

Petersfield, United Kingdom

BACKGROUND INFORMATION	
PROJECT TITLE	Retrofit South East: Building capacity for low-carbon refurbishment of social housing in the South East Region
Beneficiary	Radian Housing
Duration of project	The original planned duration was 1st September 2009–31st March 2011 (19 months). The project in fact finished in February 2012.
Member State	UK, South East England, Petersfield
Geographic size	The population of Petersfield is 13 000.
Funding	Total cost £843 000 ERDF £421 000 Radian £422 000
Operational Programme	The project was approved by the South East England Operational Programme under the theme 'Encouraging Sustainable Practices'. The product was a low-carbon energy demonstrator.
Managing Authority	Originally South East England Development Agency. When the Regional Development Agency closed in July 2011 the contract was novated to the national Department of Communities and Local Government
Cohesion Policy Objective:	Competitiveness
Main reason for Highlighting this case	A key function of social housing in the UK is to provide accommodation that is affordable to people on low incomes. Rents in the social housing sector are kept low through state subsidy. The social housing sector is currently governed by a strictly defined system of rent control to ensure that rents are kept affordable. The project was one of the first to make use of the revised ERDF regulation concerning support to (social) housing. It demonstrates the potential for social housing refurbishment to contribute to EU climate change targets and sustainable low-carbon economic growth. The retrofit of 14 homes was completed to advanced standards and was well documented, with a sophisticated energy-efficiency cost-benefit analysis. The project design added value by also tackling other key barriers to the retrofit market, such as finance tools, business support to construction SMEs, the creation of a network of pioneering professionals, and dissemination to policy-makers. Research was published on the potential regional impact of boosting the retrofit market, and lifetime emissions comparing retrofit to rebuild .A map of exemplars in the region was created. Retrofit Southeast worked with elderly and vulnerable tenants to improve energy-efficiency behaviour in the refurbished homes.
Key Contact person	Paul Ciniglio, Project Leader and formerly Sustainability and Innovation Manager at Radian Housing Paul.Ciniglio@firstwessex.org NB Paul moved from Radian to First Wessex Housing Association on 1 March 2012
Keywords/Tags	Retrofit, social housing, low-carbon, fuel poverty, energy efficiency

1. PROJECT DESCRIPTION	
Overall objective / goals	Retrofit South East aimed to develop a model for low-carbon retrofit of social housing. The refurbishment of 14 homes created a focus for networking, dissemination and transfer of knowledge to construction businesses, professionals and policy-makers. The project aimed to develop solutions to a range of identified market failure issues, to stimulate the emerging retrofit market. This in turn will lead to the creation of new high-quality jobs in the region, and support energy efficiency and carbon reduction targets.
Description of activities	<p>Retrofit South East was an innovative project of 14 social housing properties that have been refurbished to an ultra low-carbon standard (70% and 80% carbon emissions reduction), using a range of energy efficiency and renewable energy measures. The existing housing stock was very inefficient and achieved a 70-89% improvement.</p> <p>During the course of the project 14 semi-detached Reema type homes in Borough Grove, Petersfield underwent an advanced low-carbon refurbishment. Free business assistance was delivered to 85 SMEs to improve their ability to 'upsell' energy efficiency and its benefits to householders. Two conferences were held to present findings. A series of reports was produced with extensive detail of the retrofit techniques used, such as cost, results, energy efficiency improvements and potential impacts of upscaling for the regional economy, a new finance model, and a map of regional low-carbon retrofit exemplars. A network of refurbishment pioneers in social housing was created.</p>
Recipients	The recipients of the project were the tenants in the 14 houses refurbished by Radian to high energy-efficiency standards. 85 SMEs received free business assistance to improve awareness of the retrofit market and ability to upsell energy efficiency measures. Other recipients of the knowledge generated by the project reports, conferences and workshops are social housing agencies, policy-makers and construction professionals.
Mainstreaming of gender equality and non discrimination	<p>The lead partner, Radian Housing, delivered the project in accordance with its single equality scheme. The tenants in the refurbished properties are vulnerable, and many are elderly. Targeting this low-income sector ensures that this group is not under-represented. Project results will help local authorities, housing associations, Arms Length Management Organisations (ALMOs) and Registered Social Landlords (RSLs) which own and manage social housing in the UK to provide their tenants with low-carbon properties and affordable warmth.</p> <p>Through dissemination of information and training, the impacts were expanded to the whole region, leveraging the expertise gained in working with the most vulnerable groups in housing to the private sector.</p>
Intended outputs and results	<p>The intended outputs and results were:</p> <p>Outputs</p> <ul style="list-style-type: none"> • 100 businesses assisted to improve performance • 70 additional firms involved in business networks • 70 businesses in the region engaged in new collaboration with UK knowledge base <p>Results</p> <ul style="list-style-type: none"> • 100 businesses improving performance • 80 businesses increasing percentage of turnover to new and improved products by 5% <p>Additional outputs included:</p> <ul style="list-style-type: none"> • 14 low-carbon, resource efficient refurbished properties • Report including case study material covering carbon reduction and water • Conservation <p>Map of exemplars</p>

	<ul style="list-style-type: none"> • Network of practitioners • Refurbishment Pioneers Network • Workshops, study visits, case study material on Radian's refurbishment • Regional benefits report • Finance model recommendations report and stakeholder consensus workshop • Regional and national articles, attendance at conferences, newsletters <p>The original outputs to assist 100 SMEs were reduced in agreement with the Managing Authority CLG by 15% as a result of the economic recession. CLG permitted this reduction against all of their projects hence e.g. 85 SMEs were assisted.</p>
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2. POLITICAL AND STRATEGIC CONTEXT

<p>National and regional framework for implementing ERDF funded urban development projects</p>	<p>Social Housing in the UK is delivered by a range of providers in the public and third sector. Its origins were in the late 19th and early 20th centuries through trusts. The 20th century saw a growth of social rented housing delivered by municipalities up to a peak of 30% of housing stock. From the Thatcher period onwards this went into decline through right to buy and stock transfer to the growing housing association sector.</p> <p>Retrofit South East was conceived in the context of the climate change debate and targets, the issue of fuel poverty in low-income households and the need to develop solutions to meet this double challenge.</p> <p>National and EU Energy Policy</p> <p>The Stern Review¹ on the Economics of Climate Change commissioned by the UK government in 2006 confirmed that the benefits of strong early action on climate change would outweigh the costs. The EU Climate and Energy package² adopted in 2007 committed Europe to transforming itself into a highly energy-efficient, low-carbon economy. In the UK the resulting Climate Change Act 2008 set a legally binding target of at least an 80% cut in greenhouse gas emissions by 2050. Amongst the instruments introduced in the UK, and across the EU, are feed-in tariffs to encourage micro-generation of renewable energy.³ The UK Energy Act 2010 also includes provision for a new initiative called the Green Deal,⁴ due to start in Autumn 2012, designed to establish a framework to allow private firms to offer energy efficiency measures to consumers and businesses at no upfront cost and to recoup the cost through a charge in instalments on energy bills.</p> <p>Fuel Poverty</p> <p>At the same time there is increasing concern about fuel poverty,⁵ which occurs when a household needs to spend more than 10% of its income on fuel to maintain a satisfactory heating regime (usually 21° for the main living area and 18° for other occupied rooms) The National Housing Federation⁶ submission on the UK fuel poverty review in 2011 stated: "An estimated 13% of social housing tenants remain in fuel poverty, while 1.4 million social homes are classified as 'hard-to-treat' because of the high cost of measures to improve their energy efficiency. Housing associations are committed to combating this and are concerned that the current and projected increases in energy prices will further exacerbate the extent of fuel poverty." Fuel poverty affects around 6 million homes in the UK.</p> <p>Retrofit Southeast is a practical exemplar to address these policy aspirations.</p> <p>Regional competitiveness</p> <p>In terms of the regional context Retrofit South East supported the Operational Programme objective of 'promoting competitiveness in the region whilst contributing to reducing the region's technological footprint'.</p>
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¹ http://www.hm-treasury.gov.uk/d/Executive_Summary.pdf

² http://ec.europa.eu/clima/policies/package/index_en.htm

³ http://www.decc.gov.uk/en/content/cms/meeting_energy/Renewable_ener/feedin_tariff/feedin_tariff.aspx

<http://www.decc.gov.uk/assets/decc/legislation/energybill/1010-green-deal-summary-proposals.pdf>

⁵ http://www.decc.gov.uk/en/content/cms/statistics/fuelpov_stats/fuelpov_stats.aspx

⁶ <http://www.housing.org.uk/default.aspx>

	Radian responded to an open call by the Managing Authority for projects fitting the Operational Programme. The selection procedures included external assessment and a presentation to the Selection Committee panel.
The planning context	<p>Regional Economic Strategy</p> <p>The project supported the aspirations and targets of the Regional Economic Strategy (RES), in particular the objectives for 'Smart Growth' and 'Sustainable Prosperity'. A key challenge by the RES for 'Smart Growth' is the creation of an 'hourglass economy'. Retrofit South East helped demonstrate the potential for skilled and semi-skilled work which allows tradespeople to upsell their services. Another is around skills gaps particularly in the coastal areas. A portion of the training & skills development activity was in Hastings (where Parity Projects is developing an eco-refurbishment training centre). In particular the activity was relevant to targets 5 (Enterprise), 6 (Skills), 10 (Employment), 11 (Climate Change & Energy), and 12 (Sustainable Production & Consumption) of the RES.</p> <p>The project also linked to the national Business Resource Efficiency Strategy (BRES) and the role businesses can play in achieving regional and national targets on resource consumption.</p> <p>It supported the Hampshire Local Area Agreement training & skills development objectives.</p>
3. IMPLEMENTATION	
3.1. PROJECT DESIGN AND PLANNING	<p>Project idea</p> <p>The project concept grew out of several initiatives that the partners had worked on together. Camco had previously set up the Existing Homes Alliance⁷ that calls on all sectors to play their part in making sustainable, low-carbon homes a reality across the whole of the UK's housing stock. Camco and Radian had worked together on Generation Homes with funds from the Energy Saving Trust. As part of their own programme of works, Radian Housing had identified the homes to be refurbished. The research, development, networking and dissemination activities were built around the refurbishment as a way to multiply potential impact.</p> <p>Evidence base</p> <p>The refurbishment itself was based on existing evidence from refurbished properties such as those in the Super Homes network. The intention was to push this further and to retrofit a whole row of homes rather than individual properties, to measure the cost and effectiveness in energy efficiency. Radian drew on examples of other existing Super homes, and conducted energy modelling using SAP to finalise the retrofit strategy and specification. They also did some early stage monitoring under re occupation</p> <p>The market failure model was based on previous research by Camco. The financial mechanism is taken from a fund developed and piloted by Global Environmental Social Business (GESB) in Hungary and other countries in developing regions, but never tried in the UK.</p> <p>Selection by Managing Authority</p> <p>The South East ERDF Competitiveness Programme 2007-13 wanted to be one of the first programmes in the country to respond to the European Commission's change in the regulations to accommodate retrofitting activity.</p> <p>Risk Assessment</p> <p>Being the first region to take up this opportunity had its challenges, especially around interpretation of the regulation, eligibility of the activity, and capital versus revenue ratios. The main risk was that new ground was being broken, so the project always had the feeling of being the "odd one out" – not really fitting with existing Operational Programme, or any of the existing guidance or evidence requirements. From the Managing Authority's perspective everything being done by the project was different from anything done before in any other project on the</p>

⁷ <http://www.existinghomesalliance.org.uk/>

	<p>South East, The project was to serve as a demonstrator pilot for possible roll-out throughout the South East and beyond.</p> <p>The main challenges arose from the lack of clarity around the new regulation's provisions. Following an audit there was a challenge to eligibility of some activity, and a threat of clawback, which took a long time to resolve. The risk may have been better managed by a closer or more proactive partnership approach to clarifying the definitions from different levels of control and audit, and a speedier reaction to the request for resolution at different levels of ERDF control.</p> <p>Sustainability and Transferability</p> <p>The project was well designed with sustainability, results exploitation and transferability being key integrated features from the outset, so that others could benefit from the experience and knowledge generated. Dissemination activities took place regularly, with successful conferences, newsletters and research reports. The creation of a professional network reached out to a wider audience in the region and nationally. The project has a good profile in the sector. Energy efficiency actions are central to the project.</p> <p>ERDF added value</p> <p>The additional ERDF resources allowed Radian to 'push the boundaries' with a much higher specification for the retrofit, and to analyse and document the processes and results in greater detail. It also enabled the complementary measures to be added, such as the business assistance, the fund development, the research reports, and dissemination to stakeholders.</p> <p>No other EU funds were involved.</p>
<p>3.2. MANAGEMENT, MONITORING AND EVALUATION SYSTEM</p>	<p>Management structure and tasks</p> <p>Each of the four partners had specific tasks allocated to them according to their experience and skillset. It was agreed from the outset that Camco would lead on project coordination, as it had track record and in-house expertise. Radian was responsible for the retrofit of the properties, using its in-house team, as this is their core business. Parity Projects was responsible for delivering the business assistance. It has a track record in low-carbon refurbishment, and working with the construction trade. Global Environmental Social Business (GESB) was responsible for developing the loan fund model, running stakeholder workshops to see if it could be adapted for use in the UK social housing sector. The fund is a mechanism developed by Global Environmental Social Business (GESB) and used successfully to invest in retrofit homes in Central and Eastern Europe.</p> <p>Staff</p> <p>Radian employed a project manager and finance personnel to monitor the project. Each of the partners had staff working part time on tasks such as SME assistance, research, report writing, disseminating and funding workshops. The Radian in house construction team undertook the retrofit work.</p> <p>Steering Group</p> <p>Each of the four project partners was represented in the Steering Group. It met once a month to start with then regularly as required, normally every two to three months. Communication flowed well between meetings.</p> <p>Monitoring</p> <p>Camco led on the project monitoring and reporting tasks, as they had experience of this and systems already set up. They used a spread sheet with all the subtasks and outputs on it, and with a red and green flagging system to highlight progress and alert any risks. They submitted the progress reports to the Managing Authority every six months.</p> <p>Evaluation</p> <p>Evaluation was conducted by an in-house team at Radian, which is separate from the retrofit and construction teams. The final evaluation report was produced in early 2012. The Steering Group was responsible for self-evaluation as part of its</p>

	<p>regular meetings.</p> <p>Adaptation</p> <p>The management structure and systems were able to deal with all eventualities. No adaptations were necessary, although the issues that arose as a result of the interpretation of the regulations affected all partners, creating more work.</p> <p>There were no other EU funds.</p>
<p>3.3 GOVERNANCE: PARTNERSHIP, PARTICIPATION AND EMPOWERMENT</p>	<p>Partnership</p> <p>The project governance was simple. Radian led the group of four partners, each of whom had specific roles and responsibilities. Decision-making took place at regular Steering Group meetings. Other stakeholders and peer networks were involved in conferences, workshops and dissemination activities.</p>
	<p>Wider stakeholder involvement</p> <p>Each partner brought its own expertise to the delivery of the project, as well as visibility through its associated networks. Other non-core stakeholders included the National Housing Federation with an interest in how the ERDF regulations were working, and how this demonstrator could inform future social housing retrofit. The Super Home network and the Sustainable Energy Academy took an interest into the retrofit techniques, the show home and project results. A local NGO, 'Greening Petersfield' was brought in to do training and briefing meetings with the Borough Grove residents.</p>
	<p>Recipients</p> <p>Radian tenants in 14 houses were involved in the refurbishment of their homes, through community consultation, participation in design, and receiving training and information about energy efficiency. At neighbouring Borough Grove, residents preferred not to have their homes developed, leading Radian to develop a programme for refurbishment instead. This illustrates how residents themselves also contributed to the project idea and not only the companies driving it. 85 SMEs received business support from Parity Projects, to help them develop their retrofit offer in the construction market.</p>
	<p>Political support</p> <p>There was minimal involvement from the city, as it was not needed. Retrofit South East successfully attracted political support from the local MP and MEP, who visited the refurbished homes, brought other visitors to the show home, and spoke at project conferences. Radian also communicated closely with the National Housing Federation throughout the project, from the design phase onwards, to feed in results, for instance on the potential roll-out of the loan fund mechanism and the efficacy of the new ERDF regulation supporting housing.</p>
	<p>Leadership</p> <p>Radian provided leadership, as an organisational champion in retrofit of social housing. Paul Ciniglio, Sustainability and Innovation Manager of Radian, led the project, and is well recognised for his leadership in this sector. The partnership group functioned well, partly because they had already worked together before, and had good existing relationships. There was also a shared vision amongst the team and a high level of mutual professional respect.</p>
<p>4. INNOVATIVE ELEMENTS AND NOVEL APPROACHES</p>	
<p>4.1 INNOVATION</p>	<p>Layers of innovation</p> <p>Initiator of new ideas</p> <p>Radian is recognised as an award-winning innovator in green issues in the social housing sector. It seized the opportunity presented by the new provisions of the revised ERDF regulation to develop a first demonstrator for social housing low-carbon retrofit.</p> <p>Retrofitting may be common elsewhere but this is innovative in the UK because of</p>

	<p>revised regulation use of ERDF and new for Radian as a Housing association (technically a form of social enterprise). The Retrofit Revolving Guarantee Fund is an innovative tool with potential to be mainstreamed to support investment in energy efficiency in social housing. The business assistance delivered to SMEs is an innovative way to create supply-side awareness in the retrofit market. Parity Projects is innovating in its approach to construction sector skills development. The technical information produced in the reports about retrofit materials, techniques and energy efficiency measures provides new evidence and a new knowledge base for the social housing sector.</p> <p>Sponsor of new ERDF regulation The South East England Development Agency wanted to be in the vanguard of Operational Programmes implementing the new regulation.</p>
	<p>New management practices The project management and the team design of the project was innovative in creating and testing a new model relating to market failure in retrofit. It brought together all of the elements needed to tackle market failure in social housing retrofit in a very creative, yet still transferable, way.</p>
	<p>New approaches to dissemination One of the strongest elements of the project was the way that Retrofit South East effectively harnessed and developed professional and policy networks related to social housing, eco-construction, and energy efficiency themes to act as relays for their results. Communication materials were all posted on Radian's website on a dedicated page. This includes PowerPoint and audio presentations from the major conferences, so that they can be accessed as part of the project legacy. Radian also produced an effective video telling the story of the retrofit activity,⁸ especially from the residents' perspective. The project leader maintained a good level of visibility, and spoke in a range of settings from schools to the European Parliament. The reports produced by Camco include very detailed technical knowledge, presented in a way that the intelligent layperson can understand.</p>
	<p>New approaches in exploiting results Retrofit Southeast benefited from Radian's high profile in the social housing sector, which brought visibility and credibility to the project. The team responded positively to opportunities to speak, to attract visitors, and to transfer results to policy processes. Several of the project partners, including Camco, Parity Projects and Radian, are experts consulted by national government departments e.g. the Department of Energy and Climate change on the Green Deal. Links with other energy agencies have been maximised, in order for the retrofit fund to be piloted elsewhere. The show home was visited by the local MEP and a delegation from Brussels, which was then featured on the BBC South Politics show.</p>
	<p>Challenges relating to innovation The main challenge for Retrofit South East was with the ERDF regulation. This is not natural territory for a housing association, and there is not a clear or clean fit between the activities of the project and traditional ERDF outputs. At the time of starting the project and signing contracts there was not even a set of outputs specifically for retrofit activity under ERDF guidance / rules. Difficulties arose in March 2011, as a result of an audit, about terminology regarding the difference between training for SMEs and business support and it took a long time to resolve. This caused a good deal of frustration, additional workload and anxiety on the part of project partners, to the extent that project delivery was jeopardised and Radian has now lost the appetite to participate in future ERDF-funded initiatives. It was also a challenge to recruit SMEs for the</p>

⁸ <http://www.radian.co.uk/201106082604/retrofit-south-east-video.html>

	<p>business assistance activity and to evidence the SME indicator of increasing turnover by 5% as a result of the intervention.</p> <p>A more familiar challenge for the Radian retrofit team was minimising the upheaval for Borough Grove residents who had to move out of their homes temporarily in order for the building work to take place. It was an emotive time, giving rise to anxiety, and Radian tried to take care of its tenants by providing information and practical support.</p> <p>A continuing challenge is cost. Retrofit South East final reporting makes it clear that advanced retrofitting is an expensive business. The total cost for Borough Grove, Petersfield was about £91,900 per property including hidden costs such as the tenant’s disturbance allowance and housing association support staff time. By comparison demolition and rebuild would have cost in the region of £144,700. The advanced retrofit produces 30% less carbon emissions over the life (taken as 50 years for the purposes of the study) than a new home built to current 2010 Building Regulations part L (traditional brick and block new construction). It is also estimated that demolition and re build of a new home would cost approx. 43% more than the total all in advanced retrofit costs. There can be some savings from scale and with the development of newer technologies prices often decrease (for instance the PV is now a third cheaper), but the fact remains this is a costly business.</p>
<p>4.2. THEMATIC FOCUS</p>	<p>Regulatory provisions in the field of housing in favour of marginalised groups</p> <p>Retrofit South East is an important pioneering demonstration project for the use of ERDF in social housing refurbishment projects. It modelled an approach to a low-carbon retrofit of social housing, and successfully explored barriers and opportunities for market development.</p>
<p>5. FUNDING</p>	
	<p>The ERDF contribution was £421,000 in total Capital spend was £90,000 in year 2. Revenue was £331,000 across three years:</p> <ul style="list-style-type: none"> - £54,335 in Year 1 - £309,830 in Year 2 - £56,835 in Year 3. <p>The match funding came from Radian’s resources in their planned maintenance activity budget. £10,000 came from the Environment Agency to support additional work.</p> <p>Leverage from private sector</p> <p>Some additional resources were leveraged from the E-on energy company related to the feed-in tariffs from the PV panels on the roofs. This was not included in the project budget as there was a lack of clarity about potential issues around state aid rules.</p> <p>The installations benefitted from 50% grant funding under the Low Carbon Buildings Programme meaning that it was not possible to claim Feed In Tariffs (FIT) without repaying the grant so Radian didn’t pursue this and neither were residents permitted to do so. There was a time when Radian thought it might be able to claim both grant and FIT but we were worried that FIT would be classed as an income which is not possible to make under an EU funded project. For this reason the PV was kept out of the project capital match funding because it is not possible to combine two lots of grants e.g. EU and national.</p> <p>E-on were able to offer some Carbon Emissions Reduction Target funding towards the solid wall insulation- almost €950 per property. There was a long delay in processing the claim – although it was certainly eligible. The auditor picked up that as ERDF is gap funding, the value of E-on’s CERT contribution would be deducted from the total ERDF grant payable.</p>

	<p>Sustainability through Revolving Fund</p> <p>The Retrofit Revolving Guarantee Fund was assessed for its feasibility in relation to this project and others in social housing in the UK. It has not yet been piloted or operationalised in the UK so there is no information about its performance in this region. The fund is being successfully used in Hungary and other central and eastern European states to invest in social housing refurbishment.</p>
<p>6. PROJECT ASSESSMENT</p>	
<p>6.1. FINANCIAL SUSTAINABILITY</p>	<p>Follow on</p> <p>There was an original intention for a Phase 2 Retrofit South East project to pilot the Revolving Guarantee Fund. Radian successfully applied for funds for this initiative from the South-East of England Competitiveness Operational Programme. However it the start was postponed due to the audit issues in Phase 1, and it is unlikely that Radian will lead this initiative given the difficulties related to ERDF regulations of the first project</p>
	<p>This was the first retrofit project to be financed by European funds under the ERDF regulations.</p>
<p>6.2. TRANSFERABILITY</p>	<p>Transferability</p> <p>Retrofit South East has the potential to be transferred both as a framework concept and in its individual innovative components to boost markets and improve social housing stock in other regions. It offers practices and processes that can be mainstreamed into national and EU programmes, and into social housing retrofit and construction training strategies.</p> <p>The Retrofit Revolving Guarantee Fund concept was presented at a major conference in London in February 2012. It has been transferred to the Severn Wye Energy Agency⁹ 'Countdown to Low Carbon Homes' initiative. Following a feasibility study funded by the Welsh Assembly, Welsh housing associations are planning to implement the Retrofit Revolving Guarantee Fund to support their carbon reduction and sustainability strategy targets The Energy Saving Trust in the UK is looking at it closely for large-scale Green Deal schemes in Birmingham and Manchester. The UK Technology Strategy Board is using the exemplar low-carbon retrofit.</p> <p>As a result of the Retrofit South East experience, Parity Projects has developed an accredited qualification called 'Understanding sustainable refurbishment'. It encourages all trades to work together in a more efficient cooperation. Parity Projects is also training trainers in further education colleges and private training providers to achieve a multiplier effect.</p> <p>The project legacy includes learning for housing associations about how to fund capital investments and support tenants to become more energy efficient. For instance for social housing associations it is important to assess conditions related to heating, cooling and water shortages and to ensure that decisions are informed by an asset management strategy. Radian recommends treating the fabric of buildings first as this gives a longer life to the intervention, and to use tried and tested technologies, not cutting edge innovations.</p> <p>Making sure the process is smooth from the residents' perspective is also important. Neighbours talk to each other, word-of-mouth is important and bad publicity can disrupt the process. A permanent show home really helps both residents and SMEs get on board. Radian has produced a video¹⁰ to showcase the refurbishment, with residents speaking about the whole experience and their satisfaction with the new homes. It has a strong emotional appeal and is ideal for peer-to-peer communication to convince other social housing tenants of the case.</p> <p>The regional jigsaw approach is transferable as a model for other regions to assess</p>

⁹ <http://www.swea.co.uk/index.shtml>

¹⁰ <http://www.radian.co.uk/201106082604/retrofit-south-east-video.html>

	local retrofit markets, and to design solutions that address all aspects, from supply-side skills, to demand-side customer awareness, to finance mechanisms for investment,
6.3 ISSUES AND PROBLEMS	The major challenge faced by Retrofit South East was the difficulty of interpreting the ERDF regulation. Social housing retrofit is a new activity for ERDF since the revision of this regulation in 2009. Halfway through the project an audit challenged the eligibility of the business assistance activity, which in fact represented the key ERDF output. The auditor deemed it to be training and therefore not eligible under ERDF. There were fears that the total project budget could be clawed back from Radian. This caused a good deal of anxiety and frustration amongst project partners, who felt that the guidance had not been clear enough and they had acted in good faith. The dispute took a long time to resolve, and consumed a great deal of time, which cannot be claimed in the project. The project team supported each other through this challenge, and requested help from the National Housing Federation to facilitate a resolution. The National Housing Federation had advocated for this regulation through CECODHAS, and takes a particular interest in monitoring how well and how effectively it is being used.
6.4 PROJECT OUTPUTS & RESULTS	<p>The project achieved all of its intended outputs and results. 14 homes were refurbished to an advanced energy efficiency standard. The process and techniques for the refurbishment work were well documented and reported.</p> <p>85 SMEs accessed business assistance to improve their awareness of opportunities in the retrofit market. A network of refurbishment pioneers in social housing was created to enable shared learning of best practice. A new conceptual model for a revolving guarantee fund was developed to apply to this market and potentially in the private sector.</p> <p>Retrofit South East was a BREEAM domestic retrofit assessment' pilot project although this wasn't an original aim included in the project application.</p> <p>The new knowledge generated by all elements of Retrofit South East was communicated through conferences, reports, newsletters, case studies and visits from local, national and European politicians.</p> <p>Retrofit South East represented good value for money. The ERDF investment was modest, in relation to the knowledge created about boosting an important strategic market.</p>
7. CONCLUSIONS: KEY SUCCESS FACTORS AND LESSONS LEARNED	
	<p>The key success factors for Retrofit South East are:</p> <ul style="list-style-type: none"> • Retrofit Southeast is a very timely and politically relevant initiative. Radian and its partners have been first out of the blocks to explore the potential for the inclusion of housing in the ERDF regulation to deliver on the EU's climate change targets, and bring social, economic and health benefits to low-income populations. • The project concept is both simple and clever. Approaching the issue through the regional jigsaw, tackling market failure from a number of perspectives in a combined approach, adds a great deal of value. • Leadership from Radian was a key success factor, both as an organisational champion, well-known for its work on sustainability, and in the Project Director Paul Ciniglio, who was able to drive the project effectively, and bring in other networks and expertise. • The Retrofit Dream Team, that is the composition of the partnership, is a key success factor. Each of the partners is expert in their field, in many cases contributing to national policy. The partners knew each other, had worked together before, and formed an effective and complementary team. • Throughout the project delivery Retrofit South East has communicated effectively and at regular intervals through conferences, reports, the show home, visits, newsletters and events. The final reports are impressive, and effort has been made to also produce shorter publications and presentations

	<p>and to create key messages, backed up by sound evidence, to reach a large audience of professionals and policy-makers.</p> <p>Lessons learnt</p> <ul style="list-style-type: none"> • When a new ERDF regulation is introduced it is almost inevitable that there will be some confusion around guidance and interpretation of rules. It is unfortunate that those organisations willing to be at the forefront in tackling new challenges, both the project partners and the Managing Authority, can suffer from the different interpretations at different levels of control, lack of clarity, delays and stress as a result. • Retrofit is expensive. This is a full advanced retrofit and interior refurbishment, not just energy conservation. The level of cost was already known, but confirmed by the project with a new level of detailed reporting. Solutions to the cost barrier, such as the Revolving Guarantee Fund, will be needed to make sure it does not impede the low-carbon revolution required to fight the effects of climate change. <p>Retrofit is justified as part of a wider carbon reduction strategy, especially for developing new financing models and demonstrators. This will enable commercial and other non ERDF finance to undertake retrofit in future.</p>
8. FURTHER INFORMATION	
Bibliography	<p>Lifetime Carbon Emissions of Retrofit Versus New Build, Camco, September 2011</p> <p>Benefits of Eco-Retrofit in the South-East, Camco, 2011</p> <p>Retrofit South East, Programme Summary report, Camco, September 2011</p> <p>The impact of structural funds on affordable housing, CECODHAS, May 2011</p>
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