2nd Training Webinar: Soft Skills

Energy Efficiency Support Programme

11th December 2018
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CARBON TRUST

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CARBON TRUST
1. The sales cycle
   1.1 Engaging with the client and preparing a proposal
   1.2 Presenting and discussion results
   1.3 Implementation of measures

4. Financing options

5. Training resources

6. Q&A
Sales Cycle

- Marketing strategies and channels that can be used
- Creation of an implementation plan with a timeline and milestones
- Should describe relevant characteristics of the audit
- Clear and focused discussion on saving opportunities
- EE measures follow-up
- Audit and results discussion
- Proposal
- Engaging with client

2nd Training Webinar: Soft Skills
Client engagement

▪ Direct engagement
  • Direct remote contact (email, telephone call, LinkedIn message)
  • Networking through sector events
  • Presentation in workshops or conferences
  • Direct distribution of pamphlets

▪ Indirect engagement
  • Social-media (e.g. having an active page on LinkedIn)
  • Ads in sector-specific journals or websites
  • Partnerships
Most obvious targets

**COMPANY ASSOCIATIONS**
- Grouping associations of companies within a sector or industry
- Easier to reach various sector specific companies
- These could be approached as a communication target or as partners for the selling of energy services

**LARGE USERS OF ENERGY**
- Large consumers of energy will be more receptive to hear about energy saving opportunities
- These are not only large industries but also hospitals, hotels or schools
- These often make good case-studies as the potential for savings is larger
# Marketing tools

## Advantages

<table>
<thead>
<tr>
<th>PRESENTATIONS</th>
<th>PAMPHLETS</th>
<th>NEWSLETTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One to many approach</td>
<td>• Can be distributed widely</td>
<td>• One to many approach</td>
</tr>
<tr>
<td>• Ability to convey more information</td>
<td>• More personal contact if handed in hand (e.g. in conferences)</td>
<td>• Easy to reach many people (if you already have their contacts)</td>
</tr>
<tr>
<td>• People will remember a <em>good</em> presentation</td>
<td>• People can take it home and review it later</td>
<td>• Can make it a periodic thing</td>
</tr>
</tbody>
</table>

## When best to use

<table>
<thead>
<tr>
<th>PRESENTATIONS</th>
<th>PAMPHLETS</th>
<th>NEWSLETTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>When the audience is needs to understand the product (new product in the market)</td>
<td>When you need to make yourself known to the market</td>
<td>When you already have a large contact network and want to keep these relationships</td>
</tr>
</tbody>
</table>

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USE CASE-STUDIES AS OFTEN AS POSSIBLE!
What should be the message

<table>
<thead>
<tr>
<th>Potential benefits (best illustrated with case-studies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Savings that can be achieved through energy efficiency measures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What is an energy audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What does it entail and what are the various steps</td>
</tr>
<tr>
<td>• Who conducts the energy audits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Real cost of energy for a company</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The real cost of energy (inefficiency) is not always obvious as it goes beyond the purchase of electricity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main outputs of an energy audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What should the client expect at the end of an energy audit – energy audit report with a number of potential saving opportunities found</td>
</tr>
</tbody>
</table>

These 2 messages are especially relevant in markets where this is a new service.
Understanding clients’ drivers

**CONCERNS**
- Public awareness
- Energy security

**MOTIVATIONS**
- Understand better the internal processes
- Driving costs down
- Differentiation from competition

Clients will be more engaged if their **specific concerns and motivation are addressed** in the initial approach.

Show that energy audit impacts go **beyond just energy usage (kWh)**.

These could be later **used in the proposal**.
Presenting benefits - examples

- **Energy efficiency**: 40-50%
- **'Typical' business investments**: 10-15%
- **Renewable energy (inc. subsidies)**: 5-10%

Source: Carbon Trust analysis
Presenting benefits - examples

10% in 10 yrs from **Design & Asset Management**, eg: Low CO2 new build, Property rationalisation, Procurement changes, Targets for refurb’

20% after 10 yrs from **Invest to Save**, eg: Insulation, Lighting, Controls, Heat recovery, CHP, Fuel policy, Plant replacement, New technology

10% after 5 yrs from **Good Housekeeping**, eg: M&T, Awareness, Training, Regular inspection & Audit, DEC compliance
Presenting benefits - examples

Large cost savings by removing most of the baseload consumption!
Presenting benefits – payback of energy efficiency programmes

<table>
<thead>
<tr>
<th></th>
<th>Electronics Company</th>
<th>Leisure Centre</th>
<th>Waste Reprocessing Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days taken to perform audit</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Cost of Energy Audit (£)</td>
<td>4,000</td>
<td>4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Annual energy costs (£)</td>
<td>215,000</td>
<td>400,000</td>
<td>340,000</td>
</tr>
<tr>
<td>Identified annual recurring cost savings (£)</td>
<td>50,000</td>
<td>140,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Energy savings identified by survey</td>
<td>24%</td>
<td>35%</td>
<td>20%</td>
</tr>
<tr>
<td>Capital investment required</td>
<td>175,000</td>
<td>371,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Simple payback time (years)</td>
<td>3.45</td>
<td>2.65</td>
<td>1.4</td>
</tr>
</tbody>
</table>
Presenting benefits – payback of specific technologies

UK EXAMPLE

INVESTMENT

- LED Lighting
- Solar Photovoltaics
- Biomass
- Heating
- Energy from Waste
- Refrigeration
- Combined Heat & Power
- Process Design & Optimisation
- Motors and Drives
- Wind Generation
- Compressed Air
- Drying & Evaporation
- Air Conditioning
- Ventilation
- Materials Handling
- Cooking
- Renewable Energy Sources
- Space Heating
- Energy Management
- Building Fabric
- Equipment

PAYBACK - YEARS

- 18
- 16
- 14
- 12
- 10
- 8
- 6
- 4
- 2
- 0
Developing a proposal

1. Client’s background and motivation / benefits
2. Scope of work of audit
3. Timeline
4. Audit team and budget
5. Outputs of the energy audit

A proposal should be short and clear to avoid any misunderstandings
Scope of work

Review of formal documentation
- Review of the company's policy, strategy and operational plans as they relate to the Site being surveyed.

Expert data analysis
- Using the energy data supplied, the consultant will conduct an expert data analysis leading to an energy performance report for the site. This will include a comparison with published benchmarking metrics where appropriate alongside insightful commentary on the energy performance of the site.

Site visit and assessment
- Systematically review all major energy using processes and systems
- Measure using appropriate instrumentation, energy usage and/or outputs from key systems
- Capture the data and information necessary to assess the energy performance of each systems
- Assess the opportunities for on-site renewable energy generation/utilisation.

Model impact of existing systems
- Using the data and information gathered during the site visit analyse, model and quantify the cost and carbon impact of the major systems, provide a detailed breakdown of energy usage and develop an evidence-based energy requirement for the site.

Cost-benefit analysis for solution(s)
- Detail your advice and guidance as to the most cost and carbon efficient solution(s) available to fulfil the site's needs.

Clear statement of 'next steps'
- For each key recommendation, the consultant shall provide a clear 'next steps' commentary that informs the client what they should do next to advance the project towards implementation / further consideration.

EXAMPLE

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ECNOLER

CLEAN ENERGY SOLUTIONS CENTER
ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

TOWARDS SUSTAINABLE ENERGY
Defining the timeline

A realistic timeline should be defined and agreed with the client from the beginning.

- **Review of formal documentation**: 1-2 weeks
- **Expert data analysis**: 1-4 days
- **Site visit**: 1-2 weeks
- **Model impact of existing systems**: 1-2 weeks
- **Cost benefit analysis for solution(s)**
- **Statement of ‘next steps’**

Site visit is most relevant date; it should be scheduled with time to review any possible data from client.

Time to analyse data and do the report will depend on the complexity of the site audit. Understanding the possible time needs is important so that expectations can be met.
Audit team and budget

- Structure of the team and budget are dependent on the complexity of the audit (e.g. Level 1 audit vs. Level 3 audit)

- Daily fee should vary accordingly to the experience and seniority of the auditors (usual rates can vary from $300 to $700 depending on the market)

- If budget is too high for the client, the scope of the audit can be negotiated to cover fewer sites or only some of the energy uses
Example Proposal

This document will be available to all participants in their respective language.
Presenting results

▪ These should include:
  • Summary of the energy consumption profile highlighting main energy usages
  • If possible, benchmarking of energy consumption with similar sites
  • Proposal of energy efficient solutions along with investment and expected savings
▪ These should be clear and to the point
▪ Language used should take into consideration the technical knowledge of the client
▪ Use of graphs helps communicating results in a visual way
Presenting results - examples

Assessed breakdown of energy by end-use

- Gas heating & DHW: 30%
- Fans, pumps & controls: 16%
- Office equipment: 8%
- Motor-generators: 5%
- Computer rooms: 5%
- Catering gas: 2%
- Lighting: 14%
- Other electricity: 2%
- Catering electricity: 2%
- Compressed air: 1%
- A/C & ventilation: 9%

Figure 15: Building 1 annual electricity usage half-hourly profile

Notes:
1. Period of analysis: 16/06/2012 to 15/06/2013 inclusive (365 days)
2. Total electricity consumption during standard hours of 08:15-18:15hrs Mon-Fri = 392,796kWh which equated to 39.5% of annual usage.
3. Total electricity consumption during hours 07:00-17:00hrs Mon-Fri = 478,174kWh; 48.1% of annual usage.

Analysis based on data provided Client Company Name, site survey observations and CIBSE benchmark figures. NB: Due to the absence of sub-metering at the site this breakdown is provided for illustrative purposes only.
Presenting results - examples

Figure 24: Implement a comprehensive energy monitoring & targeting system

Projected Year 0-10 cumulative cash flow

Notes:
1. Based on a budget installation cost of R300,000
2. Average annual energy price inflation of 6% assumed
3. The project would become cash-positive in year 2 and offer an NPV of R2,265,800 by year 10 based on a discount rate of 8%
Preparing the investment plan

Could be shown as a table including a list of EE measures with:

- expected savings
- investment
- payback period

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Estimated annual savings</th>
<th>Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electricity</td>
<td>Gas</td>
</tr>
<tr>
<td>kWh</td>
<td>$</td>
<td>tCO₂</td>
</tr>
</tbody>
</table>

1. Development and implement a site-wide energy management policy and strategy
2. Implement a comprehensive energy monitoring and targeting system
3. Install a site-wide energy management system (EMS) to exercise optimised time and temperature control over HVAC systems

EXAMPLE

Least effort and highest return measures should be listed first
Defining the implementation plan

- Assigning a responsible staff member
- Establishing a deadline
- Setting milestones and period review periods
- How to assess progress
## Implementation Plan

The Implementation Plan should be shared with all the staff with responsibilities in delivering the projects and senior management. It should also be reviewed at regular intervals (e.g. end of each quarter).

<table>
<thead>
<tr>
<th>EE project</th>
<th>Estimated Investment</th>
<th>Estimated annual savings</th>
<th>Priority</th>
<th>Implementation period</th>
<th>Responsible Team</th>
<th>Owner</th>
<th>Status</th>
<th>Delayed?</th>
<th>Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting Replacement</td>
<td>2,500</td>
<td>4,000</td>
<td>High</td>
<td>Oct-Dec 2017</td>
<td>Building Facilities Management</td>
<td>Mr. XX</td>
<td>Implementation phase</td>
<td>Yes</td>
<td>Roll-out</td>
</tr>
<tr>
<td>Boiler replacement</td>
<td>5,000</td>
<td>4,500</td>
<td>High</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; quarter 2018</td>
<td>Building Facilities Management</td>
<td>Mr. YY</td>
<td>Procurement phase</td>
<td>No</td>
<td>Procurement decision</td>
</tr>
<tr>
<td>Switch off campaign</td>
<td>1,000</td>
<td>700</td>
<td>Medium</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; quarter 2019</td>
<td>HR &amp; Building Facilities Management</td>
<td>Mr. ZZ</td>
<td>In pipeline</td>
<td>No</td>
<td>Creation of engagement materials</td>
</tr>
</tbody>
</table>
Engaging with stakeholders

- Many energy efficient gains come from modifying behaviours of employees or clients.
- For a successful engagement the company needs to understand what do they care about?

**Piano stairs**

Making it a “fun” option, a lot more subway commuters used the stairs instead of the escalators.

**Feedback & gamification**

By providing feedback with a marking system, people will want to improve their “score” by using less energy.
Strategies for engagement and behaviour change

Active decision
Conscious/Considered

Hug
- Rewards for turning off monitors

Smack
- Build energy reduction objectives into job specifications

Nudge
- Make switches easier to see
- Set printers to double sided

Shove
- Reduce air conditioning

Incentive Reward

Automatic/Unconscious Passive decision

- Build energy reduction objectives into job specifications

- Reduce air conditioning

- Make switches easier to see
- Set printers to double sided

- Rewards for turning off monitors
Assessing progress

- Crucial to understand the success of initiatives
- Can be used to evaluate/prioritise future saving opportunities
- Evaluation of progress against deadlines and defined targets/expectations
- Targets should be clear and measurable
- Essential to evaluate performance (energy usage) before and after implementation for a relevant period of time
- Communicating the success of implemented initiatives can help engage stakeholders in future energy saving programmes
Agenda

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## Types of contract

<table>
<thead>
<tr>
<th>How it works</th>
<th>Risk lies with?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The audit is delivered at the cost (budget) that was agreed at the beginning and that is in the proposal</td>
<td>Risk is totally owned by the <strong>client</strong></td>
</tr>
<tr>
<td>The audit has no cost to the client and the auditing company charges the budget for this service in potential subsequent energy efficiency delivery programmes</td>
<td>Risk is totally owned by the <strong>auditing company</strong></td>
</tr>
<tr>
<td>There are a number of formats for this contract but in general, the auditing company is paid from the savings obtained from energy efficiency projects that are contracted from the start</td>
<td>Risk is <strong>shared</strong> between the client and the auditing company</td>
</tr>
</tbody>
</table>
Energy Performance Contracting (EPC)

- Energy performance contracts are essentially **contracts where payment to contractors are linked to the project’s energy savings**, i.e. the cost of an investment in energy efficiency is paid back through the savings it generates.

- The **projects must be sized such that the savings offset the cost of financing, installing and operating** that technology. By definition, the future savings must be greater than the sum of the costs.

- In performance contracting, usually a **third-party contractor designs, installs, finances and, if required, operates a new technology**. The contractor is then paid according to the savings achieved - i.e. the performance
How does it work?

Total utility expenditure, £

Before contract

Energy and O&M

During contract

Savings

ESCO fees

Financing

Energy and O&M

After contract

Savings

Energy and O&M
The main advantage of EPCs for clients is the transfer of risk to the Auditing company

Advantages for customers

- **Reduced risk** - the contractor takes on the risk of not achieving savings
- **Turn-key services** - the performance contractor provides all required services
- The business or institution needs **less internal expertise**, and can concentrate on core activities
- Project financing can be 'off balance sheet' and not affect debt load
- **Savings are normally much higher** than if the business or institution carries the work itself
- **Additional improvements** to environmental performance can be paid for out of the savings

Advantages for Auditing company

- Opportunity to **profit from energy savings made**
- Opportunity to **extend their expertise** in new markets
- **Broadening of customer base**
- Opportunity to **lock-in major clients**
- **Maintenance of market share** and limitation of competitor activity

EPC contracts usually need some advanced monitoring systems so that savings are correctly assessed! It is possible that this might not be suited to be applied in WA.
Alternative financing options

- There are **financing programmes that support the implementation of energy efficiency projects**
- These are available to **most companies** even if some focus on supporting **SMEs**.
- There are **two types** of available financing
  - Loans programmes
  - Funding programmes
Financing programmes in ECOWAS region

<table>
<thead>
<tr>
<th>Programme</th>
<th>Service offered</th>
<th>Countries Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECOWAS Renewable Energy Facility (EREF)</td>
<td><strong>It provides grant co-funding</strong> for small to medium sized renewable energy and energy efficiency (RE&amp;EE) projects and businesses in rural and peri-urban areas.</td>
<td>ECOWAS member states</td>
</tr>
<tr>
<td>GEF-Strategic Programme for West Africa (SPWA) Energy Component</td>
<td>The programme applies a holistic approach and assists the ECOWAS countries in the mitigation of the existing barriers for the establishment of renewable energy and energy efficiency markets. The SPWA provides <strong>grant funding</strong> and technical assistance for the promotion investments, coordination, policy coherence, capacity building and knowledge management.</td>
<td>ECOWAS member states</td>
</tr>
<tr>
<td>Private Financing Advisory Network (PFAN)</td>
<td>PFAN has launched a call for proposals for climate and clean energy projects and businesses in Sub-Saharan Africa and Asia. Selected projects will receive <strong>no-cost coaching</strong> by professional consultants and, once they are investment-ready, benefit from <strong>PFAN’s Investment Facilitation services</strong>. Entrepreneurs looking to initiate or scale-up clean energy or other climate change-related projects and seeking an investment of up to $50 million are invited to apply.</td>
<td>Sub-Saharan Africa</td>
</tr>
</tbody>
</table>
## Financing programmes in some countries in WA

<table>
<thead>
<tr>
<th>Programme</th>
<th>Service offered</th>
<th>Countries Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Grid Clean Energy Facility (OFED)</td>
<td>Focus on supporting business models for the deployment of energy efficiency measures for the benefit of public institutions, households and users in the commercial and industrial sectors. The goal is to support the distribution of energy-efficient appliances and equipment that not only reduces the overall costs for electricity consumers but also the demand for electricity from the grid.</td>
<td>Benin</td>
</tr>
<tr>
<td>GroFin</td>
<td>GroFin provides Small and Medium Enterprise (SME) finance / business loans</td>
<td>Senegal, Ivory Coast, Ghana, Nigeria</td>
</tr>
<tr>
<td>SUNREF</td>
<td>SUNREF provides solutions to enable energy and environmental transitions by helping private actors to seize its opportunities and encouraging local financial institutions to finance it. Energy efficiency projects are financed using loans from local banks that have partnered with SUNREF.</td>
<td>Senegal, Togo, Benin, CdI</td>
</tr>
</tbody>
</table>
Agenda

1. The sales cycle
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## General online trainings/workshops

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of training(s) available</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Institute</td>
<td>Short courses for a varied number of subjects related with energy efficiency</td>
<td>For a fee ($&gt;100)</td>
</tr>
<tr>
<td>High Speed Training</td>
<td>Energy Efficiency Training</td>
<td>For a fee ($&lt;100)</td>
</tr>
<tr>
<td>Carbon Trust</td>
<td>Webinars with a varied number of subjects including ones focused on specific technologies</td>
<td>Free</td>
</tr>
<tr>
<td>Econoler</td>
<td>Webinars related with energy efficiency financing</td>
<td>Free</td>
</tr>
<tr>
<td>Schneider Electric (Energy University)</td>
<td>Courses with the latest information and professional training on Energy Efficiency concepts and best practice</td>
<td>Free</td>
</tr>
<tr>
<td>bsi</td>
<td>Courses covering the main subjects related with Energy Management</td>
<td>Free</td>
</tr>
</tbody>
</table>
# Standards-specific trainings

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of training available</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHRAE</td>
<td>eLearning courses in varied areas from Energy conservation to courses dedicated to specific technologies</td>
<td>For a fee (&lt;$100)</td>
</tr>
<tr>
<td>bsi</td>
<td>Online training course providing an overview of ISO 50001 Energy Management</td>
<td>Free</td>
</tr>
<tr>
<td>Udemy</td>
<td>Online course related with the implementation and audit of an energy management system as per ISO 50001:2011</td>
<td>For a fee (&lt;$100)</td>
</tr>
</tbody>
</table>
# Software trainings

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of training available</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIET Canada</td>
<td>Face-to-face certified 3-day course on RETScreen. Most of the sessions are delivered in Canada but there is the possibility for training to be provided in other countries</td>
<td>For a fee</td>
</tr>
<tr>
<td>Various</td>
<td>Some tutorial videos online</td>
<td>Free</td>
</tr>
<tr>
<td>Energy Models</td>
<td>eLearning course that provides an in-depth look into the software. It also covers ASHRAE Standard 90.1 modeling</td>
<td>For a fee/subscription</td>
</tr>
<tr>
<td>Various</td>
<td>Some tutorial videos online</td>
<td>Various</td>
</tr>
</tbody>
</table>
OPEN TO QUESTIONS!

(now or later)
Thank you for your attention

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