ecosystem services,
- The value of ecosystem services to well-being through economic and non-economic analyses

³⁵ Natural capital stocks can provide many potential services with different benefits and values, which can change over time and location (e.g. the value of a bottle of water changes with circumstances).

³⁶ The NEA identifies eight broad habitat types: mountains, moors and heaths, enclosed farmland, semi natural grasslands, woodlands, freshwaters, coastal margins, marine and urban.

A follow on phase commenced in early 2012, aiming to further develop and communicate the evidence base of the UK NEA, and make it relevant to decision and policy making at different spatial scales across the UK. Work is focused in the following four areas:-

- The further development of the economic analysis of the UK NEA
- Further exploration of cultural ecosystem services and how cultural, shared and plural values for ecosystem services can be better understood and operationalised
- Development of the analysis of future ecosystem changes,
- The development and enhancement of tools and other supporting materials for use by a range of key user groups from the public, private and voluntary sectors, to enable them to make best use of this evidence

6.9 Natural Capital Framework

In parallel with its work to develop national and corporate natural capital accounting (see 4.2.4 earlier) the Natural Capital Committee is working with the National Audit Office and others on approaches to measuring natural capital.

In a recent working paper³⁷ the NCC identifies landscape level measurement and reporting as a practical/pragmatic starting point in this challenging task, proposing the eight Board Habitat types used in the UK NEA³⁸ as accounting units for natural capital.

Box 16: Challenges in measuring the woodland-related natural assets

Metrics for woodland may be of one two or three dimensions (quantity, quality or spatial) depending on the asset or the benefits provided to society being measured. The principle natural assets are trees, biodiversity, soils and water; benefits are timber, wildlife conservation, carbon sequestration/storage and recreation. However each of these has a different functional relationship in relation to the area, composition (quality) or spatial configuration (location or fragmentation etc.) of woodlands.

Source: Natural Capital Committee

Over the longer term the NCC paper envisages an interlinked set of metrics, covering natural capital stocks, major land use categories and benefits. Metrics chosen to measure changes at major land use level will need to relate back to natural capital, and on to ecosystem services, goods and benefits they support (see Figure 6 below). The first set would measure status and trends in natural capital over time, the second changes in major land use categories that (a) reflect natural capital itself, and (b) assets that contribute most to benefits, and the third changes in values of different goods received.

³⁷ Towards a Framework for Defining and Measuring Changes in Natural Capital

³⁸ Mountains, moors and heaths, enclosed farmland, semi natural grasslands, woodlands, freshwaters, coastal margins, marine and urban.

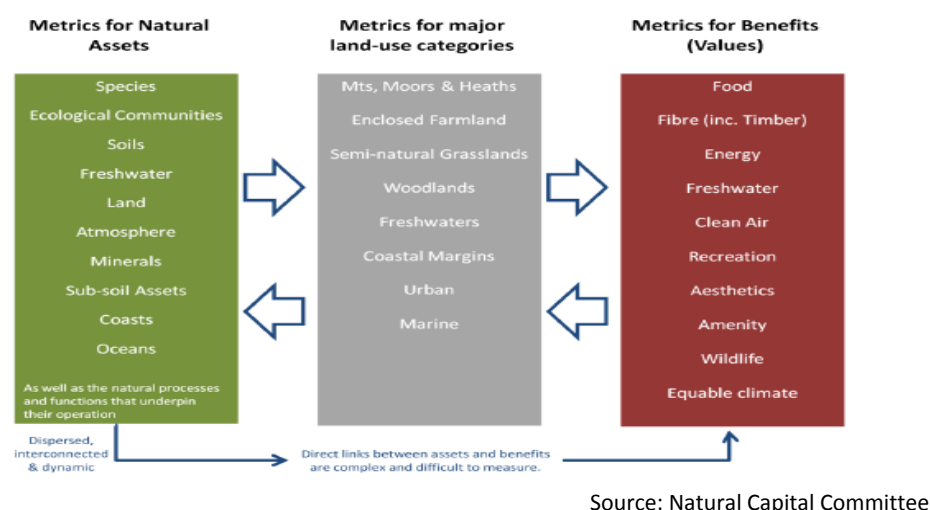
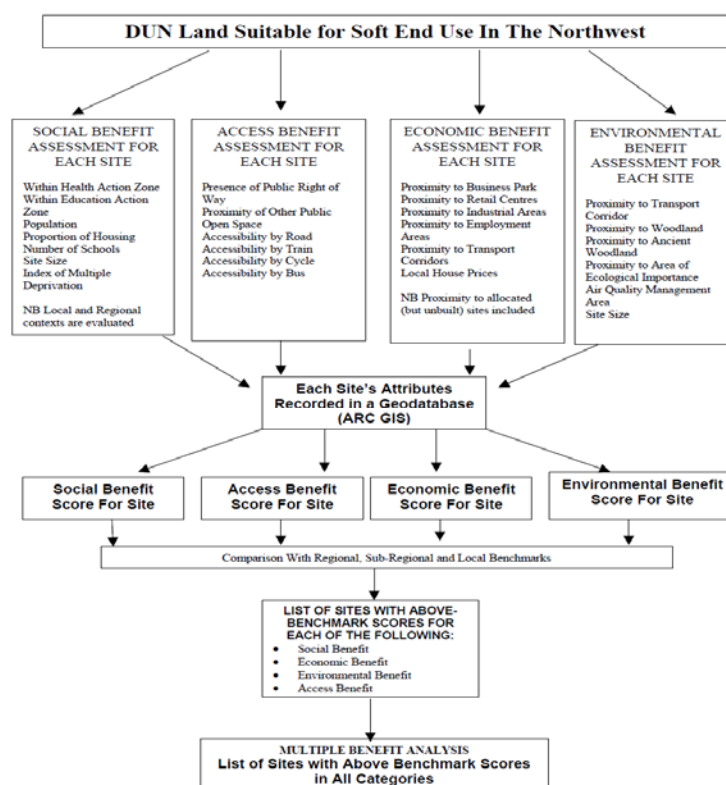


Figure 6: Three categories of metrics to measure status, condition or amount

6.10 The Public Benefit Reporting System (PRBS)

The PBRS is a policy and decision-making framework for investing public monies in the creation of new soft end uses such as woodland creation on Derelict, Underused and Neglected Land (DUNL).

The framework allows geographically referenced thematic data to be collated, analysed and combined. By synthesising a wide range of GIS data layers, it helps users identify the true character of individual sites and areas, allowing the economic, social, and environment potential of a site or area to be modelled and mapped.



Source: Forest Commission North West

Figure 7: Flowchart for Public Benefit Recording System

The system was first used in the selection of sites for the Newlands scheme, a £23 million programme developed by the Northwest Development Agency, the Forestry Commission and a range of partners to transform 435 hectares of derelict land across the region into thriving community woodlands that deliver true socio-economic and environmental benefit.

6.11 Woodland Potential Calculator

The Woodland Potential Calculator has been developed by Forestry Commission with support from Natural England. It provides contextual information to determine whether woodland creation is (a) achievable, and (b) desirable, at the level of individual National Character Areas³⁹ (NCAs), enabling better informed debate, and supporting feedback of local opinions to Government.

Access to key facts and data on each NCA highlight where woodland creation could best deliver ecosystem services, what type of woodland would deliver those ecosystem services and, also, where woodland creation might not be appropriate. In future the WPC could also include a range of further NCA-specific 'local context', such as relevant information developed by Nature Improvement Areas, Local Nature Partnerships, Regional Forestry Frameworks, biodiversity partnerships etc.

6.12 Access to Woodland Standard

The Access to Woodland Standard, developed by Woodland Trust, highlights access to woodland in different geographic locations based on the following parameters:-

- No person should live more than 500m from at least one area of accessible woodland of no less than 2ha in size.
- There should also be at least one area of accessible woodland of no less than 20ha within 4km (8km round trip) of people's homes

The Woodland Access Standard is a key indicator through which DEFRA measures progress in this area, and Government Forestry and Woodland Policy Statement includes commitments for the development of a new baseline to assist more effective targeting of access improvement initiatives in the future.

6.13 Woodland Creation Grants: Priority Places for England

Woodland Creation Grant schemes are administered under relevant regional Rural Development Programmes in England, Wales, Scotland and Northern Ireland. In England they target projects with potential to generate a range of benefits including:

- Support for wildlife, particularly where they can act as protective buffers and link important woodland habitats or other associated natural areas
- Reduction in flood risk, improvement in water quality and prevention of soil erosion;
- Better access to and opportunity for recreation in green space, especially near urban centres
- Enhanced landscape, visual amenity and air quality
- Development of the rural economy
- Capture and storage of carbon

³⁹ National Character Areas (NCAs) divide England into 159 distinct natural areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries, making them a good decision making framework for the natural environment.

The Forestry Commission system for identifying “Priority Places for England” (PPE) is based on data that includes populations, deprivation indices and existing public access provision. A map indicating the PPE locations is in Appendix B.

Submissions are required to demonstrate that a proposal meets standards set out in the UK Forestry Standard and associated FC guidance, takes account of relevant land designations or features e.g. Special Protected Areas etc., and is registered on the Rural Land Register. Applicants also submit an up-to-date Ordnance Survey map showing the boundary of the area for which they are applying.

Some activities fall under Environmental Impact Regulations and these require formal consent of Forestry Commission before they can be undertaken. In these instances applicants need to submit an Environmental Statement. FC places any proposals on a public register, providing details about where the proposed project is located, work that is going to be carried out and value of grant applied for.

6.14 Social Cost Benefit Analysis (SCBA)

The full value of goods such as health, family and community stability, educational success, and environmental assets are hard to infer from market prices. SCBA provides a means of expressing the value of a particular action or policy to society in monetary/economic terms, enabling consequences to be compared using a common metric.

Decisions on what and how to measure economic value are a matter of professional judgement, based on best practice and past experience. HM Treasury recommends Social Cost Benefit Analysis (SCBA) as a way of expressing the value of a proposal to UK society for policy appraisal purposes, providing guidelines for its use throughout government in the HM Treasury Green Book. In 2012 supplementary guidance was added to the Green Book on accounting for environmental impacts, recommending the use of ecosystem services frameworks to ensure that the full range of environmental impacts from a proposed policy or project are included future appraisal.

6.15 Integrated Valuation of Environmental Services and Trade-offs (InVEST)

Integrated Valuation of Ecosystem Services and Trade-offs (InVEST) is an open source software⁴⁰ tool designed by the Natural Capital Project⁴¹ to help businesses reduce risks and seize opportunities by valuing nature’s benefits. It supports the mapping and valuation of multiple ecosystem services, quantifying benefits in both biophysical terms, such as water flows, and economic terms, such as avoided cost or net present value.

InVEST draws on spatial "scenarios" developed by stakeholders to show, for example, several alternative areas where fishing might be prohibited, where agricultural land might be converted to residential development, or where climate change is expected to affect precipitation and temperature patterns. Scenarios typically include maps of potential future land use/land cover and/or marine habitats and ocean uses.

⁴⁰ Downloadable at:- www.naturalcapitalproject.org/download.html

⁴¹ The Natural Capital Project is collaboration between WWF, the Nature Conservancy, Woods Institute for the Environment (Stanford University), and the Institute on the Environment (University of Minnesota).

6.16 iTree

The iTree software package enables users to quantify the structure of urban/community trees and calculating the economic value of environmental services they provide, based on research undertaken by the US Forest Service (the developers of iTree) and a range of US academic institutions. Box 11 below highlights recent experience gained with iTree in the UK.

Box 17: UK experience with iTree

iTree was used as part of a project to collate region specific data sets for pollution and climate at Torbay in Devon. Data was collected across 250 random plots on tree species, numbers, dimensions, condition and land use type, and fed into iTree to calculate the economic value of energy saving effects on buildings (summer cooling/winter warming), carbon storage, annual carbon sequestration and pollution filtration the trees were delivering.

Source: www.torbay.gov.uk

6.2 Summary

A wide range of existing and emerging woodland measurement and reporting systems could play a role in enabling cost effective impact investment transactions.

Existing forest management frameworks, such as the Woodland Star Rating, and UKFS compliant management plans, could be adapted for use in presenting/discussing projects with potential investors.

The National Forest Inventory, the National Ecosystem Assessment, and the Woodland Potential Calculator, could support initial analysis of project potential at national and/or regional level.

Methodologies such as InVEST, SCBA, InVEST and PBRS could play a role in analyse of project value/benefit at local level.

The Woodland Benefits Tool offers one potential format for measuring and reporting of outcomes/outputs associated with key co-benefits of woodland creation.

The use of the Woodland Benefits Tool in conjunction with the Woodland Carbon Code could be of particular interest to corporates, since it provides a mechanism through which all corporates can consistently measure and report additional (non-carbon) outputs/outcomes of their investment.

The UK WAS process, which also involves on-going evaluation of woodland, could potentially provide a mechanism for capturing data of interest to impact investors, although further analysis is required to ascertain the feasibility of this. Since certification is already heavily embedded in corporate sustainability reporting, this approach could be of particular interest to corporates.

7. Recommendations

One of the defining characteristics of impact investment is the intention to generate social and environmental ‘impact’ alongside financial returns. However, a range of views exist on how these should be measured and reported in practice.

Decisions on both what to measure, e.g. carbon sequestration, and how to measure it, e.g. carbon sequestered at a point in time (outcome) or net carbon sequestered over time (impact), tend to be made on a project by project basis. Whilst a growing range of tools and frameworks are available to support transaction development, identifying and developing the ‘right’ approach to measurement and reporting remains a key challenge for project developers.

Specialist intermediaries have insight on areas of impact that interest different investors (asset owners, such as high net worth individuals, and asset managers, such as impact investment funds), and their likely preferences with regard to reporting and measurement. Where they have sufficient confidence in the underlying potential of a project, intermediaries can also work with prospective investees at an early (pre-investment) stage to develop appropriate approaches to measurement and reporting.

Emerging investment platforms such as Ethex, which requires prospective clients to commit to ongoing measurement and reporting in a standardised format as one of their listing requirements, advise prospective clients on how to comply with these requirements as part of their service.

General

1. Future strategy with regard to impact investment in woodland creation should be sufficiently flexible to address different interests and approaches of groups that could invest in woodland for social and environmental impact.
2. The strategy should encompass both woodland creation and management since each offer different impacts e.g. woodland creation adds to carbon sequestration and storage, woodland management can enhance leisure opportunities and increase biodiversity. An integrated approach will help to optimise potential interest from funds and intermediaries, most of who know very little about the potential of woodland.
3. The strategy should where ever possible draw on existing best practice in woodland management. The Woodland Star Rating, UK-FS compliant forest management plans, and the Woodland Benefits Tool, should become the focal point for discussions for engagement between developers and investors. Forestry Commission should review the design of the design of its management plan template accordingly.
4. Market research should be undertaken to better understand demand for the social outcomes that woodlands can deliver from potential PbR commissioning agents in the public sector and elsewhere.

What to measure

5. The strategy should enable measurement in each of the areas identified by the Natural Capital Committee as relevant to future decision making round forestry (see Table 2).

6. The decision on which of these areas to measure and report on should be at the discretion of project stakeholders. To ensure underlying quality is maintained projects should have a UKFS compliant management plan in place, or be working towards one (e.g. via the Woodland Star Rating).

How to measure

7. A set of best practice outcome indicators should be developed for each of the NCC measurement areas based on the UK Forest Standard
8. Work should be undertaken to explore the use of SROI in woodland projects to better understand how the approach might be integrated into the development of management plans.
9. Work should be undertaken to develop baselines for woodland beyond carbon. This should seek to build on, and ensure compatibility with, processes established for the Woodland Carbon Code. Onward development of the WCC verification process should identify and incorporate opportunities for simultaneously capturing relevant non-carbon data within the audit process. Additional data collection should not form part of the WCC audit requirement, but should be available as a (paid for) option at the request of project stakeholders.
10. Initial efforts should focus on biodiversity and water. Integration of biodiversity should take on board learning/outcomes of existing work in this area, especially biodiversity pilots undertaken by Defra, Natural England and local councils (see 6.5). Integration of water should draw on recent work being led by the Gold Standard Foundation (see 6.6).
11. Over the longer term work should be undertaken to scope out potential for a single location specific woodland impact baseline model. This would provide an independent and consistent indication of the underlying potential that a site offers for generating impact across different outcome categories. Projects brought forward could then be rated on the basis of how effectively they capture this potential.

Rating

12. Work should be undertaken to understand how UK woodland related social and environmental outcomes might be integrated into existing impact tools, especially the GIIRS (see earlier) which rates the performance of corporates and funds. The GIIRS, which has already attracted a significant international user base, provides (largely thematic impact) investors with a means of assessing relative performance across key areas (leadership, employees, environment, community, and products and services) through a range of filters.
13. Work should be undertaken to scope the potential for a rating that provides investors with an indication of project potential in each of the NCC decision areas relative to a single location specific baseline model (see above). As business capacity to measure and report on natural capital continues to grow, such a rating would enable businesses to more easily differentiate between potential projects, identifying those that match their match their requirements and offer optimum potential in terms of targeted impact/s

8. Appendices

A. Stakeholder Engagement Process

Outreach via:-

- A series of semi-structured interviews – in person and by telephone
- ICF National Forestry Conference, Glasgow
- Opportunities in Woodland Carbon, Edinburgh

Key research questions and summary of responses:-

1.1 How should developers structure and present their projects so as to attract impact investors?

- Validation of impact is at a relatively early stage
- Focus on outputs and outcomes rather than impacts
- Impact first investors have clear idea, and proprietary approaches
- Investors draw down from GINN and apply to projects
- Thematic investors are often unclear about impacts – intermediaries play a key role

1.2 What sort of data/information (currently available/accessible) is likely to be useful?

- Mix of subjective and objective indicators is best
- No central record for UK WAS; validation/verification data held/retained by certifiers
- ECP ED applies KPI to identify opportunity for sustainability uplift alongside financial returns
- Lack of track record is an issue for many investors looking at social 'payment by results'
- Attribution of outcome (required to claim impact) challenging outside – too many variables

B. Forestry Commission Priority Places for Woodland Creation England



Source: FC England

C. Forestry Commission Management Plan Template

Stage	Objective	Activities and/or sources of information
Scoping	Development of management objectives	Owner's objectives, the potential of the site, UKFS Requirements and Guidelines, forestry strategies, policies and plans at country, regional and local level, forestry frameworks.
	Analysis of interests or 'stakeholder analysis'	Consideration of all potential interests, including those of specialist interest groups and the local community.
Survey	Collection of information	A comprehensive exercise to collect and map all the information about the site and its location, including any statutory constraints. Meetings held at this early stage with stakeholders and those with specialist knowledge will help identify all the factors involved and alert interested parties to the proposal.
Analysis	Assessment of survey information	The survey information is evaluated in the light of project objectives, allowing the potential of the site to be assessed.
Synthesis	Development of a design concept	The broad concept for the forest design is formulated from the information that has been collected and analysed, including the visual aspects.
	Development of a draft management plan	The design concept is refined and developed into a draft management plan. The draft forms the basis of consultation with interested parties. Several drafts may be required in an iterative process.
	Finalisation of the plan and submission for approval	The draft is amended, refined and firmed up into a final forest management plan.
Implementation	Development and implementation of work programmes	Operational plans are developed from the forest management plan and work programmes are implemented.
Monitoring	Evaluation of progress	Indicators of progress are checked at regular intervals. Data are collected and recorded to evaluate management.
Review	Periodic updates of the forest management plan	Work done on the plan is recorded, and at regular intervals the plan is updated to keep it current. Periodically (usually at five-year intervals) the plan is thoroughly reviewed and updated.