

smarter finance
how to get more carbon savings for your cash
June 2009

contents

foreword	3
executive summary	4
introduction	6
smarter finance: raise more, save more	8
where first? prioritising the emissions to tackle	11
a vision for Climate Finance	17
acknowledgements	18
references	19

This report was authored by Will Dawson with contributions, advice and research from the other members of the Climate Finance team: Mark Ainsworth, Kate Phillips, Gemma Adams, Peter Madden, Chris Sherwin, Alice Chapple, Martin Hunt and Alex Johnson.

Forum for the Future would like to thank the Climate Finance Advisory Group for their input to this research and the interviewees that gave their time to contribute to this report, with particular thanks to the Ashden Trust for sponsoring Climate Finance and to the South East of England Development Agency for supporting this research.

Forum for the Future's Climate Finance initiative aims to enable the UK's leading public sector organisations to develop and use new smarter finance models.

Forum for the Future, the sustainable development charity, works in partnership with leading business and public sector bodies, helping them devise more sustainable strategies and deliver these in the form of new products and services.

www.forumforthefuture.org

Email: info@forumforthefuture.org and call: 020 7324 3630

The Forum for the Future is a non-profit company limited by guarantee and registered in England and Wales.

Registered office: Overseas House, 19-23 Ironmonger Row, London, EC1V 3QN, UK.
Company No. 2959712. VAT Reg. No. 6777475 70. Charity No. 1040519



foreword

This report brings you the results of our ground-breaking research into smarter ways of financing carbon savings in the public sector.

The public sector faces some serious pressures over the coming years. Anyone who reads the papers will know that the public debt we are accumulating because of the economic downturn is likely to lead to very deep cuts further down the line. After a decade where lots of money was pumped into public services, the tap will be turned off.

But even though there'll be less money, the public are ever more demanding in what they expect from public services. And at the same time, the need to act on climate change is becoming more urgent – which is being reflected in new expectations on public sector bodies and tough carbon reduction targets. So, the public sector faces a mix of higher public expectations, stronger targets, and less money.

One of the ways out of this dilemma is to use financial resources more effectively and to find ways to spend that deliver both carbon savings and a financial return. That is why we at Forum for the Future have launched the climate finance initiative to promote the use of new financial models to tackle climate change in the UK public sector. We aim to show what is possible by enabling public sector organisations to develop new schemes as well.

This report launches our unique analysis of the opportunities that maximising the influence of the public sector, the power of finance and the potential of carbon saving measures present. It will be crucial to ensure that we maintain our funds by using loans rather than grants, and use the power of markets in trading schemes and offset schemes that find the most efficient ways to save carbon. These will help to recycle the money we spend on carbon savings.

The research has identified common barriers to starting successful schemes. The Forum's Climate Finance process is designed to help by:

- (1) overcoming information blockages to making the business case for smarter finance initiatives, drawing on collated business case information from existing practice;
- (2) avoiding costly duplication of effort in developing initiatives, by getting under the skin of how existing examples were developed and implemented, and how they perform;
- (3) managing risk and fast-tracking to the right answers through tailored and integrated input from multi-disciplinary experts at all stages of development; and
- (4) reducing the cost of innovation through expert guidance and contributory funding from The Ashden Trust.

Climate Finance is drawing on expertise from leading public sector practitioners such as Kirklees and Woking, along with climate change expertise from bodies such as the Carbon Trust and Salix Finance, as well as the financial knowledge of RBS Eco-Markets and the Co-operative Bank, to develop and pilot smarter finance schemes with a set of leading public sector organisations.

We hope you find this report stimulating, inspiring and informative. If you are interested in taking things further and getting more closely involved with the Climate Finance initiative, please get in touch.



Peter Madden, chief executive, Forum for the Future



executive summary

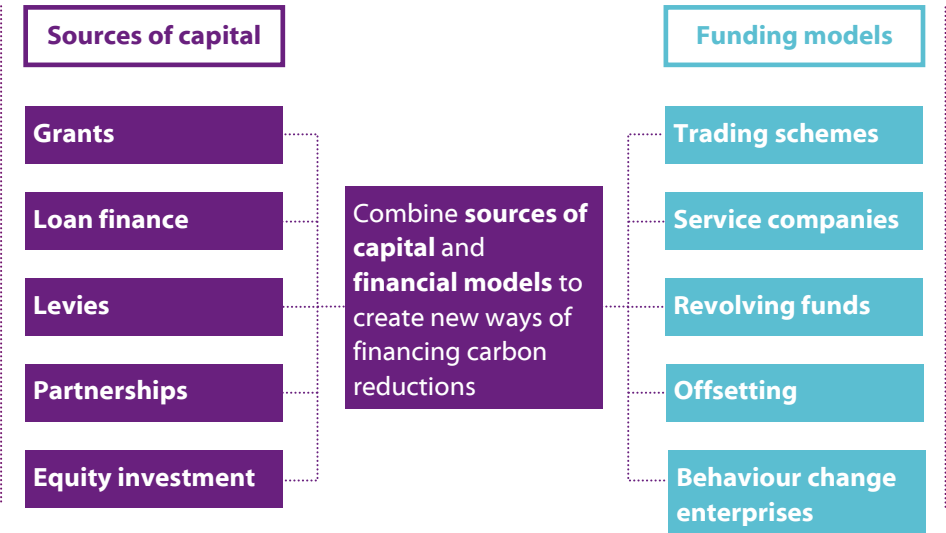
Do you want to know how your capital funds can stretch to retrofitting homes at only a third of the cost that can be achieved with grants? Or, how to use private loans to turn £38,000 into a £1 million pot to fund carbon savings in your community?

This report, the culmination of the scoping stage of Forum for the Future’s Climate Finance project, shows you the opportunities to create carbon savings with limited funds in the UK. We have researched over 60 case studies of the public sector using financial models to save more carbon with available capital. We call these smarter finance. We have interviewed practitioners from around the world to find out what made their schemes successful – so that you can join them, and create your own schemes.

smarter finance is using money in ways that increase the funds that can be spent on carbon savings. This can involve raising more capital, or investing it rather than granting it, so that it can be reused.

Now is the time to get smart with finance. The funding pressures are increasing. We have to act with urgency to cut carbon emissions to avoid dangerous climate change. We already have the low-carbon technology to do this, but the public sector needs guidance on the use of financial models to deliver greater carbon savings.

Figure 1 – The smarter finance approach seeks new ways of combining sources of capital and funding models to create new ways of financing carbon reductions



In Figure 1 we show some of the best ways to do this: five models for using finance and five sources of finance open to the UK public sector. They offer the prospect of delivering to the taxpayer a much improved level of quality and efficiency. And, as new legislation like the Carbon Reduction Commitment and the carbon budgets take hold, now is the time to get to grips with financing carbon savings. While public sector organisations do need to lead by example by cutting the emissions from their own activities, the wider potential for really big savings lies in the homes and businesses over which the public sector has influence. Here our research reveals great carbon-cutting opportunities in buildings and energy generation in particular.

This report breaks new ground in the way it brings together the analysis of the influence of the public sector, the power of finance and the technical feasibility of carbon saving measures. It takes account of all three of these dimensions to identify and formulate top carbon saving opportunities for smarter finance.



You don't need to leap into the unknown to take advantage of these opportunities. You can build on our 10 leading examples. Kirklees Council is using a loan model that is nearly three times more efficient than grants to install low-carbon technologies in domestic housingⁱ. Aberdeen and Woking councils, using little capital of their own, have accessed private capital to fund service companies that supply social housing with combined heat and power. Bristol provides one of many examples of a council using Salix loans to save carbon from its own activities. Berlin has formed partnerships with energy control companies such as Siemens to save over 60,000 tonnes of carbon in public buildings, with no upfront cost, and savings to the taxpayer of £1.3 million a yearⁱⁱ.

Housing and non-domestic buildings are the top emission areas to tackle with finance. Energy generation is also an area with huge potential but the models are not so well formed and tested. Transport has large technical possibilities but these rely more on legislation than finance to realise. Waste has a relatively low abatement potential and is a complicated area to tackle with finance but there are still promising possibilities to reduce waste to landfill, for example by using waste trading schemes.

Buildings and energy generation, then, are the most fertile ground for smarter finance. The first and foremost opportunities involve unlocking the huge potential to save money and carbon in our existing buildings. Energy efficiency and insulation improvements to our office blocks, schools, hospitals and homes can have high upfront costs but can payback quickly with the certainty of energy and money savings. So our primary recommendations include using service companies and revolving loan funds to remove the upfront cost, and allow repayments out of energy savings. Stimulating community groups to act together to save and generate low-carbon energy, through forming partnerships and supplying loan capital, is also a promising model to promote.

From our analysis of the barriers and drivers faced by practitioners in creating such schemes, we have distilled 10 factors for success. We show you these 10 factors (see above), and take you through the stages of creating a smarter finance scheme. Developing a scheme does not have to empty your revenue budgets. Many of the schemes we have researched were developed inexpensively by following these factors. To get going you need a culture of welcoming new ideas and working across departments and budgets. And you need to build relationships on the outside too. We also show you how the Climate Finance initiative can offer you contributory funding to do all this in your own organisation and turn carbon savings into an opportunity to save taxpayers' money.

The 10 success factors for creating smarter finance schemes

Leadership and vision – top-down drive and clear shared vision for the scheme

Imagination and creativity – encouraging staff to suggest new ideas

Strategy – ideas are aligned with corporate strategy, which should itself foster smarter finance

Joined-up working – particularly between finance and environment departments

Engagement with stakeholders – to make the scheme more robust and accepted

Partnerships – draw on the best experts to help design and run the scheme

Research and development – reliable outcomes come from thorough R & D

Long-term view – consider the full value over the lifetime of a carbon saving measure

Blended outcomes – think broadly about complementary objectives across policy areas

Governance and audit – be able to demonstrate success against objectives with the right metrics and audit processes



introduction

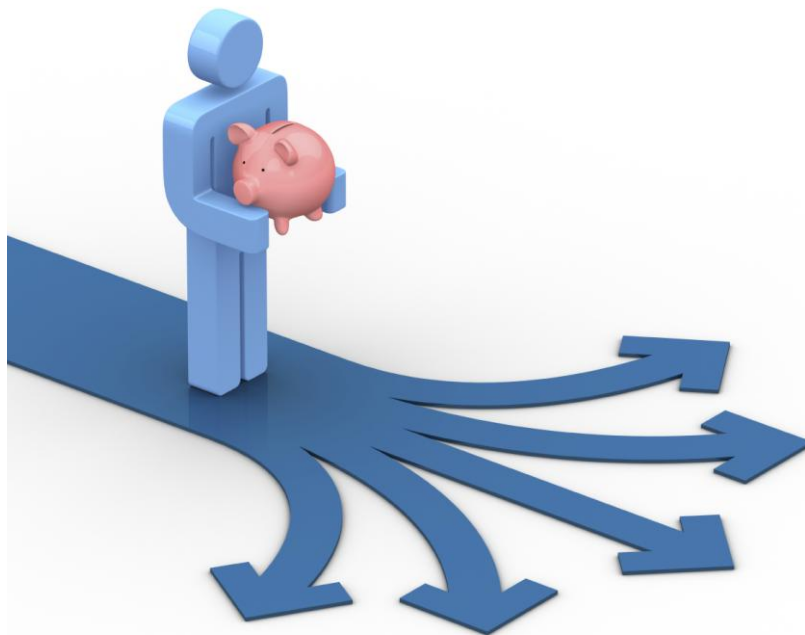
In these times of mounting public debt, there's surprisingly little to guide public sector organisations to get smarter about the use of public money in carbon-saving schemes. This report, the first of its kind, aims to meet their need for better decision-making on finance, improvement and sustainability. It is more than just a thought-piece: pilot organisations will be drawing on it, as part of Forum for the Future's Climate Finance initiative, to design and launch their own schemes at much lower public cost. A unique advisory group of experts from finance, innovation, the public sector and carbon management will support these pilot organisations as they showcase what is possible and influence future policy.

So, this report will help you:

- (1) understand and communicate the smarter finance options and ways of sourcing capital;
- (2) make the business case for practical finance innovation to tackle climate change in your organisation, through the use of illustrative examples and case information;
- (3) get a grounding on how to make your finance initiative happen, and how to make it a success, by learning from practitioners who have already blazed the trail; and
- (4) improve the take-up and efficiency of existing finance models by introducing the benefits of user-centred research and innovation techniques.

To do this, we set out the landscape for finance innovation, and the strategic opportunities for public sector organisations – synthesising the learning from over 60 finance initiatives. You can see overleaf our 10 leading examples of smarter finance. Among them are Kirklees's home energy loan scheme, a model that could be applied nationwide to reach three times as many households than grantsⁱ, and the Thamesway Energy initiative that can turn £38,000 of Woking council's capital into £1 million pounds of funding to supply combined heat and power to the areaⁱⁱⁱ.

These case studies exemplify different combinations of the five models and five sources of financial capital that we identify (see page 8) as the building blocks of smarter finance. The models are ways of using funds more effectively, efficiently and fairly. The sources that support them are ways of increasing those funds so that you can do even more. We explain what they are, and the benefits of using them.



To make the most of its powers to save carbon, the public sector should look beyond its own estates. Our research shows that there are big opportunities to reduce emissions, particularly in homes and non-domestic buildings and in energy generation. These areas are especially ripe for smarter finance because they have predictable revenues and assets.

We show what it takes to exploit these opportunities and get a new financial scheme up and running. Effective schemes need the right relationships. They flourish in organisations with the right culture for innovation, and with the means to go through the design process. That process must work not just for the initiating organisation itself but also, even more importantly, for the people who will be users of the scheme, such as householders.



This CHP plant room in Stockethill, Aberdeen supplies heat and power to nearly 300 flats. Image courtesy of Aberdeen City Council

We have distilled 10 factors for success, from our case studies and from ‘nuts-and-bolts’ interviews with the people who are already running these ‘smarter finance’ schemes. We share these with you (see pages 15-17, below) and show what the practical stages are, from research and development to operation.

The common barriers to implementation, we found, are information blockages, the duplication of effort across departments, difficulties in managing risk, and the cost of the design process. The 10 factors for success, and the Climate Finance design process, are designed to overcome these barriers.

The 10 leading examples of smarter finance

Aberdeen Heat & Power, a service company part owned by Aberdeen City Council, has installed several heat and power plants supplying social housing.

Berlin Energy Agency is part owned by the City of Berlin and organises large retrofits using special contracts with service companies that remove upfront cost to the building owners.

Carbon Trading Yorkshire is a trading scheme for business and the public sector, run by Carbon Action Yorkshire and the Local Government information Unit (LGiU), who are now developing a new platform that can be used by a range of organisations.

Eastleigh CarbonFREE is a local voluntary carbon compensation scheme open to investment by individuals, community groups and businesses as well as the council itself.

Kirklees RE-Charge offers secured loans from Kirklees Council to households for energy generation, repayable on the sale of the house.

Lithuania Energy Efficiency and Housing Project has demonstrated how, by collaborating together, tenants can win loans on better terms to retrofit their homes.

Milton Keynes Carbon Offset Fund requires developers to pay a levy for each new-build house, which pays for energy efficiency measures in existing housing stock.

Thameswey Energy Ltd is a joint venture service company owned by Woking council that builds, finances and operates low carbon heat-and-power schemes.

Wessex Ecos Fund is an Industrial and Provident Society set up by the Wessex Reinvestment Trust to attract private sector investment for low-carbon building projects.

Woking Borough Council Sustainable Transport involves a series of initiatives including car clubs that encourage mixed transport use.



smarter finance: raise more, save more

Smarter finance is about raising more capital and using it to save more carbon. This section covers what you need to know to do this.

Figure 2 below shows the five smarter finance models, supported by five ways of raising capital to use in them if your funds are short; increased capital can make a good model go a lot further, so it is important to consider both aspects together. In combination, they can be applied to many different carbon saving schemes across the public sector, with the models and the sources of capital working together to support public goals.

Of the five models, revolving funds and service companies are the two which have been most widely used to save carbon.

The use of revolving funds has grown due to Salix Finance’s model of match funding loan schemes for saving direct carbon emissions. This was the model used to establish the Bristol Local Authority Energy Finance Scheme. Innovative ways have been found to extend the model, including the Kirklees RE-Charge interest-free loan scheme for microgeneration technologies for homeowners, which has proven extremely popular.

“By partnering council funding with private sector loan finance, each £38k investment made by Woking into Thameswey Energy Ltd achieves £1 million in total project investment.”

Woking Borough Council

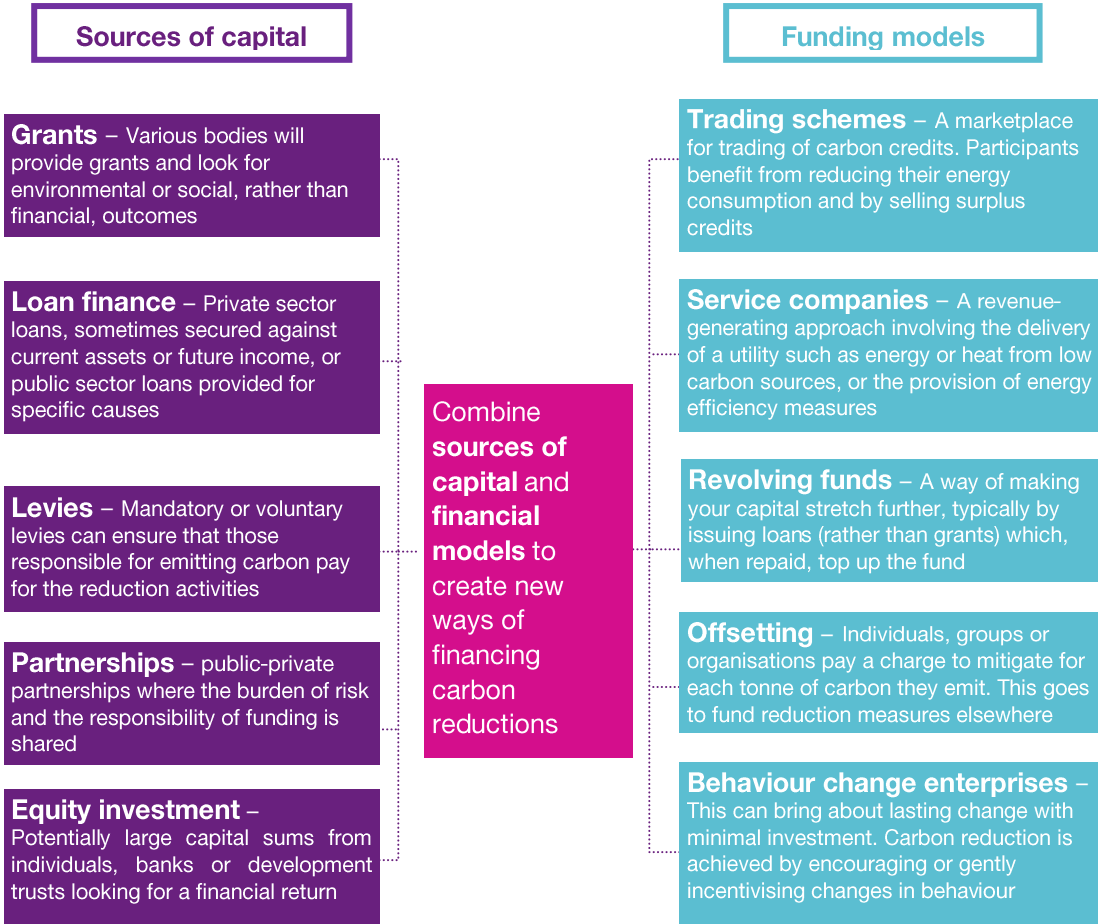


Figure 2 – The models that drive smarter finance are fuelled by the sources of capital. There is considerable untapped potential to match models with sources of capital in new ways



Service companies have been used to fund off-grid heat and electricity distribution in an Energy Service Company model in Woking, raising capital from private loans to increase the capital pot. Internationally, the Berlin Energy Agency (BEA) has used a performance guarantee model to retrofit large public buildings, to save energy at no upfront cost. In this public-private partnership approach, the regional government invests jointly with energy efficiency companies, combining both finance and technical expertise.

Trading schemes provide a market place where participants trade carbon savings. These schemes may be on a large scale and mandatory, as with the European Emissions Trading Scheme (ETS). However, there are other models. In a new voluntary regional scheme in the UK, the Local Government Information Unit (LGiU) and Carbon Action Yorkshire are running a virtual trading scheme to help organisations prepare for the trading that will form part of the mandatory Carbon Reduction Commitment. Other voluntary schemes include one, developed by LGiU, that allows carbon trading within communities of people. Under this approach the local authorities act as market maker, rather than participant.

“Although capital is more scarce at the moment the private sector can help join up projects with the capital they need to be delivered.”

Adrian Rimmer | RBS EcoMarkets

“The pilots run by LGiU have proven that carbon trading is viable at a regional level.”

Andy Johnston | LGiU

Offset schemes have so far been largely focused on carbon-cutting projects in the developing world, partly due to the difficulty of producing accredited savings in the UK. This is changing and local governments are creating local voluntary “offset” schemes - such as Eastleigh’s CarbonFREE fund - that allow businesses and individuals to donate money to pay for carbon saving projects in their area.

An exciting area, ripe for innovation, is ‘behaviour change companies’. Car clubs are a good example, where business models are changing the way we behave and creating new lower-carbon ways of living. Woking, for instance, has an employee car club to reduce use of private cars, which it aims to extend to residents.



the benefits of smarter finance

The boxes below show the six benefits we have identified. It is clear that the public sector is under pressure to do more – including saving more carbon – with limited funds. Whilst the key driver for smarter finance is to enable the public sector to do this, the benefits of smarter finance go beyond value for money and increased funding.

<p>Increased value for money New methods of effectively deploying funding to achieve the greatest CO2 reduction per pound</p>	<p>Increasing funds Opening new routes to funding such as securing private finance and using prudential borrowing</p>	<p>Investing Building stronger business cases for carbon reduction that is more likely to find approval with finance directors</p>
<p>Including lower-income households Tackling fuel poverty and small businesses without finance options</p>	<p>Meeting new policies Such as Local Indicators, the Home Energy Conservation Act and the Carbon Reduction Commitment</p>	<p>Stimulating the economy Creating jobs and increasing UK Plc's profits</p>

Smarter finance can become part of an overall strategy to invest in carbon reductions. Such savings are increasingly likely to be driven by legislation, such as the Home Energy Conservation Act and the Local Indicators for Local Authorities.

“Using subsidies alone may not be the most efficient way to ensure all homes have access to low carbon heating and energy savings measures.”

Heating and Energy Saving Strategy | Department for Climate Change

A key target for the public sector is to include the hard to reach in new schemes. Kirklees found that an interest free loan covering the full cost of low-carbon technologies made them more accessible for low-income householders than a grant covering only part of the cost. Aberdeen Heat and Power is lowering the fuel bills of the areas it serves, some of which have fuel poverty rates as high as 70 per cent^{iv}. And the public sector has a huge role to play in

stimulating economic recovery across the UK. Smarter finance gives us the opportunity to do this in ways that create skilled future-proof jobs within a green economy. For instance, The Existing Homes Alliance estimates that a national housing energy-reduction retrofitting programme^v could create 200,000 long-term skilled jobs.



where first? prioritising the emissions to tackle

the emission sources

We have seen some examples of smarter finance in action, the models that can be used and the sources of capital. This section identifies where the most rewarding opportunities can be found to use these strategies to save carbon.

There are many changes we can make to save carbon – from technology switches such as changing the source of electrical energy from coal to wind or solar, to behaviour changes such as using more public transport or reducing our meat consumption. The public sector has influence on all of these and more. So, we have analysed the powers of the public sector, the technical feasibility of savings from different sources, and the different ways in which finance can be deployed, to see where the best opportunities lie. You can use this analysis to help prioritise your projects and develop carbon strategies that are right for your organisation. We have pulled it all together in the form of a ‘heat map’ of opportunities (see Figure 3 overleaf).

“Public sector buildings tend to be older and less energy efficient, with significant potential for carbon and energy savings.”

Adrian Rimmer | RBS EcoMarkets

From this it is clear that buildings and energy generation are the biggest opportunities^{vi}. It is no surprise that these areas of emissions have received the most attention and innovation in financial models to save carbon. They present

financiers with clearly defined assets with clear ownership, and the certainty that they will exist for many years, and with predictable returns from energy saved or generated.



This home at Stawell, built by Ecos Homes using funds raised through Ecos Fund, meets code five of the Code for Sustainable Homes and incorporates PV and solar panels. Image courtesy of Ecos Trust.

There is also a large technical potential to save carbon in the transport sector, but realising most of this will rely on legislation to increase fuel efficiency rather than on financial innovation. However, there are opportunities to change behaviour by driving less, changing existing vehicle fleets to biofuels, and promoting the purchasing or leasing of lower emission fleets. We have also seen schemes to shift people out of their cars, such as parking levies, which are used to fund other transport options.

Waste is difficult because its long value chain requires many stakeholders to be acting together, and because the value of reducing emissions from waste is hard to capture. However, there are possibilities to use trading schemes or service companies to reduce the amount of waste being produced and sent to landfill, and to avoid methane emissions.

Housing		Non-domestic Buildings	
Abatement potential MtCO ₂ e	22	Abatement potential MtCO ₂ e	15
Existing stock: loan schemes to retrofit old buildings to improve energy efficiency and install microgeneration		Performance Contracting: creating a service company to refit groups of public buildings to save energy with no upfront cost	
New build: incentivising developers to build to higher standards of energy efficiency and then offsetting residual emissions		Purchasing power: pooling funds to invest in innovative new construction techniques and materials	
Resident Behaviour change: using education and tools (e.g. smart meters) to reduce energy consumption		Frameworks for behaviour change: implementing policy that incentivises reduced energy demand with 'green leases'	

Energy Generation		Transport		Waste	
Abatement potential MtCO ₂ e	60	Abatement potential MtCO ₂ e	25	Abatement potential MtCO ₂ e	5
Investment in low-carbon: indirectly reducing emissions by, for example, procuring low carbon energy, investing in energy infrastructure or green energy		Levies and incentives: the carrot and/or stick approach can raise money and change behaviour		Behaviour change: funding publicity and education or providing exchange schemes to increase waste reuse, recycling and reduction	
Service Companies: partnering with the private sector to build low-carbon energy generating capacity, potentially on public land.		Alternatives to and better car fleets: switching to more efficient vehicles or providing alternatives such as car clubs, that save carbon and costs		Service Companies: funded by the savings generated from reduced Landfill Tax receipts	
Community energy: facilitating the uptake of microgeneration in the community by loaning money		Investment in innovation: making investments, with a financial return, in enterprises that are creating low-carbon transport technologies		Energy from waste: investing in waste powered generation schemes, paid for from the energy generated	

Figure 3 – The ‘heat map’ of the emission sources best tackled with smarter finance. Red are the hottest opportunities, blue the coolest. For each emission area, the map shows the top three opportunities for new models. UK abatement potential values are in megatonnes of carbon dioxide equivalent (MtCO₂e) saved by 2020. They have been obtained from the UK Committee of Climate Change (see reference vi). This defines realistic abatement potential as technical potential - what emissions theoretically could be eliminated - adjusted to reflect any barriers to the uptake of measures and ways that these might be addressed by the policy framework.



the opportunities for smarter finance

The 'heat map' diagram shows that there are hot areas to tackle with smarter finance. This is reflected in the pioneering schemes running now, which currently concentrate on existing buildings and energy generation.

Existing homes are ripe for new forms of finance to catalyse huge carbon savings. Homes are a secure

Behaviour change has the potential to deliver savings to UK consumers of up to £690m per annum

Heating and Energy Saving Strategy | Department for Climate Change^{vii}

asset that can be borrowed against, giving security to lenders. Energy efficiency and insulation measures are very cost effective, so that substantial savings are achievable with a payback of just a few years. However, this opportunity has only just been acted upon by government as the Heating and Energy Savings Strategy starts work to find the models we need to complete 270,000 retrofits a

year^{vii}. Forum for the Future is already active in creating new models, such as the Refit West scheme to loan money in the Bristol City region to retrofit existing housing. The Milton Keynes Carbon Offset Fund is an offset model based on a development levy that tackles both new and existing emissions at once. Eastleigh's CarbonFREE voluntary carbon compensation scheme also features future developers' contributions. There are top opportunities in replicating these models.

Service companies also represent a significant opportunity. They can lower carbon emissions in homes that are hardest to treat with insulation. This was a driver behind Aberdeen Heat and Power.

In Germany we have identified a scheme for non-domestic buildings which presents a top opportunity for replication in the UK. The Berlin Energy Agency have shown the enormous potential for investing in cost-effective savings in existing public and commercial buildings by raising the economies of scale and grouping together similar buildings for retrofitting. From inception in 1997 to June 2009 BEA have achieved a total CO2 reduction of nearly 400,000 tonnes, gross energy savings of 67.3 million euros and generated over 27,000 MWh of energy from combined heat and power and photovoltaic energy generation schemes^{viii}.

"Energy efficiency is a significant growth market for the private sector which can benefit public sector organisations."

Adrian Rimmer | RBS EcoMarkets

Behaviour change is a simple and cost effective way to realise energy and carbon savings. In UK households, just one simple action – turning a thermostat down one degree – can yield 10% energy and carbon savings for that household^{ix}. Such actions always generate savings additional to those achieved from infrastructure changes alone, though they can be difficult to predict and measure.

There is huge potential for cutting carbon in our energy supply chain, amounting to possible savings of 60 megatonnes of carbon dioxide by 2020^{vi}. The best ways of using finance for this involve catalysing the installation of low-carbon large-scale and community-scale renewables. The public sector can do this in three areas – directly on its own estates, by using open land for the installation of wind farms, as in the Partnerships for Renewables model^x, and via models such as the ESCOs in Woking and Aberdeen which supply efficient energy to homes and businesses, creating their own revenue stream.

So there are many opportunities ripe for plucking. Buildings and energy generation are in the forefront today, but innovation could open up opportunities in transport and waste as the next frontier.



nuts and bolts: how to create smarter finance

Now that we know what smarter finance is and how it works, this section explains what it takes to make it happen. We have used our research, and our experience of organisational change and innovation, to create a model for implementing an initiative as part of Climate Finance. The success factors and process steps set out below will shape projects from the research and development stages through to roll-out. This is the framework that Forum will use to help the organisations involved in developing leading new schemes.

success factors

In our research, we have identified 10 factors that have been critical to, and are strong indicators of, project success. A good project will deliver against all the factors, although the most important areas of focus will depend on the aims and objectives.

These success factors fall into three categories:

- Organisation – creating the right organisational ethos and management that promotes innovation;
- Relationships – building good relationships; and
- Design – a thorough design and accounting process.

You can use them to see how ready you are to adopt smarter finance models in your organisation.

Organisation

Why important: Every organisation has a different culture. Smarter finance needs strong leadership and a clear shared vision of what you are trying to achieve. This comes from the top. Staff need a license to innovate, so encourage your staff to be creative, and be clear that this works within the overall strategy.

“Long-term solutions are more likely to be secured by taking measured risks and learning from any mistakes than by avoiding them completely.”

Ray Morgan | Woking Borough Council^{xi}

Where demonstrated: Woking Borough Council played a pioneering role in establishing Thamesway Energy to supply combined heat and power and renewable demonstration projects in the town centre. Their success was borne out of having their organisational culture right with all three success factors in place. In Eastleigh, the CarbonFREE fund was established by a £50,000 contribution by the council to compensate for its own carbon emissions. Council staff handle all the administration, research and marketing, and run the tendering process for home installation firms, so the whole fund can be dedicated to local sustainable energy projects.

- (1) **Leadership and Vision** – it requires a person with energy and influence to lead and win support for a project of this nature. An ability to express a vision is critical to get commitment.
- (2) **Imagination and creativity** – smarter finance projects may be structured differently and will require a willingness to support new ways of working, particularly within accounting.
- (3) **Strategy** – demonstrate how the project is aligned with corporate strategy and this will help get buy-in from senior management.



Relationships

Why important: In the case studies examined as part of our research, few if any have been delivered without support from partner organisations. A strong set of partners will provide a hotbed of ideas, expertise and support in delivering your project.

Where demonstrated: Milton Keynes Council is working with the United Sustainable Energy Agency to deliver its carbon offsetting scheme. Carbon Action Yorkshire developed its trading scheme with the LGiU. Both examples combine complementary powers and expertise of the different organisations to make the scheme successful.

“The partnership with USEA, their readiness to manage the fund and the expertise they brought was key.”

Martin Davies | Milton Keynes Borough Council

Involving external stakeholders is also vital to get a project off the ground successfully and smoothly. Similarly, internal communication must also be open, from the start. Carbon reduction projects have the potential to simultaneously serve the objectives of different departments.

- (4) **Joined-up working** – between finance and environment departments will help smarter finance develop. This can stimulate the right culture with open dialogue and meetings that foster creativity.
- (5) **Stakeholders** – engagement with those influenced by, and with an influence on, the project must be part of the process of shaping its objectives, to ensure it meets the needs of the broadest group possible.
- (6) **Partnerships** – an ability to draw on, or initiate, strategic partnerships with best in class experts to develop and deliver projects may be better than building in-house expertise.

Design

“Clearly quantifying the costs and benefits of the scheme was key to getting the project

Vicky Dumbrell | Kirklees Council

Why important: These design factors are aimed at establishing the most effective project approach and generating value-for-money from your invested capital. They need to be used as a whole.

Where demonstrated: Depending on the complexity of a scheme, a feasibility study is often worth its costs. Both Aberdeen and Milton Keynes deployed formal feasibility studies to validate their project designs.

- (7) **Research, development and analysis** – the projects which have generated reliable and predictable outcomes have started with formal feasibility studies or included thorough research and development.
- (8) **Long-term view** – consider the full lifetime of the measures being taken, such as how long a wind turbine remains operational, or the lifespan of the building being retrofitted, to find the true cost and benefit and inform your business case.
- (9) **Blended outcomes** – carbon reduction projects typically coexist with other targets and drivers. Thinking broadly about complementary objectives, such as community benefits, will help achieve best value from the investment and reveal long-term benefits.
- (10) **Governance and audit** – projects need to measure outcomes, to demonstrate that objectives have been achieved, for example by auditing the installed technologies and their performance.



the climate finance process



Steps in each stage			
<ul style="list-style-type: none"> • Build a multi-disciplinary team • Identify research requirements • Data gathering and analysis • Engage key decision-makers • Research existing initiatives to learn and potentially replicate • Take advice from the experts to avoid cul-de-sacs 	<ul style="list-style-type: none"> • Further research as required to identify legal/policy barriers etc • Register the risks with stakeholders and plan to manage them • Reconfirm objectives/ success/ key metrics for the initiative • Options analysis to prioritise • Business plan preferred option to make the case for sign-off 	<ul style="list-style-type: none"> • Planning and Implementation to secure finance, contracts, build relationships for launch • Evaluation to assess performance against objectives and identify improvements • Proof of concept analysis • Engage key decision-makers • Re-engage potential partners 	<ul style="list-style-type: none"> • Marketing and implementation • Communicate the learning and outcomes to stakeholders • Performance monitoring • Independent evaluation
Ways to make the scheme a success			
<ul style="list-style-type: none"> • Manage risks with key decision-makers by focusing on the objectives of the initiative not finance as an end in itself • Maximise the value created by your finance model by taking a cross-disciplinary approach • Create a flexible platform for developing the initiative by generating a number of options • Engage potential partners early 	<ul style="list-style-type: none"> • Expose the unknowns and 'soft' issues early by rough testing the models with experts <i>and</i> potential users / operators to manage risks • Maximise take-up by putting people at the heart of design • Accelerate sign-off by engaging decision-makers in prioritisation • Build a resilient business plan by testing against future scenarios 	<ul style="list-style-type: none"> • Raise the profile of the pilot to reinforce continued finance innovation and the results • Seed innovation and replication elsewhere by communicating your evaluation findings • Manage risk by carefully considering the scale of the first phase of implementation • Include partners in the formative evaluation to co-develop improvements 	<ul style="list-style-type: none"> • Promote wider rollout and influence national policy by sharing key business and performance data

a vision for Climate Finance

We have seen the high quality schemes that are already coming out of the UK and beyond. We want to spread this more widely and to create even better, smarter schemes to save carbon in the public sector. So Forum for the Future is recruiting a small number of organisations who want to develop their own smart finance initiatives, to join the Climate Finance project. We have built up a leading database of case studies, interviews and the latest expert research to help these organisations develop great schemes.

Forum for the Future has been creating solutions to sustainability problems for over a decade. We do this by working in partnership. Climate Finance continues that successful recipe. To make each project a winner we have brought together a unique blend of experts from finance, innovation, the public sector and carbon management.

We have heard from those organisations that have already created their own schemes that there are four big barriers to action. If you were to become a Climate Finance partner organisation, the box below shows you how the Climate Finance design process would help you avoid these barriers.

Climate Finance offers a more effective finance model by learning from existing practice, bringing in collaborative support from Forum for the Future and an expert Advisory Group, and gaining a high profile and impact from our communications team and *Green Futures* magazine.

Climate finance Advisory Group	
Adrian Rimmer	Royal Bank of Scotland
Alastair Keir	Salix Finance
Belinda Bell	UnLtd
Bruce Duguid	Carbon Trust
Chris Matthews	Co-operative Group
Dorothy Mackenzie	Dragon Rouge
Jane Forshaw	Homes and Communities Agency
John Thorp	Thamesway Ltd
Jon Williams	PriceWaterhouseCoopers
Tom Lewis	The Chartered Institute of Public Finance and Accountancy

How Climate Finance will break through the barriers to design successful schemes

- overcoming information blockages to make the business case** for a smart finance initiative by drawing on collated business case information from existing practice
- avoiding costly duplication of effort** to develop your initiative by getting under the skin of how existing examples were developed and implemented, and how they performed
- managing risk and fast-tracking to the right answers** through tailored and integrated input from multi-disciplinary experts at all stages of development
- reducing the cost of innovation** through expert guidance and contributory funding from The Ashden Trust.



acknowledgements

This report has been informed by interviews and discussions with the following people, whom the report authors wish to thank for their support:

Laurienne Tibbles	Ashford's Future
Pete Stevens	Carbon Action Yorkshire
Stewart Bunney	Carbon Action Yorkshire
Simon Roberts	Centre for Sustainable Energy
Janine Michael	Centre for Sustainable Energy
Joe Baker	London Borough of Barking and Dagenham
Beverley Draig	Eastleigh Borough Council
Jane Altouyan	Eastleigh Borough Council
Keith Von Tersch	Energy Saving Trust
Michael Calderbank	Islington Borough Council
Vicky Dumbrell	Kirklees Council, Environment Unit
Cllr Mehboob Khan	Kirklees Council, Leader
Andy Johnston	Local Government information Unit
Philip Mind	Local Government Association
Rob Silverman	London Development Agency
Martin Davies	Milton Keynes Borough Council
Julia Powell	Ministry of Defence
David Pencheon	National Health Service
Olivia Powis	National Housing Federation
Mark Atherton	North West Development Agency
Carol Parslow	npower
Jo Fleming	Partnership for Renewables
Seamus O'Conghaile	Plymouth City Council
Raymond Dill	Reigate and Banstead
Nick King	South East of England Development Agency
Brad Hook	United Sustainable Energy Agency
Peter Ryland	Welsh Assembly Government
Lara Curran	Woking Borough Council
Stephen Brown	Yorkshire Forward

Climate Finance Advisory Group

Adrian Rimmer	Royal Bank of Scotland - Director, Eco-Markets
Alastair Keir	Salix Finance - CEO
Belinda Bell	UnLtd, - Independent microfinance specialist
Bruce Duguid	Carbon Trust - Head of Investor Engagement
Chris Matthews	Co-operative Group – Senior Manager, Renewable Energy and Asset Finance
Dorothy Mackenzie	Dragon Rouge - CEO
Jane Forshaw	Homes and Communities Agency - Head of Environmental Policy
John Thorp	Thameswey Ltd - Managing Director
Jon Williams	PriceWaterhouseCoopers - Partner
Tom Lewis	The Chartered Institute of Public Finance and Accountancy - Assistant Director

Forum for the Future staff:

Sara Parkin, Claire Skinner, Fiona Dowson, Iain Watt, Nicky Conway, Rupert Fausset, Martin Hunt and Tom Chamber



references

ⁱ This LGA report demonstrates that loans are 2.5 times cheaper to the taxpayer, per low carbon measure installed in a home than grants from the Low Carbon Buildings Programme (LCBP). The comparison is of the cost of providing the maximum £2500 LCBP homeowner grant against a £5000 loan that is interest free and not repaid until the home is sold in a theoretical national loans programme of £1 billion over a 14 year period. See page 8 of the LGA report for full details.

Local Government Association, “*An energy generating democracy; developing successful local low carbon economies*”, 2008. Available from: <http://www.lga.gov.uk/lga/publications/publication-display.do?id=1152161>

ⁱⁱ Clinton Climate Initiative, “*Berlin: Energy efficiency program case study*”. 2008. Available from: http://www.c40cities.org/bestpractices/buildings/berlin_efficiency.jsp

ⁱⁱⁱ Woking Borough Council, “*Recycling savings as well as energy!*”. 2001. Available from: <http://www.woking.gov.uk/environment/climate/Greeninitiatives/sustainablewoking/rsawae.pdf>

^{iv} Energy Saving Trust, “*Community Heating – Aberdeen City Council Case Study*”, 2004. Available from: <http://www.energysavingtrust.org.uk/cym/Global-Data/Publications/Community-Heating-Aberdeen-City-Council-case-study-CE65>

^v Existing Homes Alliance Finance Working Group, “*Paying for it*”, 2009. Available from: http://www.existinghomesalliance.org/new_exha_finance.php

^{vi} Committee on Climate Change, “*Building a low-carbon economy – the UK’s contribution to tackling climate change*”. 2008. Available from: <http://www.theccc.org.uk/reports/>

^{vii} Department of Energy and Climate Change, “*Heat and Energy Saving Strategy Consultation*”, 2008. Available from: http://hes.decc.gov.uk/consultation/consultation_summary

^{viii} Figures taken from Berlin Energy Agency website on 15th June 2009: <http://www.berliner-agentur.de/index.php?idcat=38>

^{ix} Directgov, “*Greener living: a quick guide*”, 2008. Available from: <http://www.direct.gov.uk/en/Environmentandgreenerliving/Energyandwatersaving/index>.

^x Partnership for Renewables public sector approach: <http://www.pfr.co.uk/pfr/page/347>

^{xi} Green Futures Magazine, “*Smart finance cuts carbon*”, Issue 72 Apr 2009. Available from: http://www.forumforthefuture.org/greenfutures/articles/smart_finance_cuts_carbon

