



Exploring the Use of Bonds to Support Woodland Creation
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About this report

This report was commissioned by Forestry Commission England as a contribution to the Finance Workstream of the Woodland Carbon Task Force, which seeks to identify and explore alternative ways of funding woodland creation.

The report explores use of bonds for woodland creation in the context of existing incentives, sources of capital and funding instruments, defines traditional categories of bond and emerging 'green bond' classification, illustrates uses of bonds to support forestry and woodland elsewhere in the world, and concludes with a non-exclusive list of stakeholder views relevant to future development.

The findings have been developed through an analysis of publically available material, including early work undertaken by EnviroMarket Ltd on behalf of the WCTF Finance Workstream, in house research and stakeholder engagement.

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Contents

1. Introduction	4
2. Financial Measures to Increase Woodland Creation	5
2.1 Incentives and motivation	5
2.3 Source of capital	7
2.2 Funding instruments	9
3. Bonds and Woodland Creation	10
3.1 Defining characteristics	10
3.3 Green bonds and social finance	12
3.3.1 Who buys green bonds?	12
3.3.2 Assuring sustainability	13
3.2 Bonds and forestry	13
4. Expert and Stakeholder Views	15
4.1 Government	15
4.2 Landowners	15
4.3 Conservation	16
4.4 Communities	16
4.5 Banks	16
4.6 Investors	17
4.7 Lawyers	17
7. Key Findings and Recommendations	18
Table 1 – Capital protection attributes	5
Table 2 – Income attributes	6
Table 3 – Key sources of capital	8
Table 4 – Key funding instruments	9
Table 5 – Key bond categories and descriptions	10
Table 6 – Benefits of bonds for retail investors	11
Box 1 – Regulation of forestry investments	9
Box 2 – The UK retail bond market	11
Box 3 – Social impact and charity bonds	12
Box 4 – Islamic banking and Alternative Finance Investment Bonds	14

1. Introduction

Woodland creation can be undertaken on land acquired for the purpose, or by existing land owners. Investors focused on the former approach in England have highlighted both financial and non-financial barriers – notably the ability to acquire land at a viable price, and in gaining necessary permissions¹. Landowners have often undertaken woodland creation for non-commercial reasons including recreational pursuits, habitat protection and general good stewardship².

This report explores the potential use of bonds for funding woodland creation. It maps out the landscape of existing measures and incentives to promote private investment, defines key categories of bond and the emerging green bond classification, explores how bonds have been used to support forestry and forestry related activity elsewhere in the world, and provides a non-exclusive summary of relevant views and feedback from key stakeholder groups.

¹ 'Workshop to explore funding models for woodland creation: Summary of discussions' (March 2011) Forum for the Future

² 'Landowner attitudes to woodland creation and management in the UK' (2010), Lawrence A., N. Dandy and J. Urquhart Forest Research Alice Holt Farnham Available at www.forestry.gov.uk/fr/ownerattitudes

2. Financial Measures to Increase Woodland Creation

Existing financial measures to increase woodland creation can be grouped into three main categories: (a) improving incentives, (b) identifying new sources of capital and (c) improving the funding instruments through which this capital is allocated. This chapter explores each of these in turn, setting the scene for a subsequent discussion on bonds.

2.1 Incentives

Financially orientated investors might consider woodland for capital protection, income generation, or a balance of the two; investors with philanthropic or corporate responsibility objectives prioritise social and environmental benefits. A recent development has been the emergence of impact investors, who seek both social and environmental benefits alongside (and potentially offsetting) financial benefits.

Table 1 below links key benefits sought by investors with different woodland attributes, and relevant third party actions or developments in connection with that attribute.

2.1.1. Capital protection

Table 1 – Capital protection attributes

Benefit	Attribute	Relevant action
Tax-mitigation	Investment in commercial woodland carries attractive tax benefits, particularly exemption from inheritance tax.	Research: Understanding how effectiveness of tax incentives can be maximised
Security	Land title is one of the most widely recognised forms of security worldwide. Land values have appreciated considerably in recent years.	Research: Landownership and land transfer Mapping land suitable for planting
Inflation protection	Biological growth of trees provides a natural hedge against inflation. Further the impact of growth on underlying financial value is exponential overtime, since the unit value of timber increases with age of tree.	Research: Understanding investor requirement for data on risks (e.g. pest and disease, wind, fire and flood damage etc.).

2.1.2 Income

Table 2 – Income attributes

Benefit	Attribute	Relevant action
Timber	Wood is in demand for traditional uses such as construction.	Research: Industry analysis points to future shortage of domestic supply brought about by (proposed) development of large scale biomass energy.
Wood Energy	Wood is in demand as an energy source, as developers move rapidly to bring biomass energy plants on line.	EU Renewable Energy Directive sets standards on sustainability of biomass feedstock. Launch of Renewable Heat Incentive drives demand for wood energy.
Carbon	Demand for bio-sequestration is emerging as corporations, public and individuals seek to mitigate the impact of carbon emissions.	The “Read Report” (www.forestry.gov.uk/climatechange) sets out long term potential of woodland creation in context of UK action on climate change. Launch of Woodland Carbon Code setting the standard for quality bio-sequestration projects in the UK. Woodland Carbon Projects included in the Government’s Greenhouse Gas Reporting Guidelines
Payment for Ecosystem Services (PES)	Interest is growing in ecosystem services beyond bio-sequestration (e.g. water filtration, biodiversity habitat), as corporates explore alternative ways of addressing operational challenges and regulatory requirement.	The 2011 Natural Environment White Paper (www.defra.gov.uk/environment/natural/whitepaper/) proposes incentive structure for Nature Improvement Areas that could catalyse woodland creation in these areas. Emergence of market framework for biodiversity offsetting. Valuing Nature Network (www.valuing-nature.net/) created to catalyse wider understanding of ecosystem services approach.
Energy and Communication Infrastructure	Woodland and forest locations are in demand for siting of energy (e.g. wind) and communication infrastructure.	
Leisure and tourism	Woodland and forest locations are in demand for a range of outdoor pursuits and leisure activities, and as holiday break destinations.	

2.13 Social and environmental impact

Woodland creation can deliver a broad set of social and environmental benefits e.g. increasing the amount of tree and woodland cover can reduce the impact of poor air quality, and mitigate some of the effects of a warming climate, particularly in urban areas, and increase opportunities for people to adopt a healthy lifestyle³.

2.2 Source of capital

Table 3 below lists the key providers of capital for woodland creation and their primary motivation for allocation of funds.

These differ both between and within categories e.g. retail investors – individual investors, or funds that operate on behalf of individual investors – can be motivated by both financial (e.g. tax planning) and/or non-financial benefits (e.g. the desire own a forest retreat), whilst institutional investors – large organisations such as pension funds and insurance companies – are primarily motivated by financial benefit, and ability to invest at relatively large scale.

Institutional investors have relatively limited exposure to UK forestry; in general investment opportunities are not large enough for these groups to achieve the economies of scale that their business models require. In contrast retail investors are significant owners of woodland across England, either directly (e.g. through ownership of individual woodlands), or indirectly (as investors in forestry funds).

³Tabbush, Paul M., O'Brien, Elizabeth A. (2003) 'Health and Well-being: Trees, Woodlands and Natural Spaces', Forestry Commission, Edinburgh.

Table 3 – Key sources of capital

Source	Funding Instrument	Typical motivation
<u>Public sector</u> <ul style="list-style-type: none"> Local Regional National 	Grants, tax incentives	Local, regional and national policy objectives
<u>Non-profit</u> <ul style="list-style-type: none"> Charity Philanthropic 	Grants Donations	Organisational mission and objectives
<u>Banks</u>	Debt Structured finance	Suitable risk profile and collateral, good cash flow, fit with organisational objectives (e.g. banks with a social or ethical mandate)
<u>Retail investors</u> <ul style="list-style-type: none"> Individuals Businesses Retail funds Fund of funds 	Grant Donation Equity	Relaxation, sport, firewood, nature, tax mitigation, long term returns.
	Equity Debt Donation	Fibre, woody biomass, carbon, corporate responsibility
	Equity	Green asset class offering tax relief, attractive returns – attractive to potential investors e.g. high net worth
<u>Institutional investors</u> <ul style="list-style-type: none"> Pension funds Insurance Companies 	Equity	Portfolio diversification, inflation hedge, offset long term liabilities with a long term asset, deliver commitment

2.3 Funding instruments

The previous section outlined key sources of capital for woodland creation and forestry. This section summarises different funding instruments through which capital could potentially be deployed.

Table 4 – Key funding instruments

Instrument	Description
Grant	Grants are a conditional but non-repayable funding instrument ⁴ .
Equity	Equity gives investors an ownership interest and claim on profits and capital growth, but is an unsecured investment; if the business fails equity investors stand to lose everything.
Debt	Lending offers investors a lower risk profile - investments are secured against existing collateral (land, buildings etc.), returns are lower (and fixed at the outset), and after an agreed period investors receive their original investment back.
Structured Finance	Structured finance can take many forms, but often involves either lending against anticipated future income, or pre-financing (i.e. front loading payment) of future receivables at a discounted price.

Aside direct ownership most retail investment in forestry and woodland has historically been in the form of equity, managed by specialist forestry fund managers. Retail funds operate as either 'Regulated' or 'Unregulated' Collective Investment Schemes (UCIS) – the latter fall outside UK Financial Services Authority (FSA) regulation (see box 1 below for further discussion)⁵. The majority of forestry funds currently being marketed to retail investors in the UK are UCIS⁶.

Box 1: Regulation of retail investments

A Collective Investment Scheme (CIS) is an arrangement which enables a number of investors to pool their assets and have them professionally managed by an independent manager. Investments typically include government bonds, corporate bonds, and quoted shares (i.e. shares actively traded on an exchange recognised by the FSA), although some schemes go wider, for example investing in unquoted investments or property.

Unregulated CIS (UCIS) can be based outside the UK and dedicate money to a range of different enterprises, including less common investment products. In addition to lower levels of regulatory scrutiny, investors may not have access to legal support and compensation through the Financial Ombudsman Service and Financial Services Compensation Scheme if things go wrong. UCIS can be marketed in the UK, providing the promoter itself is regulated by FSA, but only to limited categories of investor.

⁴ Assuming grant conditions are not breached

⁵ A number of forestry funds originally aimed at institutional investors have recently been re-engineering products for this sector of the market.

⁶ A large proportion of these funds are linked to non-UK forestry operations.

3. Bonds and Woodland Creation

The previous section summarised key aspects of the funding landscape for woodland creation. This section focuses in on bonds and their use to date in the forestry sector.

3.1 Defining characteristics of bonds

When a borrower takes out a loan, they agree to pay interest and repay the amount borrowed back to the lender by a particular point in time. When a borrower issues a bond, they agree to pay interest and to repay the original amount to bondholders. A bond simply converts a lenders obligation to repay into a tradable financial instrument. Bonds are an alternative to self-funding or borrowing from a single lender; issuing a bond creates a pool of creditors, as opposed to a few large ones. Bonds also provide a means of raising profile and improving engagement with the investment community. From the investors point of view bonds are a lower risk investment option than shares; whilst bonds are usually secured against some form of collateral and their ability to repay externally rated by independent agencies, shares are unsecured, i.e. if the issuing entity fails shareholders stand to lose their entire investment.

Table 5 – Key bond categories and their characteristics

Type	Description
Sovereign	Issued by a national government, denominated in a foreign currency. The foreign currency will most likely be a 'hard' currency (e.g. \$ or ¥), and may represent significantly more risk to the bondholder.
Government	Issued by a national government, denominated in the national currency.
Municipal	Predominantly issued by US state, municipal, county, or special purpose districts (public schools, airports, etc.) to finance capital expenditures. They are exempt from federal tax, and are generally exempt from state taxes for residents of the state in which they are issued. In the UK most local authorities have been able to borrow at an attractive rate (via the Public Works Loan Board) from HM Treasury. However recent reports suggest that bonds are now being actively considered by a number of larger councils for the latter half of 2012, with credit ratings already being sought ⁷ .
Corporate	Issued by a company as an alternative to bank loans. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds. Corporate bonds are considered higher risk than government bonds, and as a result, interest rates are almost always higher.
Project	Issued by a special purpose vehicle, a legal entity solely and specifically created by project partners to 'own' a new project; project bonds provide an alternative to syndicated loans ⁸ for borrowing capital. Project bonds are supported by the anticipated future cash flow of the project concerned.

The global market for bonds is huge – in the US alone over \$800bn worth of bonds are traded on a daily basis in transactions that range in size from a few thousand dollars between individual retail investors and a few billion between institutional investors

⁷<http://www.publicfinance.co.uk/news/2011/09/councils-plan-to-issue-bonds-despite-pwlb-rate-cuts/>
accessed at 14.10 on 3/1/12

⁸ A syndicated loan is a loan provided by a group of lenders, but which is structured, arranged, and administered by one or several commercial/investment banks.

As outlined in section 2.2, the role of institutional investors in UK woodland creation has been limited. With this in mind subsequent analysis focuses on bonds that target retail and markets and corporate investors. A total of 12 retail bond issues were issued in 2012; groups including National Grid and Tesco collectively raised £1.22bn⁹. Table 6 below highlights some of the benefits that attract retail investors to bonds:-

Table 6 – Benefits of bonds for retail investors

<p>Predictable income stream: The amount of interest income received from an investment in bonds, and the timing of the coupon interest payment, is usually known with a high degree of certainty.</p>
<p>Portfolio diversification: Including bonds in a portfolio with asset classes possessing different investment characteristics, such as equities, can play an important role in reducing the risk of the portfolio through diversification.</p>
<p>Lower risk: Corporate bonds are usually considered lower risk than an investment in the company's equity. Furthermore, Gilts (bonds issued by the UK government) are considered 'risk-free' in terms of default, as it is unlikely that the UK government would default on interest payments.</p>
<p>ISA eligibility: In most cases, provided that the bond has five years to maturity at the time the investment is made bonds are eligible for inclusion within an ISA. Most bonds can also be held within a SIPP.</p>
<p>Tax free capital gains: Gains on most sterling denominated corporate bonds are not usually subject to capital gains tax. Also, there is ordinarily no stamp duty on the acquisition or disposal of a bond.</p>

Source: Adapted from Killick & Co.

To date a large proportion of UK retail investment has been channelled through specialist bond funds. This situation is beginning to change however, as recently initiated efforts to boost direct investment continue to gain traction (see box 2).

Box 2: The UK retail bond market

Efforts are underway to boost the UK market for retail bonds. Over £1bn of retail bonds were issued between spring 2010 and autumn 2011, on behalf of groups such as National Grid (infrastructure) and Places for People (social housing). Whilst subsequent secondary market trading is at an earlier stage, a significant development took place in early 2011 with the launch of a retail bond trading platform by London Stock Exchange (ORB – Orderbook for Retail Bonds). The platform enables UK investors to directly buy and sell retail bonds for the first time.

⁹ <http://www.ft.com/cms/s/0/6a4fb49c-2bc3-11e1-98bc-00144feabdc0.html#axzz1qDc1XUjr> accessed on 20/03/12.

3.2 Green bonds & social finance

The term green bond refers to any type of bond issued to finance sustainable development activities and which provides investors with independent assurance of environmental and social benefits.

The emergence of green bonds reflects a wider trend towards 'impact' investing, in which investors seek clear environmental and social benefits alongside financial returns. US investment bank JP Morgan estimates the potential opportunity for impact investing globally could exceed \$400bn by 2020¹⁰. Research suggests that, whilst the majority of impact investors are seeking social and environmental benefits in addition to attractive financial returns, a proportion are willing to 'trade-off' lower financial returns in return for specific social and/or environmental benefits¹¹.

Within impact investing social finance emphasises the delivery of social benefits alongside financial returns. Box 3 below highlights Social Impact Bonds and Charity Bonds, two emerging social finance bond models that link social causes and programmes with socially motivated private investors.

Box 3: Social Impact and Charity Bonds

Social Impact Bonds pay for early intervention on social issues that affect a defined population (for example as a programme to reduce the number of people being admitted to hospital with drug related problems). Public sector commissioners commit to pay for the intervention if and when outcome specific milestones are met. In this way Social Impact Bonds unlock the up-front funding required for early intervention on social issues but transfer the risk of under- or non-performance risk to private investors; simply put, if outcomes don't improve investors don't get their money back.

Funds raised through the issue of Charitable Bonds are invested in low risk social housing projects. Bond investors choose the rate of return they want to receive (along with their original investment) upon maturity of the bonds. Depending on the amount chosen, the social investment intermediary makes a donation of gross (untaxed) interest to charities of the investor's choice.

3.3.1 Who buys green bonds?

Globally around \$16bn of the bonds issued to date to fund sustainable development activities (e.g. wind energy, low energy buildings etc.) have provided investors with independent assurance of the social and environmental benefits delivered, and been specifically marketed as green bonds. Buyers have ranged from state pension schemes in Denmark to retail bond fund managers in Japan and the UK.

¹⁰ JP Morgan

¹¹ Ibid.

On a smaller scale corporate borrowers involved in UK-based sustainable development activity have successfully undertaken community bond issues targeting 'community of interest' investors, such as retail energy clients. In 2011 renewable energy generator Ecotricity successfully marketed a bond to its own customer base, raising £10m for the construction of new wind turbines. To date the strong track record of issuing entities has mitigated the need for external validation of social and environmental credentials.

Finally social investment intermediaries have successfully structured and promoted social impact bonds and charity bonds to a range of socially orientated investors including charitable trusts, high net worth investors and corporate donors.

3.3.2 Assuring sustainability of green bonds

As the number of organisations seeking to issue green bonds increases over time more standardised approaches to validating and verifying environmental and social performance will be required. A range of third-party systems are emerging to facilitate this process.

The Climate Bonds Initiative is an investor-focused not-for-profit initiative that aims to address this challenge in the climate change arena. The CBI is developing a range of sector based standards for green bonds which provide assurance on climate change – and enable issues to label their green bonds as Climate Bonds. Methodologies for forestry and bioenergy sectors are under development.

The Impact Reporting and Investment Standards (IRIS) developed by US-based Global Impact Investment Network offers a range of tools for assessing and reporting social and environmental impact. Work to expand coverage across sectors is on-going.

3.2 Bonds and forestry

As far back as 1910 US President William Taft proposed the issue of a bond to fund government purchase and reforestation of denuded watersheds, in order to prevent 'private capital from monopolising the water power of the country', and charging 'exorbitant prices' !

Today institutional bond investors can access forestry indirectly through the bonds of major pulp and paper business - particularly those operating in emerging markets such as Brazil and China¹². In future institutional investors may also be able to buy bonds issued to fund a range of measures aimed at slowing tropical deforestation and forest degradation; early action in this area is essential since long term economic costs related to climate change rise steeply with delay.

Retail bond investors can also buy bonds of major pulp and paper businesses - in the UK this would most likely be channelled through an appropriately selected retail bond fund. However, alongside these more traditional options, innovative new bond products are also beginning to emerge.

In July 2011, EcoPlanet Bamboo (UK) Ltd launched a corporate debenture, marketing the product as a Bamboo Bond, with the proceeds used to establish 1,800 hectares of Guadua Bamboo plantation across Central America. The Bamboo Bond takes advantage of recently introduced legislation which promotes Islamic banking in the UK (see box 2). Although not regulated by FSA, the Bamboo Bond complies with HMRC requirements for inclusion in Self Invested Pension Schemes.

¹² Direct institutional investment in forest management takes place through specialist forestry funds

The Bamboo Bond targets financially orientated retail investors. Bonds have also been launched with impact orientated investors in mind.

Washington DC based Planting Empowerment offers US retail investors accredited by the Securities and Exchange Commission the opportunity to invest in Forest Bonds that pay 7% per annum. Funds are used to support Panamanian partners in local job creation, technical training, and scholarship opportunities.

Oregon based US Forest Capital LLC has proposed tax efficient Community Forestry Bonds as a means of conserving working forests while providing jobs and respecting landowner property rights. Community Forest Bonds, structured as tax exempt revenue bonds¹³, would be issued for the acquisition of forests by qualified buyers, and repaid from future income generated through low impact management of the forest and surrounding land.

Box 4: Islamic banking ('Sukuk') and Alternative Finance Investment Bonds (AFIB)

Sukuk are 'Sharia' compliant Islamic bonds. Sharia prohibits the collection and payment of interest ('riba'), and investing in businesses that are considered unlawful (e.g. businesses that sell alcohol). It also prohibits involvement in contracts where the ownership of a good depends on the occurrence of a predetermined uncertain event, or other speculative transactions, making conventional derivate instruments impossible to transact.

In their simplest form sukuk are investment certificates representing ownership and/or use rights in an underlying asset or pool of assets. This differentiates sukuk from bonds, which are interest bearing securities, and makes them more akin to asset backed securities.

In 2009 the UK government proposed new regulations to support Islamic finance in the UK, outlining four main aims: (1) to level the playing field for corporate sukuk within the UK; (2) provide clarity on regulatory treatment (3) reduce legal cost for these types of investment; and (4) remove unnecessary obstacles to their issuance.

Alternative Finance Investment Bonds (AFIB) are a subset of the wider sukuk market. AFIB are explicitly exempt from FSA regulation on Collective Investment Schemes and can be issued and bought by anyone (i.e. they are not limited to the Muslim community)

¹³A revenue bond is a special type of municipal bond distinguished by its guarantee of repayment solely from revenues of a specified revenue generating entity associated with the purpose of the bonds, rather than from a tax.

4. Expert and Stakeholder Views

The previous section provided an overview on bonds, including the emergence of green bonds, and the use of bonds to fund forestry related activities elsewhere in the world. The overall potential of bonds in the UK context also depends on the responsive of proposed mechanisms to non-financial barriers that could slow or block woodland creation. For example, if woodland creation cannot be delivered due to shortage of skilled foresters, anticipated benefits may not accrue, impacting the investment risk profile of a bond.

This section presents a (non-exclusive) list of expert and stakeholder views relevant to the use of bonds to support woodland creation, based on available literature and the experience of the author.

4.1 Government view

Leverage: The UK government has considered the use of bonds as a means of funding early action to slow tropical deforestation and forest degradation. Governments could play a number of roles to support the issue of bonds to private investors, for example by taking on specific risks that investors are unable to take on, or developing more stable long term demand for the products and ecosystem services that afforestation, reforestation and sustainable management of natural forests deliver. Crucially, bonds would enable the government to leverage limited public funds releasing a far larger flow of private capital in aid of key policy objectives (i.e. climate change mitigation, biodiversity preservation, poverty reduction etc.)

4.2 Land owner view

Demand: In recent years, relatively few landowners have invested in woodland on purely commercial grounds – additional woodland creation is often perceived as unattractive, even on low grade productive land. Early indications suggest this may change as better awareness and confidence in carbon opportunities develop.

Land owners operate under the same day to day financial constraints as businesses in any other sector. They must identify and allocate capital to projects, either from internal sources or external providers. Banks lend for woodland activities but only where cash flow and collateral support it.

Flexibility: Early discussions suggest some land owners are uncomfortable committing on the basis that it 'locks up' land for long periods of time. In theory woodland owned by a landowner could be adapted or reconverted at any stage; however linking to an external funding source such as a bond potentially introduces enforceable restrictions e.g. legal commitments to bond holders with regard to a management strategy.

A widely held concern with regard to debt based financing of commercial plantations is the impact of repayments on future cash flow, and potential implications for forest management regime. Timing of bond interest (and indeed principal) repayments may not coincide with optimum timber harvesting conditions; a managers' ability to respond to these opportunities is central in optimising asset value over time.

Delivery: Woodland creation has been at a relatively low level for a number of years. Initial discussions suggest some concern regarding the size of woodland skills base, and whether there are sufficient people to support a rapid increase in woodland creation and management.

Whilst this needs qualifying, if validated it would represent a significant barrier, and risk, since it increases underlying uncertainty regarding successful outcome.

4.3 Conservation view

Demand: Initial research suggests interest in bonds, but uncertainty over the number of woodland creation projects in a position to benefit from funding – i.e. size of potential project pipeline in this area.

Status quo: Larger groups such as Woodland Trust have well developed fund-raising strategies, including partnerships with corporates and other potential sources of funds. These organisations are keen to understand if and how bonds might impact existing sources of finance.

4.4 Community view

Shares: Recent work¹⁴ undertaken for Community Woodlands Association concluded that equity investment through community shares offer a more flexible mechanism for financing community ventures than debt financing. Community shares connect the investor to the enterprise, sharing in its risk and rewards. Loans and bonds, whilst available, create financial liability.

*'As the majority of community woodlands will not own property, unless this is a naked debenture, the bond will be secured on the land value. This may put the land that the money was used to purchase under unnecessary risk, depending on the relationship with the organisation offering the debenture. The attraction of in-kind benefits as well as, or more likely, instead of, financial returns may be attractive to community woodlands where, for example, a debenture holder (perhaps another third sector organisation) may receive free access to a charged for area or programme in the woodland.'*¹⁵

4.5 Bank view

Regulation: In general banks are now required to hold greater reserves of capital, which ultimately impacts on the way they manage their lending.

Issuing bonds enables banks to service client requirement for capital in a different way. Rather than hold the loans they have made for the full term (i.e. until they are repaid), they can choose to package them up into bonds and sell on to capital market investors. It can be expected that banks will (as and when market conditions allows) make greater use of capital markets; measures that support this process (e.g. standards that enhance credibility with prospective customers) are likely to receive a positive response.

¹⁴ 'Initial Research into alternative ways of funding land acquisition with a particular focus on community share issues' (2010), Community Woodlands Association

¹⁵ *Ibid.*

Scale: Banks make money by taking a percentage of capital raised when bonds are sold. For the process to be commercially attractive costs must at least be covered; income depends on an agreed percentage and overall scale of the transaction. Anticipated future volume is therefore an important indicator of commercial opportunity as far as banks are concerned.

Market risk: Policy signals need to be consistent and reliable if private sector investment is to be encouraged. Bond investors need to be confident that any future regulatory changes won't negatively impact on repayment ability of issuer to repay.

4.6 Investor view

Scale: Institutional investors require large scale investment opportunities; many consider the funding opportunity presented by woodland creation in England as too small to be viable. In contrast retail investors are already significant investors in woodland, either as direct owners, or as investors in forestry funds. As an indication of the scale at which retail investments can operate Bamboo Bonds (see p. 13) are offered with a minimum purchase requirement of \$16.5k.

Regulation: As with banks, investors are increasingly concerned about regulatory risk in relation to government sponsored market-based incentives – risk to equity investors is even greater than that to banks.

Self-Invested Pension: Historically tax mitigation has been a major driver for private investment in UK woodland management and creation. Overseas forestry investments aren't treated in the same way, but the recent introduction of Self Invested Personal Pension (SIPPs) has opened up a new avenue for fund managers launching products in this area. SIPPs are a UK government approved personal pension scheme which allow individuals to make their own investment decisions from a wide range of HMRC approved options, including equities and property. In effect they act as a tax 'wrapper', allowing tax rebates on contributions in exchange for a limit on accessibility.

4.7 Lawyer view

Tax efficiency: The tax implications of bond structures should be considered at the earliest stage. For instance, exploring if and how bonds could be structured to take advantage of Community Interest Tax Relief (CITR), a tax relief which is available to individuals and corporate bodies investing in Community Development Finance Institutions working in deprived areas, but which does not, at present, extend to forestry activities.

6. Key Findings & Recommendations

6.1 Key findings

Key findings from this study are:-

A review of examples from elsewhere in the world, rapidly developing UK markets for sustainable wood fuel, ecosystem services, new financial regulations and innovation in social finance, highlights several potential opportunities for the use of bonds in support of woodland creation – both directly and indirectly (i.e. as a source of funding for activities that could drive demand for additional woodland creation).

Direct use of bonds

- Bamboo Bonds have been issued to finance bamboo plantation in Nicaragua, Community Forest Bonds are proposed as a source of funding for low impact forest management in the US, and a Forest Bond has been issued to finance low impact forest management and restoration in Panama.
- Woodland creation can deliver attractive social benefits. Social impact bonds and charity bonds have been issued in the UK to finance social interventions, and charitable activities respectively.

Indirect use of bonds

- Demand for woodland products and ecosystems services underpins the economic incentive for woodland management and creation. Bonds issued to finance activities that create additional demand for woodland products and ecosystem services can indirectly support woodland creation. Community bonds have been issued by renewable energy business in the UK to finance additional wind turbines, and successfully sold to their retail customer base.

Future development of bonds as a source of funding for woodland creation in England will be influenced by range of factors including:-

- Existing and future woodland related tax, social finance, regulatory and planning legislation
- Emergence of woodland creation business models with favourable cash flow characteristics
- Emergence of a standardised approach for valuing social (potentially environmental) impact
- Integration of woodland creation within wider biomass energy generation funding

6.2 Recommendations

It is recommended that:

- Research is undertaken to further qualify the tax and regulatory aspects associated with issuing bonds to support woodland creation.
- A common framework is developed and tested for measuring and reporting the social and environmental impact of woodland creation and management.
- A 'learn by doing' pilot programme is initiated to test the practical potential of community bonds, charity bonds and social impact bonds in the context of woodland creation.