

# **Carbon Management Training Packages using *Wesave.org.uk***

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## **Brief**

MEA are delivering a training programme on energy awareness and carbon management for representatives of third sector organisations.

We have created an online tool, [wesave.org.uk](http://wesave.org.uk), to help third sector organisations to monitor and analyse their energy usage and then develop and implement their own carbon descent plan. In addition the tool incorporates various behavioural change elements which can then be disseminated to the members of the organisation and those who visit their premises. This tool is an important part of the training programme and enables those attending the training to have continual support and guidance with the energy monitoring and carbon reduction of their building(s). This resource, offering interactive, continual support and guidance sets us apart from any other energy awareness training programme in the country.

## **Why?**

Third Sector Organisations are leaders on acting for the greater good and within these organisations there is a willingness to act to minimise the effects of climate change and to lead in their communities in a better use of energy and in the use of renewable technologies.

Material exists but those in third sector organisations often don't know the best way to interpret all the various options for their particular building(s) and with respect to their organisation. Energy audits provided by consultants are an effective way to recommend to the organisation what they should do, although often these recommendations are not taken up and stay as just that, recommendations.

*Wesave.org.uk* supplies an organisation with the tools to perform their own energy audit through the [wesave.org.uk](http://wesave.org.uk) interactive website, accompanied by its help screens and guide book. This process gives the organisation ownership of its carbon descent, increasing the involvement of those within the organisation and resulting in large

impacts on the organisations carbon descent. *Wesave.org.uk* then continues to interact with the organisation, showing them how their energy consumption decreases over time and assisting them with any future changes.

### **What are we going to do?**

We are delivering training workshops to representatives from third sector organisations. These will guide those attending through what they need to know to become carbon and energy literate and beyond. The training sessions will make use of *wesave.org.uk* and the attendees will then be equipped to guide their building through an active carbon reduction process and to also involve the rest of the organisation in the process.

Through the *wesave* tool, the attendees will be able to continue learning and will be able to consolidate their learning. When the user finds more complicated issues, the tools help sections will explain, if the user still feels that they need assistance email and telephone support is offered to all those attending the workshop.

Each organisation attending will receive a plug in energy monitor as well as useful supportive fact sheets and the *wesave.org.uk* guide book.

## Content of the training sessions

### Training Session 1

1. Basic energy efficiency and understanding energy consumption

The basic principles of energy efficiency and how to understand your energy consumption, different sources of energy.

2. Getting people involved

What you need to start off, we'll look at three important things to get you started:

- The importance of getting **support from your board** of Directors or Trustees,
- how an **energy notice board** helps to raise awareness about what your practice is doing and the theme as a whole, we'll talk about what you can put on this board and how you can use it
- and the importance of an **energy team**. It is easier to complete this exercise if you have some moral and physical support. Establish an "energy-team" that meets once a month to review the wesave data and review and implement your action plan.

3. Data entry – Lighting

Lighting is the easiest and therefore the first service to tackle. You'll be guided through the process of carrying out a lighting inventory, and how to enter the results in the tool. The workbook will explain all that is needed to identify what lighting is installed.

The tool then calculates what proportion of the total electricity use is consumed by lighting, and will advise on what alternative lighting could be used and the savings that would result.

4. Data entry – Appliances

You'll be shown how to enter the items of electrical equipment that are in use and through the process of measuring the actual energy consumption for some of these items if necessary. This then is used to identify what the major users of electricity are and whether savings can be made in these areas.

## 5. Data entry – Information about your building

Information about the age, size and construction of the building is collected. The workbook provides help on collecting this information. From this data, the theoretical heat loss is calculated and this is used in identifying where the greatest heat losses are occurring. The tool can then suggest building fabric improvements that can be made and the estimated savings that would result.

*All attendees will be reminded to bring their building's electricity and gas bills for the last 12 months (plus any alternative fuels they use) as well as the plans for the building (to determine its dimensions and area for the heat loss modelling).*

## **Training Session 2**

### Renewables - are solar photovoltaics, wind turbines or biomass heating systems feasible?

We shall run through each of the renewable technologies, giving a brief explanation of how each technology works. The tool will ask the user appropriate questions to identify whether any renewable energy solutions are appropriate for the location. If so, the tool will help the user to evaluate what size of installation would be appropriate and the costs and savings that would result.

### Feed in Tariff

The new feed in tariff means that if you install renewable technologies, such as PV panels you get paid up to 41 pence per unit of electricity which you create, whether you use it or not. On top of that you also get paid for every unit you export back to the grid. We'll go into more detail regarding how the feed in tariff works and what this can mean for you. We'll go through various options which their buildings can think about doing, and also help them disseminate the possible benefits to those in their organisations, and any other interested parties.

### Renewable Heat Incentive

The renewable heat incentive is a series of tariffs to come into place in April 2011, where you could get paid for each unit of heat you create from renewable sources such as biomass, solar hot water or ground source heat pumps. We'll explain how this works and what this could mean for you.

### Building Upgrades

We'll address the more complicated building upgrades and when they could be installed.

### Complex Lighting

Any problems with complex lighting issues will be addressed, for example lighting systems on timer and motion sensor settings.

### Finishing touches to the wesave audit

Any outstanding data entry elements on the wesave tool will be addressed. Any possible errors in data entry will be addressed.

### Devise action plan

Which of the recommendations should be taken up, wesave.org.uk will have recommended various actions to be implemented, we'll address what the action plan should look like, answering any queries on the way.

### Further information about your building

Any complexities with the building, Common heating & hot water systems & controls, common non-domestic building structures & fabrics & building assessment principles

### Knowledge sharing and mutual support

It's important for all those attending to feel that they are not alone in their efforts reduce their buildings energy consumption and to disseminate the information regarding what their community building is doing.

*All workshops include a presentation and handout summary fact sheets as relevant as well as various physical props and practical computer based exercises where appropriate and available. All workshop sessions can accommodate attendees from up to 10 third sector organisations (clearly these are better value if all 10 attendees attend!)*

## Wesave.org.uk features

The tool includes the following features:

### 1. About your organisation

The tool needs to know a bit of information about the organisation in order to help with the analysis and to configure the tool to ask the right questions further down the process. This information includes the following:

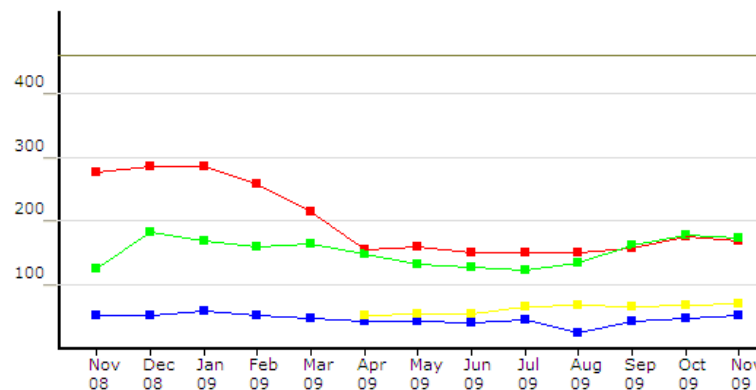
- What fuels you use and what prices/tariffs you pay.
- What type of building you have (e.g. office, shop, school etc) and information about the number of people in the building and its floor area. This information is used to compare energy use against a benchmark of other similar organisations and this can give an indication of what targets should be aimed for.
- Information on sector and location. This is necessary to help provide more focussed guidance on grants and other assistance that may be available.

### 2. Taking and entering meter readings and fuel consumption

The start of any carbon reduction plan is to monitor actual energy consumption. The tool enables the user to enter fuel consumption for all fuels in use (gas, electricity, oil, LPG, coal) historically and on an ongoing basis. From this, a rolling carbon footprint is calculated that provides a continual record of progress along the carbon reduction trajectory.

This carbon footprint is compared to sector benchmarks.

For electricity and each of the other fuel types, your consumption over time is displayed on a graph, if you choose to share your data, you can then compare your energy use against other organisations, inspiring competition and further action.



### 3. Understanding and optimising lighting

Lighting is the easiest and therefore the first service to tackle. The user is led through the process of carrying out a lighting inventory, and entering the results in the tool. The workbook will explain all that is needed to identify what lighting is installed.

The tool then calculates what proportion of the total electricity use is consumed by lighting, and will advise on what alternative lighting could be used and the savings that would result.

#### 4. Electrical equipment and appliances - measuring and recording

The user will be led through the process of entering the items of electrical equipment that are in use and through the process of measuring the actual energy consumption for some of these items if necessary. This then is used to identify what the major users of electricity are and whether savings can be made in these areas.

#### 5. Understanding your heating and hot water system

Details about the heating system in the building will be input, including the boiler or heat provider, and the heat distribution system. Help in identifying types of heating system, and the efficiency of the boiler is provided both in the workbook and by the online help. From this, potential improvements can be identified to the heating system., including the potential benefits from installing solar water heating.

#### 6. Heat losses - where do your buildings leak most heat?

Information about the age, size and construction of the building is collected. The workbook provides help on collecting this information. From this data, the theoretical heat loss is calculated and this is used in identifying where the greatest heat losses are occurring. The tool can then suggest building fabric improvements that can be made and the estimated savings that would result.

#### 7. Recording and analysing your transport use

For some organisations transport has a significant contribution to an organisations carbon footprint. If your organisation wishes to quantify your total transport use and set new targets for future use then the tool allows you to enter in your transport mileage and include this information in your total carbon footprint and targets.

#### 8. Renewables - are solar photovoltaics, wind turbines or biomass heating systems feasible?

The tool will ask the user appropriate questions to identify whether any renewable energy solutions are appropriate for the location. If so, the tool will help the user to evaluate what size of installation would be appropriate and the costs and savings that would result. The tool makes use of third party software developed by Encraft for the calculation of yields and savings resulting from solar PV and wind turbines.

#### 9. The Pledges

- a) addressing the impact of water use, waste disposal and purchasing
- b) assisting behaviour change

Certain other activities partaken by the organisation, other than direct fuel use, also have a carbon footprint, for instance: water use, paper use, waste disposal, food purchase, other purchases. It is important to address these other contributors to CO<sub>2</sub> emissions to provide a more accurate reflection of the total carbon emissions that are produced by the organisation. The tool then provides advice on how these indirect carbon emissions can be minimised.

The behaviour of the users of your building contributes to the organisation's carbon footprint. For example, If an organisation sets their wall thermostat to 18°C, the users of the building need to understand why so as not to turn it up to 25°C when they use the room.

The tool uses a pledge system to address the issues of invoking change with respect to these other contributors and to inspire general behaviour change within and around the organisation.

By offering the organisation a series of pledges which they are then committing to, *wesave.org.uk* makes organisations more aware of they're carbon footprint from these harder to calculate variables.

The pledge system lets the organisation choose which options they are already doing, which they'll pledge to do and which they're not doing at the moment. The tool then creates lists detailing which pledges the organisation is already doing and which they're pledging to do. These can then be printed off and used to propagate these changes to the organisation and to other users of the building.

By communicating what your organisation is doing to all those in your organisation, you will be on the way to getting them to use energy more efficiently, helping your organisation to reduce it's carbon footprint while also helping them become more energy aware in their life away from your organisation.

*Wesave.org.uk* has developed a system which will a) address the impact of water use, waste disposal and purchasing, and b) assist the organisation to inspire behaviour change with its members or the users of its building(s). *The organisation chooses which options they are already doing, which they'll pledge to do and which they're not doing at the moment. Lists detailing which pledges the organisation is already doing and which they're pledging to do are then printed off and used to propagate these changes to the organisation and to other users of the building.*

#### 10. Developing and implementing an action plan

The tool will generate a report on the actions that can be made in the organisation to reduce carbon, and therefore a carbon target can be set. This can then be turned into an action plan and this can be used to measure off achievements in working towards the target. This will be a useful representation of the specific benefits for a specific cost.

#### 11. Record of actions taken

The tool allows the organisations to record their progress; changes made are recorded as well as other historic information so that progress along a carbon reduction programme can be effectively monitored.

#### 12. Measuring your progress

The tool contains a rolling measure of carbon emissions by gathering regular meter readings and other energy use and consumption. From this, a continual visual record is generated indicating progress towards the carbon target.

#### 13. Sector specific advice on grants etc

The tool evaluates suitability for renewable technologies, and suggests building fabric improvements. Grants and financial assistance will often be available to help with these according to the sector and geographical location of the organisation. The tool will flag up potential sources of assistance according to the sector and location of the organisation.

The user will essentially get out what they put into the tool in terms of the level of detail and so it can serve as a very basic carbon foot-printing and benchmarking tool right through to facilitating a feasibility study into renewable energy measures at the most detailed level.

## **Costs**

Each organisation's representative will attend two training sessions, and the sessions will be delivered in three delivery blocks, A, B and C. Each block containing a different set of organisations' representatives.

The cost per organisation for a 10 organisation workshop would equate to less than £125 per training session. For £250, each organisation will receive:

- training session 1
- training session 2
- continual use of the carbon management tool website
- continual email and telephone support
- a plug in energy monitor
- wesave guide book plus other resources

All costs are NET

## **Feedback**

Here is a selection of feedback we have received from training, presentations and events we have delivered over the past year.

"I wanted to thank you on behalf of 'Team Orange' for facilitating and presenting at our Climate Change Conference. Your contribution to the whole event really helped to make it interactive, thought provoking and 'real'. You also made sure the day ran to time - quite a feat in itself! Many many thanks." Kay Völger Principal Officer, Environment Agency

"Richard Davies' facilitation and role in the development of the day gave the event pace and energy. His presentations were innovative and creative, and challenged us to aim higher as we make adaptation and mitigation to climate change part of everybody's day job." Mark Funnell, Midlands Region Corporate Affairs Manager, Environment Agency

"Kris, thank you for all your help at the World Social Marketing Conference, I am glad that you enjoyed it. Feedback from the climate discussion you ran was excellent. Thank you again for all your help and look forward to working together again in the future." Patrick Ladbury, Communications Programme Manager, National Social Marketing Centre.

"Thank you for making the event excellent last week! I've had lots of very positive feedback about your contribution and I think you made the day. People have said you really inspired them and woke them up! The voting and the workshop went down really well." Nottinghamshire and Derbyshire Local Authorities Energy Partnership

"Many thanks for your excellent input this morning, and for staying the extra hour. So many people base their views on inaccurate perceptions, and the confident application of a few pertinent facts and figures which you do with annoying ease makes such a difference." Phil Holden, Shropshire Hills AONB Partnership Manager.

"Richard delivered an inspiring presentation to launch Huntingdonshire District Council's 'Green Force' employee environmental awareness initiative. Given a challenging brief he captivated the audience by imaginatively conveying the environmental issues facing the world today, whilst also introducing a wealth of ideas for practical solutions." Dr Paul Jose, Huntingdonshire District Council

"Kris, many thanks for coming to speak to us last night. The evening was a great success. You would have gathered from the questions from the floor and your after-meeting discussions with many of those present that your informative and engaging presentation had generated considerable interest." Bob Armstrong, Rotary Club of Shipston on Stour

"After all the excitement of yesterday, I am now writing to thank you for your impressive contribution to our event. The feedback we have received from delegates and other speakers has been very positive." Dr Julia Speht, Manager, EU Connects

"A huge thanks for a great presentation - it was really interesting and they all learnt so much." Doris Embleton, Trefoil Guild

"I have now passed the Low Carbon Leadership Workbook you sent me on to the Secretariat of the Climate Change Committee. Many thanks for sending it to me. I did enjoy it." Professor Lord May of Oxford OM AC Kt FRS

"I would like to thank MEA for sending the committed personnel to deliver the various Carbon Crush workshops at Apedale. They were very informative and descriptive. Loads of thanks." Newcastle Carbon College Attendee.

"Thanks for ruining my Saturday, I spent it insulating my loft after your inspiring talk!" Ben Whittle, Southern Solar

"The delegates really enjoyed your presentation which was extremely accessible, informative and engaging, as demonstrated by the noise levels produced from the round table discussions afterwards. Indeed, there was some feeling that delegates welcomed even longer discussion periods!" David Disley-Jones, Learning and Skills Council

"Very many thanks to you for your tremendous input to the launch of the Nottinghamshire Climate Change Partnership yesterday. Initial feedback has been very positive and there were certainly some good ideas emerging from the various workshops and a real enthusiasm to work in partnership to tackle climate change." Steve Derbyshire, Nottinghamshire County Council

"Many thanks Richard, we were delighted with your input, receiving favourable comments from clients on the day and continuing. With your knowledgeable and enthusiastic approach, I know of no better person to bear the sustainability standard. Many of our clients went away with at least the intention to reduce the size of their carbon footprints. We will now badger them to realise that intention." Malcolm Walton, Technical Director, Wardell Armstrong LLP

"May I add my thanks to those of Tim for the time you took with your presentation in Hay-on-Wye? I too much benefitted from it and several others have complimented you on the style and substance of your materials. Provocative and directed. We're motivated to attempt to help our community." Ainsleigh Rice, Transition Hay

## Our Training Team



**Richard Davies** – Midlands, North and South East

Richard is MEA's director with ten years experience of developing and delivering training at all levels. Highly sought after, his most recent projects have seen him fulfilling a Regional and National LIA role as well as continuing to be the West Midlands Climate Change Ambassador.

**Kris McGowan** – Midlands, South West and South East

Kris has managed some of our larger projects including the development of bespoke training for council and community leaders alike. He has lead European low carbon transport training across the West Midlands as well as developing and managing a team of fuel poverty trainers. He has developed Carbon Forum - MEA's training and education team - as a micro-business of MEA since conception in 2007. He has undertaken teacher training in standard and alternative education. Kris will be co-ordinating the project.



**Richard Hammerton** - Midlands

Richard heads up our Local Authority training sessions as well as the driving force behind our museum work in Uganda. He has developed and delivered climate change sessions for business staff, local authority officers and members. He is currently developing accredited climate change training and QCF level 2 and 4. He has delivered train the trainers fuel poverty sessions and well as course materials. Richard holds a Masters in Architecture: Applied Environmental and Energy Studies

**Dr Rina Jones** – Midlands, the North East and South East

Rina has extensive experience of co-ordinating and delivering training in the East Midlands, largely to officer and executive level of local authorities and LSPs. Rina has a PhD and Honours Degree in Earth Sciences; she also did a post-doc at UEA studying the effect of sea level rise in Norfolk since the ice-age.





**Caroline Harmon** – Midlands, North East and South East

Caroline is project managing a variety of project in the East Midlands. Before joining MEA she worked for a number of small charities and her roles have included managed Britain's original environmental show-home in Leicester and equipping students to campaign on climate change. When not working for MEA Caroline is also a freelance writer and trainer.

**Matt Szabo** – Midlands and the North East

Matt has recently joined MEA from the Energy Saving Trust, now leading delivery of training to community groups in the West and East Midlands. He has experience of delivering lessons and workshops relating to environmental and climate change issues at secondary school and university level. He holds a PGCE and a PhD.



**Jeremy Thorp** – Midlands

**Jeremy** is the founder and chief technician of *wesave.org.uk*, he joined MEA at the start of 2008 and pioneered training programmes using *wesave* with businesses in South Shropshire. Before this, he has spent time computer modeling power systems for the CEGB/National Grid, and running a printing business, with some time out for building a low carbon house.

**Greg Shepley** – Midlands

**Greg** has been fundamental in the development of the *wesave.org.uk* training programme. Known for enthusing those who attend his training sessions, he was one of the writers of the *Wesave* guide book, as well as the author of a how to guide on using volunteers in climate change projects.

