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Delivery of heat pump installation roadshows for

a) non-domestic buildings in the public, business & voluntary sectors

b) for residential buildings in the social housing and private sectors

Tender Reference Number: (930/11/2015)

Proposal from SE2, Themba Technology, Adecoe and QSA Partners LLP

January 2015

VAT Registration No. 839 6537 79 • Registered Company No. 05143753

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Introduction

Building on the success of the heat pump training workshops for the social housing sector in 2012-13, DECC is seeking a contractor to develop and deliver a second wave of workshops in April/May 2015 targeting:

a) non-domestic buildings in the public, business and voluntary sectors
b) residential buildings in the social housing and private sectors

5-7 one-day seminars are required for each audience group and should include:

- Information on all types of heat pump and on permitting (where required)
- Specifying the design
- Installation (including an explanation of the MCS MIS 3005 guidelines)
- Maintenance
- Operation
- Potential fuel, carbon and bill savings
- Case studies
- Eligibility, tariffs and application process for the domestic and non-domestic RHI

SE^2 led the consortium that successfully delivered the heat pump for social housing training for DECC in 2012-13, alongside the development of the online portal. For the 2015 training programme, we will build on this experience to extend the reach of the workshops to a wider audience, both in terms of technical content and promotion. We have brought together a team which combines market-leading expertise in heat pumps, training and event coordination, enabling DECC to access the widest range of advice within this project.

Our approach is consultative, ensuring the views of all stakeholders are counted in the development of the project. It is also iterative, built to provide ongoing opportunities for continuous improvement.

Why our team is perfect for the job

- We are the UK go-to team for excellent heat pump training
- We know the industry, the technology and the audience
- We have extensive experience in managing complex training roadshows
- We pride ourselves in meeting clients' objectives and exceeding their expectations
- We are organised, diligent, flexible and smart: we deliver on time and to budget

Working with Themba Technology, Adecoe and QSA Parners LLP, we will deliver 12 training courses - 6 each for the domestic and non-domestic sectors - for a total cost of £67,538 + VAT. The following pages explain why we think heat pump training is important, the skills and experience we will bring to the project and how we will deliver it.

Section 1: Understanding the requirements

Heat pumps have a critical role to play in reducing costs and carbon emissions for households in all sectors as well as bringing significant benefits for landlords and non-domestic property owners and managers in all sectors. Despite these advantages, they are still not seen as a first option and take-up remains at a low level. There are multiple reasons for this. They range from the technical and the organisational through to cost, lack of knowledge, opportunity and experience. Fundamentally, they have not been taken up because people, organisations and businesses have not been shown how they can help solve their issues, reduce their costs and improve their products and their customer service. For businesses, awareness followed by a solid business case and technical reassurance are essential to take-up.

These roadshows will aim to translate the technicalities and benefits of heat pumps and how they are specified, procured and can be used in to real world advantages for those who attend. Delegates will come away understanding what heat pumps are and how they can be used in order bring benefits directly to them. This will break down the barriers to their use and make those who make the heating choices for the UK's homes and businesses actively seek to use heat pumps.

1.1 Domestic sector: social housing

The key to the social housing sector is to understand the drivers for action and - equally importantly - who makes decisions and how they are made. The social housing sector, in both existing homes and new build, is going through significant changes including benefit reform, regulatory reform, as well as new challenges around the way the sector is financed and delivers its core services. Our team's deep understanding of these issues will ensure that providers can identify how heat pumps can help deliver the sector's needs, and so increase take-up.

For social housing providers, household income – and fuel poverty – now has a direct impact on income for social landlords. They also recognise that they now need to identify new solutions to the thousands of electrically heated homes that are expensive for tenants and lead to high levels of complaints for landlords. Other drivers in the sector include the reframing of asset management to look at the long term financing of housing, including full lifecycle investment and return on investment, regulatory compliance and risk on traditional heating systems and the exploration of new financing mechanisms.

These challenges, allied to the practical realities of designing, specifying, procuring and maintaining heating systems, mean that there are some significant benefits for social landlords in looking at heat pumps, including:

- Reduced energy costs for off gas and electric heating
- Lower emissions and SAP for strategic targets
- Reduced maintenance requirements
- Lower regulatory and compliance risk
- Lower long term lifecycle cost and improved return on investment
- Improved customer service and fewer complaints in electrically heated homes

- Innovative financing including the use of RHI

These advantages will need to be balanced and explained in balance with the understanding that heat pumps can bring higher capital cost, procurement challenges, maintenance supply chain issues, customer reaction and the simple risk of 'doing something different'.

Social housing has long led the use of innovative technologies and has used heat pumps more widely than most other sectors, but they have not yet broken into the mainstream. This will only happen when the role of heat pumps in delivering mainstream housing objectives is be made clear.

1.2 Domestic sector: private housing

Private housing – and particularly new homes - have similar opportunities and challenges in the use of heat pumps. It is important to understand how these homes are specified, designed, procured and built in order to encourage the adoption of heat pumps. The key lessons are the understanding of the relationship between developer (social and commercial, and often the same), the contractor and architect. Fundamentally, contractors control the use of technologies and will respond to the requirement of the developer and the need to keep costs down. Developers will respond to planning, regulatory or client requirements and architects have to balance these requirements, although they are usually on the contractor or developer side.

In order to increase the take up and use of heat pumps in new homes, the various roles need to understand their benefits and how they can be applied easily and cost effectively. Developers need to see how they can play a role in meeting planning and regulatory requirements, contractors want to see how that can be done at minimum cost and architects will need to understand the detailed design and specification pf heat pumps to ensure that they meet those requirements and do not lead to complaints from householders or claims by clients or developers.

1.3 Non-domestic sector

Businesses, including the voluntary sector, are motivated by cost savings and reduced risk. However, managing change and adopting new technologies is often a challenge due to a range of complex factors. By improving understanding, exploring opportunities and barriers, and demonstrating good practice, more businesses can be encouraged to take up new technology to their benefit.

The ability to cool as well as heat, low maintenance costs, reduced exposure to volatile fuel prices and the ability to make use of waste heat from business process are all good incentives for businesses to explore and adopt heat pump technology. Businesses looking to develop low carbon buildings or those wishing to retrofit will have lots of questions about how to fund and adopt the technology to suit their needs. Barriers (perceived and real) do exist and these workshops will be designed to tackle and reduce these to enable a greater number of businesses to take the next step.

Energy costs, the CRC, ESOS and Building Regulations are all key drivers for investment in energy efficiency and renewables in the non-domestic sector. Businesses want quality products that perform well and offer good value for money. According to RegenSW, 95% of businesses go straight to equipment suppliers, installers or contractors when procuring equipment. A critical aspect of these workshops will therefore be that they understand the technology options open to them: evidence from DECC's Low Carbon Buildings Programme and other trials indicates that once businesses were aware of the benefits, heat pumps were a popular low carbon option.

1.4 Technical considerations

MIS 3005 has and continues to undergo change. Issue 4 introduced the Compliance Certificate and members of our team are involved in the on-going work to bring this into MCS reference materials. High temperature heat pumps and heat metering are both becoming part of the hat pump portfolio and gas, solar assisted and hot water heat pumps are all in the pipeline. Changes to Building Regulations, BSi standards such as BS EN 12831 and CIBSE, DBSP and GSHPA guidance are all changing the way heat pumps are fitted. Another factor is the interpretation of standards: one of the MCS certification bodies recently interpreted the latest HSE guidance differently to the other certification bodies and this all needs co-ordination and diligence.

Innovation in heat pumps is continuous, and DECC has recognised that water source heat pumps have a valuable role to play in certain settings. We are "source-agnostic" and will ensure that the roadshows present the full array of options to participants to take best advantage of the heat sources available to them. As well as integrating water source heat pumps into the standard roadshows, we propose a dedicated session on WSHPs targeting delegates from locations with strong potential as mapped by DECC.

Heat pump technology can be dropped at several stages of a project. As it is often viewed as innovative, the conservative construction and procurement sectors can shy away. Procurement, specification, design, install, set-to-work, commissioning, operation for comfort and cost, maintenance, fault-finding and heat metering requirements/benefits/costs all affect the role the heat pump technology plays within the overall building system. Addressing these needs, requirements and understanding will significantly increase the uptake of the technology – which is what this training will aim to address.

Section 2: Skills and experience

2.1 Our team

At SE^2, we are passionate about helping householders, communities and organisations find real solutions for a sustainable future. We believe people are the key to change; it's why we focus on organisational change and stakeholder dialogue, communicating the impacts of climate change and influencing what's done about it.

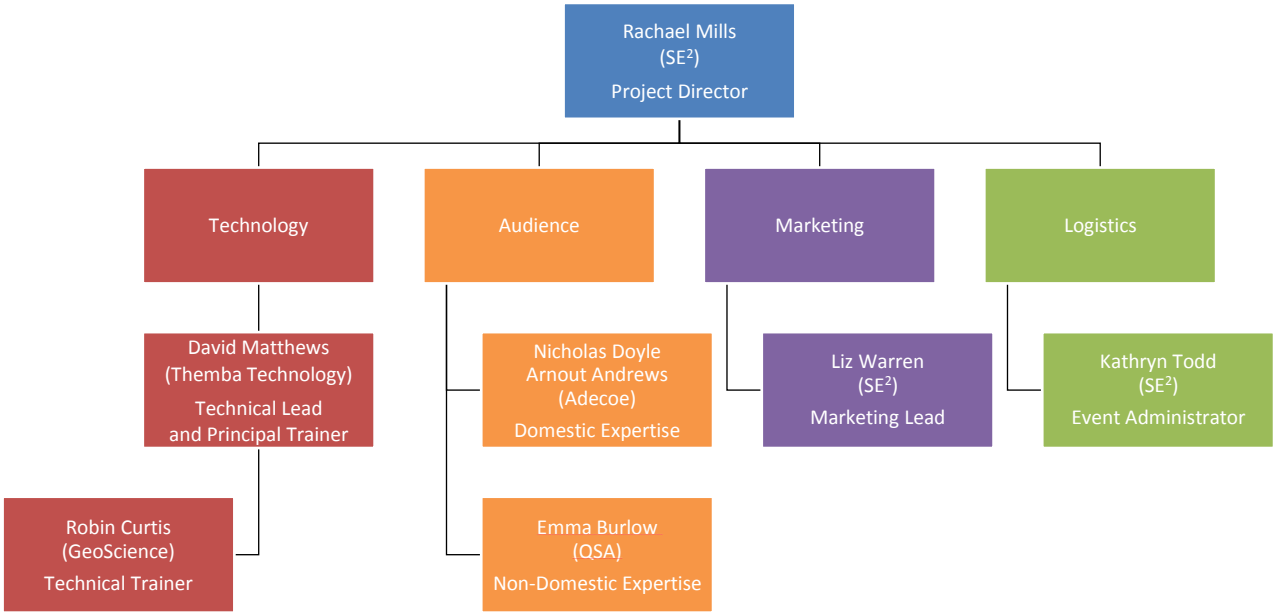
Established in 2004, we have a demonstrable track record working with local and national government, academia and business. We have consistently delivered successful outcomes from strategic research, stakeholder engagement, training, workshops and inter-disciplinary communications. SE^2 has built its reputation through the application of creative thinking to each challenge, seeking out new ideas and innovative solutions. Our approach is grounded in an understanding of structure, process and attention to detail that comes from decades of combined experience in our field.

To achieve scale for projects, we work closely with a network of expert associates. For this project we are delighted to be working with:

> Established in 2000, **Themba Technology** is a leading provider of sustainable energy consultancy services and renewable energy training courses including design, installation and award winning e-learning training materials. Themba is presently focusing on heating design as a route to transform the sector. This is mainly focused on renewable heat and the integration of various technologies into the wider building. Systems thinking is at the heart of this process: we believe heat pumps operate very effectively when designed into the functional heart of the building.
>
> Staff at **GeoScience Limited** have been involved in geothermal energy since the 1970s. In the early 1990s, they introduced closed loop ground source heat pumps to the UK with the first borehole installation in 1995. Since then they have gone on to design and install (latterly as EarthEnergy Ltd) somewhere in the region of 1800 GSHPs throughout the UK, in sizes ranging from 3.5kW in social housing, through to multi-hundred kilowatt heating and cooling systems in public sector and commercial buildings. They have been actively involved in all aspects of the technology, awareness raising, promotion, training, standards development, simulation, thermal response testing, and monitoring.
>
> The award-winning **Adecoe** team have over 50 years' experience in social and private rented housing at all levels, from front line housing management to Board experience, and in all areas including asset management, housing management, existing homes and new development for both Local Authorities and Housing Associations. They have been the sector pioneers on energy and sustainability for over ten years and have been key players in the development of national policy and the use of new and innovative approaches in the sector

including the RHI, Green Deal, ECO, renewables, energy performance contracting and ESCOs.

QSA Partners LLP (QSA) are an experienced team of business consultants who specialise in turning innovative ideas into commercial reality, drawing on over 50 years' experience in low carbon economics, resource efficient business, innovation and financial modelling. They have a track record of working with large companies such as Asda; B&Q; BT Global; Carillion; Interserve; M&S; Panasonic; Philips and Samsung and extensive experience working with SMEs and social enterprises such as Greenstream. QSA are currently the lead contractor on the WRAP REBus project working with 20 SMEs and 9 large companies to support them as they develop, trial and adopt resource efficient business models.



Our project team is structured as follows:

Figure 1: Our team structure

2.2 Our skills and experience

Our team has the unique experience of having delivered the heat pump training for social housing providers for DECC in 2012. We know how it works because we created the training materials and event systems. The vast majority of trainees were either satisfied or very satisfied with all aspects of the training (there's always room for improvement!) and increased their levels of knowledge and confidence across five indicators (differences between MCS MIS 3005 version 2 and version 3; how to perform a power and energy heat loss calculation and estimated cost of various systems; knowledge of heat emitters and the link to a heat pump system; how to specify heat

pumps for houses of different built forms; what to look for in typical GSHP and ASHP MCS quotes; and what advice to give tenants about how to use and control their heat pumps). We handled all the bookings and delegate communications, venue liaison and marketing. We also adapted the training materials and developed the online heat pump training portal (www.greenb.org.uk/heatpumps/).

The following pages demonstrate our skills and experience in each of the areas specified in the Invitation to Tender:

1. **A thorough understanding of the heating requirements of both domestic and non-domestic buildings.**
2. **Experience in design/installation of heat pumps and their applications in both the domestic and non-domestic sectors.**

Our team has decades of experience designing, installing, commissioning and servicing a significant variety of properties with heat pump, combustion and solar heating technologies. Our trainers sit on a series of standards and guidance development committees including BSi, Building Regulations, CIBSE, GSHPA and MCS: **David Mathews has been Chief Executive of the GSHPA since 2006.** They have also done significant work assessing the heating requirements on buildings including setting a baseline, developing heating installation options and monitoring.

GeoScience's experience includes:

- The development of a **UK specific GSHP package for social housing in the UK**, specifically designed to address fuel poverty targets, OFGEM requirements, and meet Decent Homes Standards.
- Worked with a major utility, a UK heat pump manufacturer and an M&E consultant/ GSHP specialist to produce the **HeatPlant package,** initially delivered by Powergen, later EON.
- As EarthEnergy Ltd, a full contributing participant in the **Energy Saving Trust heat pump monitoring study** Phases 1 and 2, as a heat pump designer / installer.
- Partner with Devon and Cornwall Housing on a **Retrofit for the Future** project at Sennen, Cornwall using a packaged Heat Pod (an integrated heat recovery and GSHP unit) with very detailed pre- and post-installation energy monitoring and analysis.

Adecoe have recently developed an assessment tool for landlords that has enabled them to take strategic and building specific decisions on installing alternative heating including heat pumps. They also have practical hands on experience for specifying, procuring and installing a range of heat pumps in existing and new build homes. They have also been involved with:

- **Whole House Refurbishment:** Assessment of the potential for taking a "whole house" approach to retrofitting the existing domestic sector building stock, looking at grouping energy saving measures to form whole house packages, likely costs and benefits of these packages and supply chain issues. (DECC, 2009)
- **Breaking New Ground / Completing the Loop:** Feasibility and implementation work highlighting the role of ground source heat pumps (GSHP) in social housing, both new-build and retrofit. (Energy Saving Trust, 2005)

3. **A thorough understanding of the specific requirements of social housing providers and their tenants, particularly those who are vulnerable or in fuel poverty.**
4. **An understanding of the market for heat pumps in domestic sector (both private and social housing) and in the business and voluntary sectors.**

Our team with its social housing and trade association connections is widely experienced and connected in the domestic, social housing, commercial, industrial and non-profit sectors.

Nicholas Doyle of Adecoe has spent over 25 years in social housing at all levels and spent the last ten years working for Places for People, one of the UK's largest property management and development companies that had a portfolio including over 60,000 affordable homes, over 20,000 private rented homes and a significant development programme of thousands of new homes. He has chaired a number of Groups including Social Housing at the Energy Efficiency Partnership for Homes, a working group chair of the UK Microgeneration Strategy Consultation in 2010, consultant and advisor to the Technology Strategy Board Retrofit for the Future programme, a chair of the National Housing Federation Green Deal Task Group and a founder member of the Existing Homes Alliance. He was named Green Social Housing Champion in 2011.

Arnout Andrews of Adecoe has worked in social housing for over 15 years, which has included:

- Project Delivery for Places for People, Gentoo, Guinness and Metropolitan
- Projects including multinational energy performance contracting
- Technical Support Consultant for the Carbon Trust
- 'Condensing Boilers Work!'; 'Energy Days'; 'EEC for RSLs; 'Completing the Loop' – and other major projects.
- Low and Zero Carbon technologies, as well as basic energy efficiency measures
- Delivered over £8m retrofit programme in the social sector
- Projects for, and with, DECC, Homes and Communities Agency, National Housing Federation, the Carbon Trust and the Technology Strategy Board

The Adecoe team also have significant experience of rolling out innovative technologies in new homes and the critical importance of the supply chain in increasing their take up. Through its work at **Viridian Solar**, the team have been involved in the design and manufacture of solar thermal and photovoltaic specifically for the new build market.

Emma Burlow is a founding partner of QSA and has particular expertise in business support, training and project management. She is a qualified Professional Trainer and Facilitator and PRINCE 2 qualified Project Manager and has delivered projects in a diverse range of sectors including retail, hospitality, IT, tourism, education, food and drink and manufacturing. As Regional Manager for the Improving Your Resource Efficiency (IYRE) programme in the south west 2008-10, Emma set up and managed

the project that went on to engage and support over 1500 SMEs. Emma has worked with businesses for the entirety of her career, having worked with Envirowise, Business Link and more recently WRAP.

5. **A thorough knowledge of the MCS heat pump standards and proposed revisions.**
6. **Experience in either installation of heat pumps according to MCS standards, or training heat pump installers.**

David Matthews of Themba has been the engineer employed by MCS to interpret and provide guidance on all aspects of the MCS heat pump standards. He has been teaching renewable energy technologies to both technical and non-technical staff for over 10 years. In 2014, he was the course tutor for heat pumps and solar thermal level 3 QCF at Logic4Training's Luton training centre. He has recently authored and updated the **MCS Heat Pump Reference and Guidance Materials** which are currently with the Standards Management Group for approval. These also include the integration of the RHI Compliance Certificate into heat loss spreadsheets and the rationalisation of existing materials.

In 2006, David was the commissioning engineer for **Renewable Energy House in Brussels** which included an energy storage GSHP system. His most recent project was to advise Tony Mackeson, an architect who had 3 quotes for **61 Lancester Road**, all of them detailed and different. As the value of the tenders was between £40 and £80K, Tony wanted advice on the best contractor for this project. David modelled the building's heat loss, used BGS to confirm the geology and establish collector size, evaluated the detailed quotes and assisted the client in the selection of the best contractor for a 3-floor £million+ domestic property conversion and the RHI application process.

GeoScience has designed and installed in excess of 1800 GSHP installations throughout the UK since 1995, including a range of domestic and non-domestic installations from 3.5kW upwards with heating to both underfloor and radiators in new build and retrofit situations and hot water, across a wide range of manufacturers. They were also part of DECC's working group on revising the MCS standard following the Energy Saving Trust monitoring exercise and developed the MCS GSHP ground loop sizing charts1 and the MCS GSHP Hydraulic sizing guidance tools / charts2:

GeoScience are currently working with installers delivering domestic and non-domestic GSHP systems that are required to meet MCS and Ofgem requirements for RHI acceptance. They have also run in-house training programmes for domestic installers, initially for Viessmann UK Ltd and later for any interested heat pump installer. They have also run training courses for LA maintenance staff on heat pump systems.

[1] www.microgenerationcertification.org/images/MIS_3005_Supplementary_Information_1_-_MCS_022_-_Ground_loop_sizing_tables_2011-09-02_v1.0.pdf
2 http://www.microgenerationcertification.org/images/GSHP_Hydraulics_Design_Guide_v1.0.pdf

7. Up to date knowledge of both the domestic and non-domestic RHI and application process/evidence requirements as far as they relate to heat pumps.

David Matthews has been involved in the development of the RHI application process for both domestic and non-domestic and through his trade association role, holds positions on **DECC's RHI Advisory Group** committee. His latest MCS Heat Pump calculator includes the **RHI Compliance Certificate** so that some of the application requirements are covered for installation companies and their clients. Through his role on **Ofgem's RHI Domestic Metering Committee**, he has advised on heat metering and heat metering training.

Adecoe also have experience in communicating and applying for government funding, for example through the **Energy Days** project for the Housing Corporation and the Energy Saving Trust, where they supported twenty social housing energy projects in accessing funding from CEP, ClearSkies, DTI PV Programme, EST Innovation Programme, etc (2004).

GeoScience are currently working with Ofgem on reviewing the basis of acceptable design SPFs for non-domestic systems.

8. Ability to advertise the roadshows to a wide range of suitable attendees.

SE^2 has run successful business and public sector communications campaigns over the past ten years for clients including DECC, Carbon Trust, Energy Saving Trust and 17 London Boroughs. **Liz Warren** will lead on marketing activities. She is a Fellow of the **Centre for Refurbishment Excellence** with particular expertise on marketing and communications related to energy efficiency.

Promoting the roadshows was an integral part of the **2012-13 heat pump training for social housing for DECC**, which attracted over 225 delegates across 11 sessions using a series of promotional routes. We have also have successfully promoted series of workshops and roadshows for the **Energy Saving Trust** (promoting district heating to public sector bodies), **Carbon Trust** (promoting events, guidance and good practice to local authorities and schools) and the **Combined Heat and Power Association** (targeting major heat users, the heat supply chain and public sector bodies including social housing providers). Our business to business experience also includes running business engagement campaigns around energy efficiency and retrofit for the **London Boroughs of Islington and Waltham Forest** and engaging construction businesses in projects for **the GLA and the London Borough of Lewisham.**

9. Experience in delivery of technical roadshows, including selection of suitable venues and development of appropriate training materials.

SE^2 are the logistics partner within the team and have extensive experience of organising roadshows within the sustainability sector. Multiple events require close attention to detail and we pride ourselves in being exceptionally well organised. We strive to meet international sustainable event standards in all the meetings and

training sessions we manage, which includes considerations such as location and accessibility (e.g. near public transport, availability of bike racks), venue environmental policies and supply chain, sustainable catering and recycling availability. All the trainers have developed their own training materials in the past: SE^2 will have oversight of all outputs (e.g. presentation slides, hand-outs, excel workbooks, group exercises, etc.) to ensure they meet an agreed house style and feel part of a coherent set of training materials.

In 2012 we co-ordinated a series of 11 **Green Deal Breakfast Briefings** across the UK for DECC, all taking place within just one month. We took care of all the logistics, from booking venues, handling delegate bookings and communications, briefing speakers, collating presentations, gathering frequently asked questions, and providing delegate packs and names badges. About 2000 people were offered a place at one of the sessions, and still we had to turn another 1000 away.

Since 2006, we have lead the stakeholder engagement work for DECC and the Energy Efficiency Partnership for Homes/Buildings on the Supplier Obligation (and all its former incarnations). This often meant workshops across the country to maximise stakeholder input into policy development, most recently in early 2014 when we organised and facilitated **five workshops to discuss both the ECO consultation and plans to streamline and improve the Green Deal.**

Other recent roadshows have included **eight regional Retrofit Summits/Roadshows** (2013), **10 regional energy from waste seminars** for the CHPA, Defra and DECC (2010) and **eight regional events for planners about district energy** for the CHPA and the Town and Country Planners Association (2008).

10. Experience in assessing feedback from these roadshows.

Stakeholder and delegate feedback is vital in order to ensure that events meet the expectations of attendees. A roadshow allows an iterative development process so the training content can be improved on the basis of the preceding events. We also use feedback forms to gauge the extent to which participants have deepened their understanding of a topic and to provide them with an opportunity to share their thoughts on policy areas with our clients.

Analysis of feedback was something we incorporated in the last round of heat pump training and would do again for 2015. Questions included:

- Why did you attend?
- How did you find out about the event?
- Feedback on logistics (registration, venue, communications)
- Satisfaction with the scope and standard of the training and materials
- Level of awareness before and after the training on different course sections
- Confidence levels in applying the learning back at the workplace
- Areas for future DECC training

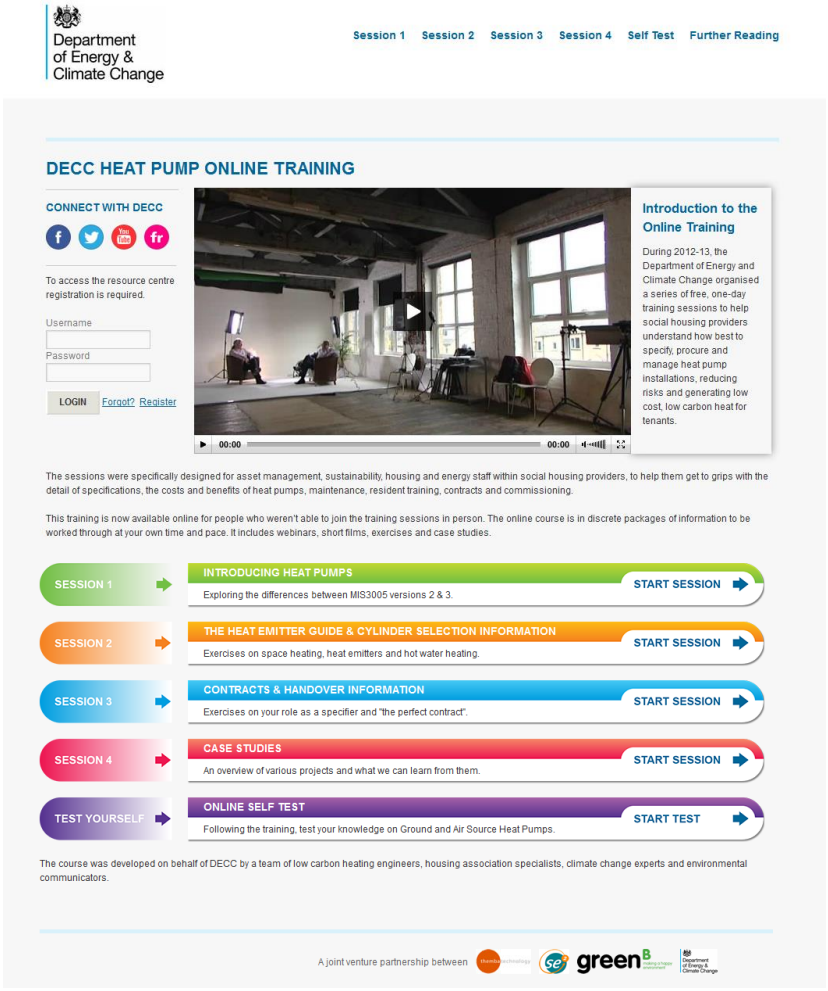
Other clients for whom we undertake significant feedback analysis are the Combined Heat and Power Association (CHPA) and Energy Institute for whom we've been

organising the **Heat Conference** for the last 3 years (and the CHPA's Annual Conference for four years before that). Using an online feedback system, we collate views on the conference content, speakers, venue and marketing, as well as ideas for the other events. We also undertake extensive delegate analysis which enables us to examine who attends from which sectors, which delegates attend for the first time each year, as well as the profile of ticket sales and website use.

11. An appropriate level of experience in developing e-learning materials

As part of the 2012/13 heat pump training for social housing, we adapted all the training materials for an online portal (www.greenb.org.uk/heatpumps - see Figure 2 below). We created a short film for the homepage to 'sell' the training to visitors to the site and to encourage them to sign up for the e-learning modules. The modules themselves were split into 4 sections for ease of access, taking learners through the basics of heat pumps, more technical exercises on heat emitters and space and hot water heating, how to specify heat pumps as a social housing provider, and them provided lots of case studies. The modules included presentations, short films, exercises and links to further reading. The fifth and final module was a multiple choice self-test.

Fig 2: The Heat Pump Online Training from 2012/13



As well as the heat pump portal, David Matthews has been extensively involved in developing a large variety of e-learning materials including:

- The awarding winning Skills2Learn (www.skills2learn.com) series of virtual reality e-learning materials (Introduction to Renewables, Heat Pumps and Solar Thermal)
- Recording video-editing software-based e-learning webinars
- Developing interactive web-based multiple choice e-learning materials
- Filming discussion interviews for online publication

12. Report writing skills.

We pride ourselves in our report writing skills and work hard to deliver outputs that are clear, concise and written in Plain English. We have also worked with a variety of clients in recent years to help make sure their reports use appropriate language for their target audience, for example 'translating' technical documents into user-friendly guides. Recent examples of our reports include:

- The **Retrofit Revealed** report[3], the first analysis of data collated from the Technology Strategy Board's Retrofit for the Future programme and a review of the final reports submitted by the Retrofit for the Future project teams (2013).
- **A Guide to Low Carbon Domestic Refurbishment**[4] which we wrote for the Construction Products Association (2010, and updated in 2014).
- The **Process Evaluation of DECC's Local Authorities Competitions**[5] exploring how local authorities and community organisations invested DECC funding in activities related to Green Deal, fuel poverty and collective energy switching (2013).

13. Project management skills including ability to mitigate risks, deliver on time and to budget.

All the partners in our team are senior: this work will not be delegated to more junior staff. They have all managed their own projects and have a mature approach to project delivery. As project lead, SE[2] will take overall responsibility for this project. We work closely with our clients to understand the requirements, risks and outcomes of a programme of work, and then develop solutions based on the best blend of resources, methods and materials. We ensure clear lines of responsibility and accountability, and transparent channels of communication with our internal and external partners. We strive to exceed expectations, to deliver on time and to budget.

Our recent experience of managing multi-partner projects includes the **delivery of £1.6m of Green Deal Communities funding** from DECC across the London Boroughs of Lewisham, Bexley and Bromley (2014), the management of the **process evaluation of**

[3] https://retrofit.innovateuk.org/documents/1524978/2138994/Retrofit+Revealed+-+The+Retrofit+for+the+Future+projects+-+data+analysis+report/280c0c45-57cc-4e75-b020-98052304f002

[4] www.constructionproducts.org.uk/sustainability/buildings/domestic-refurbishment/a-guide-to-low-carbon-domestic-refurbishment/

[5] www.gov.uk/government/publications/local-authority-competition-evaluation-report

DECC's Local Authority Competitions (2013), and a three year programme of work to develop a **carbon management strategy for the schools sector in England**[6].

[6] www.se-2.co.uk/files/se2/uploads/Carbon%20Management%20Strategy_As%20published.pdf

2.3 References

REDACTED

Section 3: Delivery and management

3.1 Our Approach

Our approach is:

- **Consultative** – we will work closely with DECC, MCS and other stakeholders to ensure that the training design and delivery routes are appropriate for the given audience(s). We will gather feedback from delegates at each seminar which will feed in to continuous improvement of the roadshows.

- **Robust** – we have created a team which has extensive training experience. We have designed, delivered and coordinated many challenging programmes of training and outreach, often to tight deadlines and always to the highest levels of client satisfaction.

- **Innovative** – we have identified a number of opportunities for innovation, in particular:
    - Our structured approach to marketing
    - A flexible costing model enabling DECC to add in further training sessions
    - A portable heat pump demonstration kit
    - A bespoke water sourced heat pump training session to include a site visit
    - Additional training sessions via a webinar for trainees unable to attend the physical venues (for both the domestic and non-domestic sectors)

3.2 Inception Meeting

On commencement of the project, we would attend an inception meeting with DECC. We anticipate this meeting would last 1.5-2 hours and would cover:

- The scope of our work based on this proposal and the 'optional extras'
- Dates and locations for the training sessions
- Audiences, marketing and how DECC can help
- Initial views on the training content
- The portable heat pump demonstration kit
- Online learning content and relationship with the Government IT provider
- Timetable and milestones
- Project management, including risk assessment and frequency of updates
- Budget and invoicing

Rachael Mills and David Matthews would attend this meeting and have good availability for the first week in February.

3.3 Dates and venues

It will be critical to get the dates of the training sessions publicised as early as possible in order to maximise attendance. Our preferred option is to **run both training sessions at the same venue on the same day**. This gives delegates the opportunity to network in the breaks and at lunchtime, as well as giving them the chance to talk to the other trainers. If space allowed, we could also run the

beginning of the day with all delegates together (e.g. when we're covering the heat pump basics) before they split in to their sector specific groups.

By running the workshops on the same day with a larger team of trainers, we are able to fit more locations into a shorter time-span. **Our costings below are based on six training sessions for both the domestic and non-domestic sectors** (as the ITT requests 5-7) although further sessions can be added in as optional extras (see section 3.9). With Easter Sunday falling on 5th April, it could be wise to postpone the start of the training sessions until w/c 13th April: running both sessions on one day means we can still comfortably fit them all in by 29th May (a 7 week period). Our second option would be to run the sessions on consecutive days at the same venue, which again is achievable with the size of our team and the time available.

The training sessions must be GB-wide, and to ensure a good number of trainees at each event it makes sense to host them in regional hubs where it is easy for everyone to travel to. Our shortlist of locations (for discussion with DECC) are:

- London
- Cardiff
- Glasgow
- Belfast
- Birmingham
- Manchester
- Newcastle
- Exeter
- Norwich / Cambridge

Our costs include venue hire, catering and IT / AV based on an average day delegate rate of £40 and average attendance level of 25 delegates, which served us well as a proxy for the 2012 roadshow. We will keep DECC abreast of actual venue costs throughout the programme of events. We may also be able to reduce costs by using free or subsidised venues associated with social housing providers, local authorities or regional / local networks.

Deliverable
By Friday 13th February we will provide:

- A list of possible venues and dates for the roadshows

3.4 Design of training content

As authors of the training for 2012/13 we are already very familiar with the materials. However, with a new technical trainer joining our team we have a great opportunity to review and improve the content for the new target audiences.

Following the inception meeting, we will look back on all our training materials, including the e-learning content and the feedback from the delegates, to assess:

- Where the schedule can be improved
- Where the content can be improved
- Where the content needs to be updated

- How the domestic sections need to be expanded for the private sector

New sections will also need to be written for the non-domestic training sessions. These will follow the same format as the domestic sessions, with similar materials used where appropriate. Liz Warren will be responsible for ensuring all the content meets an agreed house style in terms of formatting and language.

The development of the training content will be an iterative process, with input from DECC and other stakeholders as appropriate. To ensure continuous improvement during the project, we would capture participant feedback after each roadshow and improve the sessions accordingly. We'd also communicate and significant changes to previous participants.

Our training will be as inclusive, flexible and interactive as possible. Both the domestic and non-domestic sessions will be split into two parts. The morning of each session will cover the heat pump basics (how they work and where they can be applied) and discuss non-technical issues (e.g. Why use heat pumps? When do they make sense? How can they meet your other objectives? What are the costs and benefits? How do you make sure your clients and customers are happy?) We will also discuss the specifying, procurement and financing of heat pumps, including the RHI. The afternoon of each session will go into the technical detail, covering the MCS and other standards, system efficiencies, special considerations for ASHPs, GSHPs and WSHPs, heat meters and hot water. Case studies will be used throughout. Draft outlines for both training days are provided in Appendices 1 and 2 (for discussion with DECC).

There is too much heat pump information to cover in just one day, especially the more complicated technical aspects, and so the e-learning package will be critical to enhance and increase learners' knowledge after the training day. The mathematical input will be kept to a minimum on the day with supporting Excel-based multiple-choice e-learning available to all trainees after the event. In this way, heat pump knowledge is accessible to those who are not confident in their mathematical ability whilst also offering technical staff the opportunity to acquire knowledge on engineering solutions. This recognises and responds to the multi-disciplined and cross-sectoral audiences that attended the last round of heat pump training.

We would also like to provide trainees with the opportunity to get their hands on heat pumps, and so are proposing to take demonstration models with us to the events. This is discussed more in section 3.9 below.

Deliverables
By Friday 13th February we will provide a scoping document that will include:
- A review of existing material from previous roadshows and the online portal
- A description of the modifications and additions required

By Friday 27th February we will provide:
- Modified roadshow materials for comment by DECC

By Friday 27th March we will provide:
- Final version of the roadshow materials
- Draft version of the e-learning materials

3.5 Delegate bookings and liaison

Once the dates and venues are confirmed, we will set up an online booking system for delegates. We anticipate that delegate bookings will open no later than 20th February. SE^2 uses Eventbrite for our online bookings, a well-known, purpose-built delegate booking system that has no fees for free-to-attend events. Eventbrite enables us to track bookings for each event separately and to establish and manage waiting lists if necessary. Delegates will also be able to book by telephone or by email: SE^2 can set up a dedicated email address if required, e.g. heatpumps@se-2.co.uk.

During the 2012 roadshow, we found that heat pump manufacturers wanted to attend the training sessions. At the time, we agreed with DECC that they'd only be offered a place if the course wasn't already full with our target audience. We will discuss again this with DECC during the inception meeting and agree a protocol for 2015.

We recommend asking delegates whether they would be willing to share their contact information with other participants on the same (or other) seminars. This approach has worked very well at other recent events we've been involved with and can help to facilitate networking and ongoing learning between attendees.

One week prior to each seminar, we would issue joining instructions to all participants. These will provide details of timings, directions to the venue and any pre-work that we would like participants to carry out.

Deliverables
By Friday 27th February we will provide:
- Venue confirmation and an update on interested attendees

By Friday 27th March we will provide:
- An update on interested attendees

By Friday 25th April March we will provide:
- An update on interested attendees

3.6 Marketing and communications

At the inception meeting, we will discuss appropriate routes for marketing and communications with DECC. We will then produce a marketing plan for promoting the roadshows: the ideas below are intended to demonstrate our early thinking.

In the Invitation to Tender, DECC has identified a number of target audiences for both the domestic and non-domestic training courses. Given the nature of the roadshows, our domestic marketing plan will need to:

- Be broad in geographical reach, to provide GB coverage
- Take account of the geographical spread of different sectors (e.g. promotion of a roadshow in the South West of England could place more emphasis on the hotels sector)
- Identify organisations that own properties (or that have appropriate tenancy agreements to install new energy technologies). This may lead us away from smaller premises (e.g. offices, cafes) which are more likely to be rented.
- Identify decision makers (e.g. some larger organisations will have specialist energy managers whereas smaller organisations are more likely to bring in external expertise)

We will agree with DECC a series of key messages which will be used within all marketing activities (tailored for domestic / non-domestic, and within sectors if appropriate). The messages will focus on:

- The benefits of heat pumps for that audience
- The benefits of attending the roadshow
- A clear call to action to a booking website and / or phone line

We propose the following marketing activities. We have provided commentary below on their use within domestic and non-domestic streams:

a) Networks and associations

We will make use of existing networks, trade associations and professional institutions to promote the seminars. This would include 'functional' associations (e.g. the Energy Managers Association, associations for building services engineers) as well as 'sectoral' associations (e.g. the Association of University Directors of Estates; the British Hospitality Association).

Especially in the non-domestic sector, it will be important to identify whether attendees are likely to come from the end-user organisation itself or to be hired-in experts, and on which audience the roadshows are focused.

There will be associations whose members operate in both sectors (eg, CIBSE, RIBA). We will speak with these associations about how their membership is structured and whether there are opportunities to segment our messaging, or whether a more holistic approach should be taken.

Target networks and associations will include, but not be limited to:

- Social housing:
  - National Housing Federation
  - Chartered Institute of Housing
  - Scottish Federation of Housing Associations
  - Welsh Federation of Housing Associations

- Local authorities:
  - Carbon Action Network
  - Scottish HECA Officers' Network

- Private housing developers:
  - Home Builders Federation

- Non-domestic sectoral associations, *inter alia*:
  - Association of University Directors of Estates
  - Environmental Association for Universities and Colleges
  - Federation of Small Businesses
  - Sustainable Schools Alliance
  - British Association for Sustainable Sport
  - British Hospitality Association
  - National Care Association
  - National Museum Directors
  - British Retail Federation
  - British Property Federation
  - Food and Drink Federation
  - NHS Sustainable Development Unit
  - Regional Chambers of Commerce in key locations
  - Regen SW and other regional support organisations

- Design / engineering / installation
  - CIBSE
  - RIBA
  - MCS
  - Heat Pump Association
  - GSHPA
  - Renewable Energy Association
  - Sustainable Energy Association
  - HHIC
  - HVCA

b) Direct communications with decision makers

DECC has extensive lists of contacts within our target audiences – particularly in the domestic and technical sectors - and we would ask that email contact be made with these lists to inform them of the dates of the roadshows and the benefits of attending. Communications branded from DECC will carry greater resonance and be more likely to be passed to appropriate colleagues within organisations. Our team also has significant mailing lists, established over the last decade. We will push information out to these networks across GB.

We anticipate that existing mailing lists will be smaller for the non-domestic sector. We will therefore place more emphasis on networks and associations in the non-domestic sector. We do, however, understand that DECC has been running events for the non-domestic sector to promote the ESOS, and we would be interested in learning about the data sets generated and whether these would be appropriate for use in promoting the heat pump roadshows. There may also be opportunities to promote the workshops at EcoBuild (3-5 March): MCS already have a stand booked.

Direct communication with local authorities will also be important, given the multiple roles that local authorities play (social housing providers, promoters of local energy schemes to private sector households or businesses, owners of leisure centres, libraries and care facilities and coordinators of local schools). We will build on our existing contacts among housing officers, energy managers and schools coordinators to ensure comprehensive coverage across authorities. We recommend advising local authorities on the best mix of people to send to a roadshow event.

We will issue two waves of direct communication via email. We will agree a prioritisation of audiences with DECC.

c) Media

We will issue a press release including the schedule of dates to relevant media. It would be advantageous to include a case study example with this press release to help bring heat pumps to life for those reading different publications and in different sectors. We have a media list of around 200 publications, which we will share with DECC. Some target media will include:

- Inside Housing
- 24Housing
- Social Housing
- Housing Magazine
- Housing Association Building and Maintenance
- Local Authority Building and Maintenance
- Local Government News
- H&V News
- Energy Efficiency News
- Energy World
- Business Green

d) Online and social media

The weakness of traditional media is that its reach is limited to those that read a specific issue of a publication. Online marketing and social media offer us the chance to increase our reach to a wider audience. We would:

- Promote the roadshows via Twitter, ideally using the @DECCgovUK feed which has significant reach and impact
- Encourage retweets and sharing of the tweets about the roadshows by all of the media contacts listed above

- Pepper our marketing about the roadshows with positive examples of heat pump installations. This helps to build a wider context for why heat pumps are an important technology and to reduce perceptions of risk by showing successful case studies.
- Promote the roadshows on LinkedIn, 2degrees, Sponge and other professional and sustainability networks

e) Direct phone contact

We will review progress towards the end of March to identify levels of bookings for each roadshow and from each sector. If additional delegates are sought, we will issue further email invitations and follow them up with phone calls to key sectors.

f) Post-roadshow communications

After the first roadshow, we will issue a press release with photographs and a reminder to contacts that bookings are still open for subsequent sessions. We will also issue social media updates during and after each roadshow, to promote future sessions and also to raise awareness of the discussions taking place and the opportunities for heat pumps.

Deliverable

By Friday 13th February we will provide:

- Draft marketing plan

Marketing updates will form part of the regular project reporting, see below

3.7 Delivery of training content – roadshows

As explained above, our costs are based on delivering six domestic and six non-domestic training sessions, ideally in the same location on the same day. However, this number can easily be flexed up or down, as provided in our 'optional extras' in section 3.9. Each training session will have two trainers: one technical (David Matthews/Robin Curtis) and one to cover the 'softer' elements (Nicholas Doyle/Arnout Andrews/Emma Burlow).

We have also allowed time in the costs for a member of the SE^2 staff to attend up to three of the training courses, to make sure everything goes smoothly for the first one or two events and to help with logistics if any of the sessions are very large. This will also give us the opportunity to assess the training from a non-trainers' point of view and to talk to delegates about their experiences, which will again be fed in to the ongoing improvement of the sessions.

Training materials will be prepared in advance of each session (presentations, handouts, exercises, feedback forms, etc) and delivered along with name badges to each venue either by courier or with one of the trainers.

3.8 Delivery of training content – online

We have included time in our bid to both adapt the training content so it can work as e-learning (4.5 days) and also to work with the Government IT approved contractors (2 days). Without speaking to the IT team first, it's difficult to know how much input they'd need for us, but this should be enough to record a version of the training content if that's what they have in mind.

Our approach to the face-to-face training is to not overload the trainees with too much technical information all in one go. Rather, we'd prefer to use the online portal as a place for further learning. This means the e-learning content will go beyond what is available in the classroom, providing appropriate information for all entry-levels.

Deliverables

By Friday 13th February we will provide a scoping document that will include:

- A review of existing material on the online portal
- A description of the modifications and additions required

By Friday 27th March we will provide:

- Draft version of the e-learning materials

By Friday 19th June we will provide:

- Final version of the e-learning materials

3.9 Optional extras

The methodology above describes our 'basic package' of 12 workshops: 6 for the domestic sector and 6 for the non-domestic sector. However, there are a number of optional extras that DECC could choose to also include in the work programme if they wanted to. The ideas below should be seen as a 'menu of options', any, all or none of which could be adopted.

a) Heat pump demonstration kit at the workshops

We want to show our trainees what a heat pump actually looks like. We want them to be able to touch one, prod one, see how big they are and ask questions about them. The trainers are able to take small equipment with them on public transport (e.g. a shoebox Kensa and some controllers) but in order to get the full experience we'd like to borrow some larger equipment, hire a van and drive it from venue to venue: our initial thoughts are two ASHP (perhaps Mitsubishi and Daikin), two GSHP (perhaps Dimplex and Kensa) and some heat metering equipment. If suitable arrangements could be made with the venues we could even demonstrate a closed loop GSHP unit in action, connected to aluminium panel underfloor heating and heat pump hot water cylinder with a ground loop immersed in a large plastic bath operated by a programmable room thermostat and temperature sensors.

We are confident that we would be able to get most of the demonstration kit on loan, but for the larger 'optional extra' items we have included a **£500 contingency fund.** We would also need to hire a van and pay for petrol for each event we took the additional demonstration kit to: we've assumed an **average of £200+VAT per event** (excluding Belfast)**.**

b) Additional training courses
If demand is high or if DECC decide from the outset that they want to run the training courses in more locations, we are able to extend the training programme for either the domestic sector, the non-domestic sector or both. These would slot into our proposed marketing and training delivery plan alongside the other courses. Each extra course would cost **£3,675+VAT** (staff + non-staff costs).

c) An additional webinar training course
Not everyone who would like to attend one of the training courses will be able to do so, either because of the locations we choose or because of other diary commitments. The e-learning will help with this, making the training materials available online to anyone with an interest. However, for a more interactive experience we propose running both a domestic and a non-domestic training day as a webinar. These would exactly mimic the roadshow events, taking one day each. At its most basic this could take place on Skype, or with support from the Government IT approved contractor via a more sophisticated webinar service. Each webinar would cost **£1,475+VAT** for staff time.

d) An additional bespoke WSHP training course
Water source heat pumps will be an integral part of our domestic and non-domestic training courses. However, given the additional focus DECC has requested be given to WSHP, particularly in urban settings, we propose running an additional training course just for this technology. The session would be located at the site of an urban WHSP (perhaps in Kingston or Richmond) and include a site-visit to see the technology at first hand. This would not only help to promote WSHP but also attract attendees who may be future developers of similar projects. Direct invitations could be sent to local authorities, private developers and community groups associated with areas identified in the Water Source Heap Pump Map. The additional cost of a bespoke WSHIP training course would be **£3,088+VAT.**

All of these ideas have been included as optional extras in our costs in section 4.

3.10 Project management
As Project Director, Rachael Mills will be the named point of contact for DECC. She will ensure excellent communications between team members and that all individuals play their part in meeting DECC's expectations. She will also be responsible for the fortnightly updates on progress to DECC by email or phone (or more frequently if required, to be discussed at the inception meeting). Where issues arise during the delivery of the project, we will inform DECC immediately and recommend a course of action (see our initial risk assessment in section 3.11 below).

After the roadshows are complete and the final versions of the e-learning are agreed, we will write up a feedback and evaluation report and then present it to DECC and the industry at the end of June. This will be a succinct document that will include:

- Attendance figures
- Drop out figures
- Analysis of attendees
- Analysis of feedback
- Questions raised
- Lessons learned

We will also provide the final copies of all training materials to DECC in electronic format.

Deliverables
Open communications with DECC at all times
Fortnightly updates to DECC against milestones

By the end of June:

- A final feedback and evaluation report
- A presentation of our report to DECC and industry
- Final electronic copies of all training materials

3.11 Risk assessment

We will adopt and apply a rigorous approach to identifying and managing the risks associated with the delivery of the roadshow and e-learning. An initial risk assessment is provided below: this will be updated as part of the initial scoping document and maintained throughout the project. Our approach to risk management is to:

- Identify and assess risks: we have already begun to identify risks and prioritise them according to likelihood and potential impact on delivery
- Management of risk: we will agree and take steps to manage foreseeable risks and to have contingency plans in place for uncertainty
- Monitoring of risk: we will record our approach to managing identified risks and track whether those risks did materialise during the course of the project. We will also log any unexpected turns of events, how they were handled and whether actions could have been taken to pre-empt them.
- Recognise uncertainty: even with a robust risk management strategy, sometimes things do not go according to plan. Our way of working has always been adaptive and flexible, with the ability to respond quickly and creatively to the unexpected.

Table 1: Initial risk assessment

Potential risk	Impact	Likelihood	Mitigation strategy
Unable to find suitable venues for the sessions	High	Low	Having run so many roadshow events before, we have an excellent knowledge of venue options across the country. We will make a broad search for alternative venues before bookings are confirmed to make sure we secure the best value for money. The set-up requirements for the training are very straightforward and so there will be many venues that can meet our needs.
Low numbers of bookings	Medium	Medium	Our marketing plan takes a multi-stranded approach in order to reach as many of our target audience as possible, including phone calls to key organisations if necessary. We will also work with the DECC Comms team to make sure the workshops are promoted through their channels. Our team is also very well connected and all team members will help to market the events. If numbers are very low for a particular sessions we may, through discussion with DECC, decide to cancel it or perhaps merge it with another course. The e-learning will be available should sessions get cancelled: we also propose to host a webinar training session (see section 3.9)
Delegates don't show up on the day	Low	Medium	There are always drop outs for workshops, especially if they are free to attend (usually about 10-15%). However, this will not impact on the delivery of the training, which would still carry on as planned. The e-learning will be available to those who are unable to attend on the day: we also propose to host a webinar training session (see section 3.9)
A trainer becomes unavailable (e.g. through ill health)	High	Medium	Our trainers are all very experienced. If needed we could bring in other team members to cover sickness. For example, if Robin Curtis was unavailable, David Matthews could train the non-domestic technical session and Arnout Andrews could train the domestic technical session. If Nicholas Doyle or Emma Parsons was unavailable, Liz Warren or Rachael Mills could step into their role. Back-up trainers are also available to us

			through GeoScience.
Lack of effective communication between team members	Low	Low	Our team has successfully worked together in the past and are used to working in consortiums such as these. We are all experienced in working in diverse expert groups to deliver coherent project outcomes. The Project Director will have overall responsibility for ensuring the delivery of the project and will be the point of contact for all partners.

Deliverables
By Friday 13th February we will provide a scoping document that will include:
- An update of our risk assessment

By Friday 27th February we will provide:
- An update of our risk assessment

By Friday 27th March we will provide:
- An update of our risk assessment

3.12 Timetable

We will deliver this programme of works to the following timetable:

Activity	By when
Contract awarded	29th January 2015
Inception meeting	5th February 2015
Scoping document submitted to DECC to include: ▪ Review of existing material from previous roadshows and online portal ▪ Description of modifications/additions required ▪ Draft marketing plan ▪ Identification of possible venues ▪ Risk assessment update	13th February 2015
Comments on scoping document returned by DECC Dates and venues of roadshow confirmed	20th February 2015
Marketing of roadshow begins	23rd February 2015
Modified roadshow materials submitted for comment Update on interested attendees numbers/venues Updated risk assessment	27th February 2015
Comments on roadshow materials returned by DECC	13th March 2015
Final version of roadshow materials agreed Draft version of e-learning materials submitted to DECC	27th March 2015

Update on interested attendees Risk assessment update	
Comments on e-learning materials returned by DECC Roadshows being	13th April 2015
Roadshows complete	29th May 2015
Final version of e-learning materials agreed	19th June 2015
Final report presented to DECC and industry	30th June 2015

We will also provide fortnightly update reports to DECC by phone or email against key milestones.

3.13 Balance of work across the team

REDACTED

3.14 Health and safety

SE2's health and safety policy is included in appendix 3. Other policies, such as our Environment, Equal Opportunities and Data Security policies are available upon request.

3.15 Conflict of interest

Our team members have no conflict of interest with regard to the delivery of this project. The signed statement of non-collusion is provided in appendix 5.

Table 2: Balance of work across the team – time and task allocation

REDACTED

Section 4: Our costs

REDACTED

4.1 Our basic package (12 training courses)

Part C – Full price offered

Sub-total (Part A + Part B)	**£67,538.00**
VAT	**£13,507.60**
TOTAL (Sub-total + VAT)	**£81,045.60**

4.2 Optional extras

a) Heat pump demonstration kit at the workshops

Part C – Full price offered

Sub-total (Part A + Part B)	**£1500**
VAT	**£300**
TOTAL (Sub-total + VAT)	**£1800**

b) Additional training courses (per course)

Part C – Full price offered

Sub-total (Part A + Part B)	**£3,675**
VAT	**£735**
TOTAL (Sub-total + VAT)	**£4,410**

c) An additional webinar training course

Part C – Full price offered

Sub-total (Part A + Part B)	**£1,475**
VAT	**£295**
TOTAL (Sub-total + VAT)	**£1,770**

d) An additional bespoke WSHP training course

Part C – Full price offered

Sub-total (Part A + Part B)	**£3,038**
VAT	**£662**
TOTAL (Sub-total + VAT)	**£3,970**

4.3 Invoicing schedule

We confirm that that invoicing schedule outlined in the ITT.

Appendix 1: Outline content for the domestic training day

Morning

1. Back to Basics – making sure everyone's on the same page

a) A strategic view – how heat pumps can deliver lower costs and better homes

b) What are heat pumps?
- How they work: the basics and the benefits
- Open and closed loops
- Source – air, ground, water
- Emitters (UFH, LT Radiators, Air)

c) Where they can be applied?
- Small individual (domestic) systems vs larger and communal systems
- Key features (availability of 'sources', access, ground conditions, building factors)
- Building types
    - Houses (semi's, terraces) and flats (low/high rise) vs larger buildings
    - New build vs retrofit

d) Summary – The pro's and cons, and what works best, where and why

2. Heat Pumps in Retrofit

a) Why use heat pumps and when they make sense: how they meet your other objectives
b) Retrofitting heat pumps – the key issues
c) Costs and benefits: householders (and landlords), CAPEX vs whole life costs
d) How to make sure clients and customers are happy

3. Heat Pumps in New Build

a) Why use heat pumps and when they make sense: how they meet your other objectives
b) Installing heat pumps in new homes – the key issues
c) Costs and benefits: householders (and landlords), CAPEX vs whole life costs
d) How to make sure clients and customers are happy

4. Particular issues for social housing

a) Meeting your asset management needs
b) Issues for tenants – how to communicate and how to use
c) Issues for staff – installation, maintenance, management

d) Removal of requirement of Green Deal Assessment for social housing providers

5. Procurement: Becoming an informed client

a) How to successfully specify and procure the right heat pumps
b) Knowing what you want and making sure heat pumps deliver that

6. Finance

a) RHI pre-requisites for applying including
   - Differences for social housing
   - High temperature heat pumps (Heat Emitter Guide update)
b) Feedback on good and poor RHI applications.

7. Some key case studies

Afternoon

8. Technical

a) MCS requirements and MIS 3005 Guidance
b) SPF, boiler efficiency and system efficiency?
c) When is a HP lower carbon than gas or oil?
d) ASHP: what noise and location issues need to be taken into account?
e) GSHPs: what ground loop considerations need to be taken into account?
f) WSHPs
g) When are heat meters required? What is an MMSP package? How does a heat meter work
h) Where should fast-to-react or slow-to-react heat emitters be used? What are the options for increasing heat emitter size? What low temperature emitters are available?
i) Good practice for hot water heating with heat pumps
j) Further case studies

9. Discussion and feedback

Appendix 2: Outline content for the non-domestic training day

The shape and flow of the non-domestic training day will be very similar to the domestic session, looking at strategic issues in the morning and more technical issues in the afternoon. However, the non-domestic training day will be more demanding on course participants as we will be discussing the use of heat pumps in commercial, industrial and not-for-profit buildings and these include:

- High ceilings with associated convection currents e.g. museums, galleries and leisure facilities
- Indoor or external swimming pools e.g. leisure facilities
- Rooms at higher or lower-than-typical internal temperatures or ventilation requirements e.g. crop/animal health or industrial/leisure facilities
- Buildings with high hot water loads e.g. café's, laundries and leisure facilities and the use of HTHP for these applications
- Buildings with special health considerations such as scalding or Legionella e.g. schools or health facilities
- Buildings with both heating and cooling requirements to significant increase GS SPF e.g. offices (noting that non-domestic RHI applies to heating only elements of the system)
- Buildings with budgetary or space constraints that use GSHP technology for base load and ASHP technology for peak load requirements. Pros and cons of ASHP, GSHP, WSHP e.g. good ASHP performance during summer months for hot water heating
- Buildings using district heating which could be via a heat network or a communal ground collector loop. WSHP technology, which can be used for many of the above examples, can be particularly effective in district heating with some excellent case studies available from Sweden.
- GSHP applications using waste heat
- Changes to EA requirements for abstraction and discharge permits and all other relevant permits and statutory requirements for different HP technologies

Appendix 3: SE^2's Health and Safety Policy

Introduction
SE^2 recognises that safe and healthy working practices are essential to the well-being of all our staff. The Directors recognise that health and safety is an integral part of their management role.

Health and Safety Statement
SE^2 aims to ensure that all activities carried out by our staff (and our agents) are managed in such a manner as to avoid, reduce or control all foreseeable risks to the health and safety of any persons who may be affected by such activities to a tolerable level.

The Directors are committed to operating the business in accordance with prevailing Health and Safety Legislation.

General Policy Statement
To achieve our overall aim, SE^2 will pay particular attention to providing:

- A healthy working environment
- A safe place in which to work with safe means of access and exit
- Suitable and sufficient information and training to enable all staff to comply with our Health and Safety Policy
- Safe plant, equipment and systems of work
- Arrangements for the safe use, handling, storage and transport of articles, materials and substances
- Appropriate management procedures to assess and control risks and to monitor and audit compliance with the Health and Safety Policy

Health and Safety Management
The Directors have overall responsibility for maintaining and implementing Health and Safety Policy, including:

- Being aware of their own role in health and safety management
- Setting and monitoring appropriate health and safety objectives for staff
- Ensuring appropriate information and training is provided for staff
- Monitoring compliance and effectiveness of the Health and Safety Policy
- Ensuring that adequate resources are allocated to Health and Safety

The Directors retain a Health and Safety Handbook in which references to hazards and risks to Health and Safety, details of action taken to reduce those risks and details of any accidents are recorded. Any accidents must be reported to the Directors as soon as possible. Where incidents require reporting to external authorities (police, fire service, ambulance service), staff will ensure that external authorities are contacted promptly, whether or not a Director has yet been informed.

Our staff must ensure that they:

- Take reasonable care of their own health and safety and that of others who may be affected by their actions
- Cooperate with the Directors on matters of health and safety
- Do not interfere with or misuse any item provided for health, safety or welfare purposes
- Report to the Directors anything that they consider a serious and immediate danger to health and safety

SE^2 employees all work from home. SE^2 recognises that, in order to avoid any feeling of isolation, managers must maintain good contact. This is achieved by regular use of video conferencing, telephone calls and team meetings in person whenever possible. Members of staff will at times be required to work on their own, away from the home office. On these occasions, staff should plan their route, inform others of their route and have their mobile phones with them. Use of a personal safety device should also be considered which will be provided if requested. In an emergency situation, staff should call a colleague for assistance or call emergency services. Should staff be required to work out of normal hours, taxis will be booked for their journey home.

All staff will be provided with local health and safety information and training as part of their induction into the organisation.

SE^2's Health and Safety Policy will be formally reviewed on an annual basis. Additional reviews will take place if new legislation is introduced, if the company establishes new premises or in response to situations arising in the course of our operations.

Appendix 4: Declarations and information

DECLARATIONS AND INFORMATION TO BE PROVIDED BY THE TENDERER

In some circumstances the Department is required by law to exclude you from participating further in a procurement. If you cannot answer 'no' to every question in this section it is very unlikely that your application will be accepted, and you should contact us for advice before completing this form.

Please state 'Yes' or 'No' to each question.

Has your organisation or any directors or partner or any other person who has powers of representation, decision or control been convicted of any of the following offences?	**Answer**
(a) conspiracy within the meaning of section 1 or 1A of the Criminal Law Act 1977 or article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983 where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA;	No
(b) corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906; where the offence relates to active corruption;	No
(c) the offence of bribery, where the offence relates to active corruption;	No
(d) bribery within the meaning of section 1 or 6 of the Bribery Act 2010;	No
(e) fraud, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the Convention on the protection of the financial interests of the European Communities, within the meaning of:	No
(i) the offence of cheating the Revenue;	No
(ii) the offence of conspiracy to defraud;	No
(iii) fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978;	No
(iv) fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006;	No
(v) fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994;	No
(vi) an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993;	No
(vii) destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969;	No
(viii) fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006; or	No
(ix) making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of the Fraud Act 2006;	No
(f) money laundering within the meaning of section 340(11) of the Proceeds of Crime Act 2002;	No

(g)	an offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996; or	No
(h)	an offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994; or	No
(i)	any other offence within the meaning of Article 45(1) of Directive 2004/18/EC as defined by the national law of any relevant State.	No

The Department is entitled to exclude you from consideration if any of the following apply but may decide to allow you to proceed further. If you cannot answer 'no' to every question it is possible that your application might not be accepted. In the event that any of the following do apply, please set out (in a separate Annex) full details of the relevant incident and any remedial action taken subsequently. The information provided will be taken into account by the Department in considering whether or not you will be able to proceed any further in respect of this procurement exercise.

The Department is also entitled to exclude you in the event you are guilty of serious misrepresentation in providing any information referred to within regulation 23, 24, 25, 26 or 27 of the Public Contracts Regulations 2006 or you fail to provide any such information requested by us.

Please state 'Yes' or 'No' to each question.

Is any of the following true of your organisation?	
(a) being an individual is a person in respect of whom a debt relief order has been made or is bankrupt or has had a receiving order or administration order or bankruptcy restrictions order or a debt relief restrictions order made against him or has made any composition or arrangement with or for the benefit of his creditors or has made any conveyance or assignment for the benefit of his creditors or appears unable to pay, or to have no reasonable prospect of being able to pay, a debt within the meaning of section 268 of the Insolvency Act 1986, or article 242 of the Insolvency (Northern Ireland) Order 1989, or in Scotland has granted a trust deed for creditors or become otherwise apparently insolvent, or is the subject of a petition presented for sequestration of his estate, or is the subject of any similar procedure under the law of any other state;	No
(b) being a partnership constituted under Scots law, has granted a trust deed or become otherwise apparently insolvent, or is the subject of a petition presented for sequestration of its estate; or	No
(c) being a company or any other entity within the meaning of section 255 of the Enterprise Act 2002 has passed a resolution or is the subject of an order by the court for the company's winding up otherwise than for the purpose of bona fide reconstruction or amalgamation, or had a receiver, manager or administrator on behalf of a creditor appointed in respect of the company's business or any part thereof or is the subject of similar procedures under the law of any other state?	No

Has your organisation	
(a) been convicted of a criminal offence relating to the conduct of your business or profession;	No
(b) committed an act of grave misconduct in the course of your business or profession;	No
(c) failed to fulfil obligations relating to the payment of social security contributions under the law of any part of the United Kingdom or of the relevant State in which you are established; or	No
(d) failed to fulfil obligations relating to the payment of taxes under the law of any part of the United Kingdom or of the relevant State in which you are established?	No

Appendix 5: Statement of non-collusion

To The Department of Energy and Climate Change

1. We recognise that the essence of competitive tendering is that the Department will receive a bona fide competitive tender from all persons tendering. We therefore certify that this is a bona fide tender and that we have not fixed or adjusted the amount of the tender or our rates and prices included therein by or in accordance with any agreement or arrangement with any other person.

2. We also certify that we have not done and undertake not to do at any time before the hour and date specified for the return of this tender any of the following acts:

(a) communicate to any person other than the Department the amount or approximate amount of our proposed tender, except where the disclosure, in confidence, of the approximate amount is necessary to obtain any insurance premium quotation required for the preparation of the tender;

(b) enter into any agreement or arrangement with any other person that he shall refrain for submitting a tender or as to the amount included in the tender;

(c) offer or pay or give or agree to pay or give any sum of money, inducement or valuable consideration directly or indirectly to any person doing or having done or causing or having caused to be done, in relation to any other actual or proposed tender for the contract any act, omission or thing of the kind described above.

3. In this certificate, the word “person” shall include any person, body or association, corporate or unincorporated; and “any agreement or arrangement” includes any such information, formal or informal, whether legally binding or not.

……
Signature (duly authorised on behalf of the tenderer)

Rachael Mills, Director
……
Print name

SE2 Ltd
……
On behalf of (organisation name)

9th January 2015
……
Date

Appendix 6: Form of tender

To The Department of Energy and Climate Change

1. Having considered the invitation to tender and all accompanying documents (including without limitation, the terms and conditions of contract and the Specification) we confirm that we are fully satisfied as to our experience and ability to deliver the goods/services in all respects in accordance with the requirements of this invitation to tender.

2. We hereby tender and undertake to provide and complete all the services required to be performed in accordance with the terms and conditions of contract and the Specification for the amount set out in the Pricing Schedule.

3. We agree that any insertion by us of any conditions qualifying this tender or any unauthorised alteration to any of the terms and conditions of contract made by us may result in the rejection of this tender.

4. We agree that this tender shall remain open to be accepted by the Department for 3 months from the date below.

5. We understand that if we are a subsidiary (within the meaning of section 1159 of (and schedule 6 to) the Companies Act 2006) if requested by the Department we may be required to secure a Deed of Guarantee in favour of the Department from our holding company or ultimate holding company, as determined by the Department in their discretion.

6. We understand that the Department is not bound to accept the lowest or any tender it may receive.

7. We certify that this is a bona fide tender.

……
Signature (duly authorised on behalf of the tenderer)

Rachael Mills, Director
……
Print name

SE2 Ltd
……
On behalf of (organisation name)

9th January 2015
……
Date