



**Finalists**

## **Foreword**

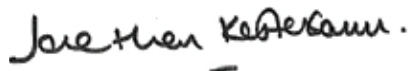
**Climate change is one of the toughest issues facing today's society and it is clear that although politicians, technology and top-down institutions offer some of the solutions, they alone do not hold all the answers.**

**We can all help to tackle big issues. We have the capacity to innovate, to change things and make a difference. Our contribution, especially as part of a wider community, can be just as important as that of governments, scientists, or big businesses.**

**Unlocking the potential of community innovation to address the challenge of climate change is what the Big Green Challenge is all about.**

**I am pleased to introduce this publication, which celebrates the achievements of all of the Finalists who have developed their own community innovations over the course of the Big Green Challenge Year.**

**This booklet showcases the sheer breadth of ideas and imagination offered by all the Finalists, and the hard work they have put into developing their ideas into an impressive array of projects.**

A handwritten signature in dark ink, reading "Jonathan Kestenbaum." with a horizontal line underneath the name.

**Jonathan Kestenbaum  
Chief Executive, NESTA  
November 2009**

# Contents



4-5	About the Big Green Challenge
6-7	Low Carbon West Oxford
8-9	Household Energy Service, Ludlow
10-11	St Bede's High School, Lytham
12-13	The Green Valleys, Brecon
14-15	Meadows Ozone, Nottingham
16-17	Global Generation, London
18-19	Isle of Eigg, Green Island
20-21	Faith and Climate Change, Birmingham
22-23	Waste Oil Recycling in Prisons, Sussex
24-25	Hackney City Farm, Back2Earth
26	Photographer Credits



NESTA is the National Endowment for Science, Technology and the Arts.

Our aim is to transform the UK's capacity for innovation. We invest in early-stage companies, inform innovation policy and encourage a culture that helps innovation to flourish.

# About the Big Green Challenge

The Big Green Challenge, launched in October 2007, is NESTA's £1million challenge prize designed to stimulate and support community-led responses to climate change.

Through the Big Green Challenge, it has been our aim to unlock the potential power of community-led innovation. We hope to uncover the type of support communities need to transform their bright ideas into viable solutions that will improve all of our lives.

A share of the £1million prize will be awarded by an independent judging panel, as the Big Green Challenge year draws to a close and the final assessment takes place.

## Background

The Big Green Challenge was open to formal and informal not-for-profit organisations and groups. More than 350 groups came forward with a wide range of imaginative and practical ideas. We then selected 100 of the most promising groups, who received support from the Big Green Challenge team and partners to develop their ideas into detailed plans. From this group, we shortlisted the ten Finalists who are featured in this publication.

The Finalists have been putting their ideas into practice throughout the course of the Big Green Challenge Year, and the Challenge team and partners have continued to provide support to the projects and to capture learning to share with others.

We hope to see the most successful ideas grow and replicate in different communities throughout the UK to achieve larger reductions in CO2 emissions.

[www.nesta.org.uk/big-green-challenge](http://www.nesta.org.uk/big-green-challenge)



## Investing in community renewables

Low Carbon West Oxford (LCWO) is a network of local people working to reduce their individual and community carbon emissions by taking practical action on renewable energy, traffic, food and waste. The group was spurred on to tackle climate change by the devastating floods which have become a regular occurrence in the region.

## Renewable energy installations

LCWO is developing a range of community-owned renewable energy initiatives through the Big Green Challenge, including placing solar panels on the roofs of local businesses, installing wind turbines at a secondary school and developing a micro-hydro scheme at a local weir. LCWO will sell the electricity generated from these projects and use the income to help local households make energy savings. The group's emphasis is on providing the means to take action alongside the call to action.

Ruth Mayne, Chair of LCWO, explains:

"We're aiming to create a self-sustaining income stream from renewables which we will then reinvest in the community to make further cuts in CO2 emissions. Initially we looked for government grant funding to kick-start this process, but as it isn't currently possible for us to access these grants, we decided to launch our own Community Renewables Provident Society and sell shares to local people and friends of the community, and recently we installed our first solar panels on the roof of a local business."

"The response from the community has been really positive," says Ruth.

The LCWO team provides one-to-one personal and tailored advice to 38 pilot households who are testing a variety of carbon reduction strategies. Regular workshops and surgery sessions give the pilot households an opportunity to provide feedback on what is and isn't working.

## Maintaining focus

The demands of managing multiple renewable energy projects mean that it's important for the LCWO team, who are all volunteers, to stay focused on their objectives. "We review our strategic priorities at meetings throughout the year and maintain a work plan that covers all of our activities," comments Ruth.

"We receive a lot of interest from other groups and organisations that want to find out more about what we're doing and while we're keen to share our experiences, for the time being our focus needs to be on developing the project. This Big Green Challenge has helped us to test our ideas and to reach some conclusions about what works and what doesn't."







## Helping households to become energy efficient

Household Energy Service (HES) is a community-based energy service company that helps households to reduce carbon emissions, improve energy efficiency and save money on fuel bills. It does this by providing free energy surveys – conducted by volunteer energy surveyors – that identify practical energy-saving measures along with estimates of the financial savings they could generate. At the start of the Big Green Challenge year HES was available to around 1,500 homes, mainly in the community of Bishop's Castle in Shropshire. The service has since expanded to cover other communities in Shropshire, Herefordshire, Radnorshire and Montgomeryshire – increasing its reach to 15,000 homes. In each case, HES collaborates with local groups to achieve its aim of liberating communities to tackle their own energy efficiency needs. Together they plan to create a sustainable community-owned social enterprise that will support householders on their journey to a low-carbon future.

## Tackling the 'hassle barrier'

"Our energy surveys give people access to good quality information about cutting household emissions and fuel consumption," explains Adam Kennerley, Chief Executive of HES. "We've found that people respond really well to the reports, but don't necessarily go on to implement the energy-saving recommendations. We've realised that if we are to deliver real reductions in carbon emissions, we need to minimise the hassle involved in taking the next steps."

The HES team is now developing a range of services to help householders take practical action, from providing assistance with small tasks around the home such as draught proofing, to brokering deals on renewable energy equipment such as solar-thermal and biomass heating. They're also exploring options for providing financial support for people who want to install energy-saving or renewable energy equipment in their homes.

## Developing local volunteers

Developing relationships with individuals in the community and with existing community networks has been an essential part of building up trust and interest in the service. "One of the things we've learnt is that people want a reliable, trustworthy and most important of all, a local service," explains Adam.

"Our professional energy advisors are on hand to provide expert support, but much of our work is delivered through local volunteer teams – we've found that people are really keen to do practical things for their community."

HES currently has around 50 active volunteers and offers an ongoing programme of training and mentoring for its volunteer energy surveyors. With each volunteer developing valuable new skills, the HES team is also looking into possibilities for making its training programme a stepping-stone to employment in the energy efficiency sector.







## Laying the foundations for sustainable education

St Bede's Catholic High School in Lytham is aiming to become one of the first ever carbon neutral schools by installing renewable energy equipment and creating a green culture throughout the school. Staff and pupils are involved in a wide range of carbon reduction initiatives, from recycling and reducing water wastage to growing fruit and vegetables on school allotments. The school's overall goal is to become a centre for sustainable education. Headteacher Phil Grice explains:

"Sustainable education is about pupils viewing themselves and the world in a different way, so we're developing the school grounds as a resource to help pupils learn about climate, agriculture, biodiversity and other environmental issues."

## Reviewing energy use

St Bede's worked with an energy consultant to assess all aspects of the school's energy use and identify steps it could take to reduce carbon emissions and save money. "We've already implemented a number of quick no-cost and low-cost measures, such as improving insulation, switching off lights and using recycle bins," says Phil.

"Renewable energy sources will definitely play a big part in the school's future – we've got plans to install two ground source heat pumps and we're also looking into options for installing solar panels."

## Creating cultural change

Phil explains that changing the school's culture is a critical part of the project:

"We knew from the outset that we'd need to initiate a shift in culture to achieve a long-term commitment to sustainability and reducing our carbon emissions. Our projects offer something for all students, whether they're interested in taking practical action, raising awareness of climate change issues or influencing the future development of the school. We're seeing a growing commitment to sustainable practices across the whole school community."

## Sharing insights

St Bede's has developed a website to help other secondary schools make the move from recognising the need to take action on sustainability to implementing real change. The website enables pupils to calculate their carbon savings at home and to compete to win prizes amongst their classes and year groups. The site will also provide teachers at other schools with useful resources such as tips on how to fundraise and install renewables. Phil comments:

"In the past year we've learnt a lot about embedding sustainability into school life and we want to share our insights with other schools. Our aim is to collate all of the advice and resources that we would have loved to have had access to at the start of our project, to give other schools a head start on their journeys."





# The Green Valleys, Brecon

[www.thegreenvalleys.org](http://www.thegreenvalleys.org)

## Developing a local energy market

The Green Valleys is aiming to make the Brecon Beacons region a net exporter of energy, by developing community renewable energy schemes and supporting communities to reduce their carbon emissions. All revenue from community-owned installations will be reinvested in community-based carbon reduction projects such as electric bike sharing or community woodlands that provide managed wood fuel. One forthcoming community-owned hydro electric installation will generate around 80 per cent of the electricity needed by the local community. Combined with five privately-owned installations (which The Green Valleys are also developing), it will drastically reduce the community's carbon footprint.

## A grassroots approach

The Green Valleys project manager Grenville Ham explains that an intensive programme of 60 evening lectures helped to get the initiative off the ground.

"I already had a good knowledge of the local area but I knew it was important to spend time in the different communities to get to know people, gather feedback and drum up support for the project."

"The lectures were a really rewarding experience as the ideas clearly struck a chord with local people – they were inspired by how the project could empower them to come up with their own solutions to energy and sustainability issues."

## Using local expertise

Harnessing local skills and expertise has been an essential part of the project. "Our regional steering group is made up of volunteers with a wide range of skills and knowledge, covering areas from ecology to engineering and accountancy," says Grenville.

The Green Valleys team is now working with statutory organisations in Wales to help other communities develop the skills and expertise needed to run similar projects.

"We believe there's enormous potential to replicate our model in other communities, but it has to be a modular approach – each region needs to have its own organisation and its own local supply of skills. To be successful, these projects have to be owned and led from within the community."

## Working effectively

The regional steering group considered various company structures before deciding to register as a community interest company, which means that any profit that the company makes has to be spent on furthering its objectives.

"Adopting a more formal structure has helped us to work more effectively," says Grenville. "We've now got a structured work plan as well as processes for agreeing new projects which prevent us from overstretching ourselves."





# Meadows Ozone, Nottingham

[www.meadowspartnershiptrust.org.uk](http://www.meadowspartnershiptrust.org.uk)

## Interest-free loans for green improvements

Meadows Ozone is a community-owned energy services company based in the Meadows area of Nottingham. By providing local people with advice on energy efficiency and interest-free green loans, the initiative aims to combat fuel poverty at the same time as reducing carbon emissions. Many local people have already benefited from its free energy audits and access to free or discounted loft and cavity wall insulation. Meadows Ozone is based at the offices of local regeneration organisation, the Meadows Partnership Trust. Ian Nicholson, Energy Advisor at Meadows Ozone, says:

“We spend a lot of time visiting houses and talking to people about how Meadows Ozone can help them, but it really helps to have a base right in the heart of the community too. Meadows Partnership Trust is well-respected within the community and has strong links with residents’ groups – working with an establish partner has been a great help in establishing ourselves in the community.”

## Green loans

The Meadows is an area of high deprivation, with many local people affected by debt and fuel poverty. To help tackle these issues, Meadows Ozone has developed an interest-free green loans scheme in partnership with a local credit union. The loans help homeowners and tenants to purchase energy-efficient appliances or make energy-saving improvements to their homes.

“Local residents have used green loans to install double glazing, solar panels and cavity wall insulation and to upgrade their home appliances to ‘A’ rated equipment,” says Ian.

## Developing green champions

Meadows Ozone is developing a network of ‘green champions’ to raise awareness of the project throughout the community. The Meadows Ozone team recognises that if the project is to be successful in addressing local needs, members of the community need to play an active role in developing and delivering its work. Each of the green champions has completed a day’s training in energy efficiency and behaviour change, delivered free of charge by National Energy Action. The Meadows Ozone team is keen to support local people in developing green skills and finding work in the green sector.

“Our green champions are all active members of the community and do a fantastic job of talking about the project at local events and activities,” comments Ian. “Having local ambassadors shows other people in the community that this is a genuinely local initiative and helps to break down the barriers that are sometimes experienced by organisations coming from outside the area.”







## Bringing living roofs to inner-city London

Global Generation's Living Buildings – Local Links project inspires and enables young people to generate environmental and social changes in their community. The project gives young volunteers opportunities to develop food growing spaces, biodiverse green roofs and plant-filtered grey water systems on office rooftops, school grounds and development sites in the Kings Cross area of London. Before starting work on a project, volunteers spend time at an organic farm in Wiltshire where they learn about themselves, team working and environmental issues, in a process Global Generation calls 'I, We and the Planet'. Back in London, they put their new knowledge and skills into practice by creating and caring for growing spaces, such as the 'skip-garden' allotments. They work to inspire businesses to adopt carbon saving practices and building relationships within the community.

## Working with businesses

Global Generation has formed partnerships with local businesses including The Guardian, The Office Group, Wolff Olins, Kings Cross site developers Argent and music rights company MC-PRS. The London Borough of Camden housing department and the School Improvement Service are also involved in Living Buildings – Local Links. Food grown is sold by young people to a local organic restaurant and the Guardian canteen.

"Each partner is attracted to the project for different reasons. It could be to engage with sustainability, improve their building or support staff development," says Jane Riddiford, Executive Director of Global Generation. "We tailor our approach to the needs of each partner, giving them a personal experience – but we always involve young people right from the start."

## Catalysing change

The project empowers young people with a sense of responsibility for something bigger than themselves, helping them to develop as individuals and catalyse change in others. "In our experience the biggest change takes place when you show young people the contribution they can make to the future," explains Jane. "We create practical opportunities for our volunteers to make a difference and help them to reflect on their experiences."

## Community pride



Everyone involved in Living Buildings – Local Links develops a sense of ownership and pride in the new resources they create.

"Our projects provide a focal point for businesses to introduce wider carbon-reduction initiatives and engage with the community on sustainability issues," comments Jane. "The Kings Cross projects demonstrate how the Living Buildings – Local Links model works and the impact it could have if introduced in other areas."









# Isle of Eigg, Green Island

[www.islandsgoinggreen.org](http://www.islandsgoinggreen.org)

## Creating the first green island

Residents of the Isle of Eigg are working together to create a green island by halving their carbon emissions. The initiative is being led by the Isle of Eigg Heritage Trust and involves a wide range of projects, from generating renewable electricity and installing insulation and solar panels to producing local food and developing low-carbon community transport schemes.

## A community-led approach

Most of the island's 38 households have become involved with the Big Green Challenge project. Volunteer Lucy Conway explains that the high level of engagement they've achieved is down to the community-led approach they've taken.

"Everything we do is driven by the community and we've made sure that there's something for everyone – whether they want to get involved in practical, hands-on activities or talk about climate change issues and whether their interest is in saving money, learning or simply having a good time."

The Eigg team also works hard to ensure that volunteers are given help and support when they need it.

"Day-to-day life on Eigg is very different in the winter from what it is during the summer tourist season," says Lucy. "People are busy all year round, but face different demands on their time – so it's important that we understand what kind of commitment volunteers are able to give and make it as easy as possible for them to balance volunteering with their other commitments."

## Sharing good practice

Eigg's volunteer 'Green Team' often receives invitations to speak at conferences and to make presentations to other groups and organisations that are interested in Eigg's approach.

"It's fantastic to have so much interest in the work we're doing – we've had visitors to Eigg from as far afield as Ecuador, Galapagos and Alaska, as well as places closer to home such as Dundee, Birmingham and Edinburgh. But for us to attend a conference on the mainland involves at least two nights away from the island. We've had to learn how to manage these demands on our time and when to say no."

The Eigg team has set up the Islands Going Green online resource to share their knowledge and support other small islands that want to become more sustainable. The website showcases the work being done on Eigg and on other islands that they're working with, and aims to encourage others to follow in their footsteps.

## Celebrating success

One of the lessons that the Eigg team has learnt is that it's important to take time out to reflect on your achievements and celebrate success.

"It's all too easy to get bogged down in tasks and problems that lie ahead," says Lucy. "In July we organised a picnic as part of The Big Lunch, to celebrate all of the good things we've achieved. As well as being a lot of fun, activities like this help to re-energise the team and keep everyone excited about what we're doing together."

# Faith and Climate Change, Birmingham

[www.faithandclimatechange.wordpress.com](http://www.faithandclimatechange.wordpress.com)

## Collaborating across faith communities

Faith and Climate Change brings together a range of organisations in Birmingham to address environmental issues in places of worship and in faith communities. Its projects include Faith Ambassadors for Climate Change, which provides training and support to help volunteers champion carbon reduction schemes within their communities. The partnership is also developing a faith-based energy services company and is promoting the use of local organic food through its Faith in Food initiative.

## A personal approach

Faith and Climate Change is managed by Maud Grainger of Birmingham Friends of the Earth. She explains that developing personal relationships has been an important part of the process of collecting monitoring data from the places of worship involved in the project. "Each partner has different needs and ways of working which we need to accommodate," says Maud. "Our approach is to develop strong one-to-one relationships and to cater to the needs of individual groups. Sometimes emails just don't do the trick – personal contact is vital for building up trust."

Links with other projects have also helped to build the profile of Faith and Climate Change.

"Partnerships with faith organisations enable us to demonstrate our commitment and lend us credibility. For example, we worked with local groups to deliver activities during Islam Awareness Week – this kind of initiative shows that we want to be genuine, long-term partners."

## Effective team working

With only one full-time member of staff, it's important for the Faith and Climate Change team to prioritise the projects they get involved with.

"We have an active steering group, with members taking on responsibility for different projects," explains Maud. "We always consider whether a project will be at 'snail pace' or 'hare pace'. This helps us to work out the level of resources it'll require and who would be best placed to take the lead on the project."

Additional support from two volunteer coordinators enables Maud to spend time away from the office, talking to potential new partners and ambassadors. "I try to visit our partners and go along to events as much as possible. The idea of meeting people in your community and making new friends is at the heart of our project."

## Building an online presence

The Faith and Climate Change team has also been exploring how online tools can help with raising awareness and communicating with partners.

"There are a lot of free tools out there so it's an ongoing process of learning and experimenting," says Maud. "We've set up a blog to provide project updates and we're finding that Twitter is a great way to network with groups and organisations from around the country."



birmingham cutting CO<sub>2</sub>

**Faith Ambassadors**

[www.birminghamcuttingco2.org.uk](http://www.birminghamcuttingco2.org.uk)





# Waste Oil Recycling in Prisons, Sussex

[www.nesta.org.uk/big-green-challenge](http://www.nesta.org.uk/big-green-challenge)

## Reducing carbon emissions, reducing reoffending

The Waste Oil Recycling Project in Prisons (WORPP) is reducing carbon emissions at the same time as helping offenders to develop new skills. Based at HMP Ford, an open prison near Arundel, the project takes used cooking oil from prison kitchens and converts it into biofuel for use in prison vehicles.

## Learning new skills

Offenders serving the last section of their sentence are eligible to apply for the biofuel production training course which aims to equip participants with skills and qualifications to help them get a job when they're released. Unemployment is closely associated with reoffending and the project aims to reduce this at the same time as increasing understanding of waste and energy. The training programme covers the technical processes involved in turning cooking oil into biofuel, with an emphasis on hands-on learning.

"The course content will evolve over time as the trainer sees what's most effective and how much time is needed at each stage," explains Clare Cherry, Community Engagement Manager at HMP Ford. "It's also important that we respond to individual learning needs. For example, we know that some trainees will have literacy issues, so we gather evidence of learning through photographs as well as through written tests."

## Forming partnerships

The WORPP team is working with Brighton University to develop the technical facilities needed for the project and to explore possibilities for delivering training for other prison communities. There's already been strong interest from other prisons that want to start producing their own biofuel, but the WORPP team is keen to complete the research and trials at HMP Ford before extending the programme. Feedback from local stakeholders suggests that the project's combined environmental and social agenda is very appealing, with businesses and other organisations already stepping forward to donate their used oil. The local authority is also keen to use surplus production to fuel community buses. The WORPP team is committed to responsible business practices and will not replace any viable local businesses. "Our approach is to work in partnership with complementary enterprises," comments Clare.

## Keeping an open mind

While it's important to stay focused on the core aims of your project, Clare believes it helps to keep an open mind when new ideas come along.

"The more you network and talk to people, the more opportunities you come across. I recently gave a presentation at a prison service conference and was asked whether it would be possible to use biofuel in heating generators. This would be a very interesting avenue to explore – the prison service spends £4 million a year on oil for heating, so switching to biofuel could lead to major cost savings as well as reductions in emissions."



## Growing a greener community

Hackney City Farm is home to Back2Earth, an environmental project which is pioneering 60 ideas for achieving a 60 per cent reduction in carbon emissions across the farm site and in the wider community.

“Our activities and events introduce people to the environmental agenda, inspire them to learn more and help them get involved in practical ways,” says Bronwen Wilson, Environmental and Enterprise Project Manager at Hackney City Farm. “Some of the things we’ve done so far include setting up a biodiesel plant, organising a Bike Day to promote cycling, running courses on low-impact living and developing a network of Green Ambassadors.”

## Creating Green Ambassadors

Individuals who volunteer as Green Ambassadors raise awareness of green issues within the community and motivate people to take practical action.

“The ambassadors meet up each month to talk about one of our areas of focus, such as transport or water,” says Bronwen. “We also provide practical training and support to help ambassadors undertake activities in the community.”

The Back2Earth team felt it was important that the Green Ambassadors programme was representative of Hackney’s diverse community. To achieve this, they advertised the programme widely and promoted the scheme through organisations that work directly on local estates. Partnerships with all of the primary schools in Hackney also help Back2Earth to reach as diverse an audience as possible.

## Developing community resources

To encourage people to take practical steps to reduce their carbon emissions, the Back2Earth team is developing a range of community resources.

“We’re working on a carbon monitoring kit to help people track their household emissions and we’re also developing a ‘60 Steps to 60% Reduction’ toolkit for other community organisations to use in their areas,” explains Bronwen. “Our Green Ambassadors have been helping us to test and refine these resources to ensure they’re easy to use and accessible to as many people as possible.”







# Photographer Credits

**Low Carbon West Oxford**

**Marcus Rose**

**Household Energy Service**

**Stephen Shepherd**

**St Bede's**

**Phil Grice**

**The Green Valleys**

**Stephen Shepherd**

**Meadows Ozone**

**Mark Harvey**

**Global Generation**

**Marcus Rose**

**Isle of Eigg**

**Sheena Kean**

**Faith and Climate Change**

**Maud Grainger**

**Waste Oil Recycling in Prisons**

**Marcus Rose**

**Back2Earth/Hackney City Farm**

**Eduardo Martino**





**For press enquiries please contact:**

**Catherine Anderson:**

**020 7438 2609 / [catherine.anderson@nesta.org.uk](mailto:catherine.anderson@nesta.org.uk)**

**Jan Singleton:**

**020 7438 2606 / [jan.singleton@nesta.org.uk](mailto:jan.singleton@nesta.org.uk)**







NESTA  
1 Plough Place, London EC4A 1DE  
[www.nesta.org.uk](http://www.nesta.org.uk)  
Telephone 020 7438 2500



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