Training Report: 8-12 December 2014

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1. Executive summary

This training was delivered in Divi Southwinds Beach resort hotel in St. Lawrence, Barbados during the week of the 8th-12th December 2014. During this week, 4 days of training were delivered on implementation of the ISO 50001 Energy Management System Standard and one day was devoted to carrying out a gap analysis including a site visit to Banks Breweries.

Commitment from the trainees was very good. They were very interested and there was a very high level of interaction, questions and sharing of information and experience. Practical experiences were shared and real energy data was provided and analysed from a number of participants.

Many of the trainees had experience of ISO management system standards with limited technical knowledge of energy engineering. After the EnMS training they understood that this was not a barrier. They all agreed that the biggest and most difficult barrier to address in the implementation of an EnMS is the resistance to change. The focus on technical aspects like metering and investment in new technology are not the key for a successful implementation of the system. This aspect was very welcome by the participants who were more comfortable during the training. There were also a number of experienced technical people who made a very good contribution to the event. The trainers believe that the combination of technical and systems experience in the region will help with the success of this program. There is a challenge to maximise the benefit of existing experience in each of the countries and in the region as a whole.

Data from each of the participating countries will be collected and analysed over the coming 12 months. Encouragement and support will also be shared between GEN Europe and the participants to deliver further training and to promote the development of Energy Management Systems aligned with ISO 50001.

2. Objectives

There were five main objectives of this training:

- Explain how an Energy Management System works according to the ISO 50001 Standard.
- Indicate how to present ISO 50001 to different audiences and different training techniques.
- Provide an understanding of energy performance indicators.

- Indicate how to conduct a gap analysis and development of the gap analysis checklist.
- Propose appropriate energy efficiency initiatives.

3. Benefits of a successful EnMS program

- Reduced energy costs for the organisation
- Reduced exposure to rising and increasingly volatile energy prices
- Reduced environmental impact
- Reduced dependence on energy imports
- Reduced need for borrowing and improved balance of payments for imported fuels.

4. Training Description

The purpose of the program was to deliver training in the Standard ISO 50001: Energy Management Systems to the countries of the Caribbean region (CARICOM). The trainees will then be able to repeat this training in their countries of origin. The material delivered and distributed in this course may be used to support this training.

The training was delivered as follows:

Day 1: Change, commitment and behaviour. This first day was focused on highlighting the importance of commitment from top management to achieve successful implementation of the Energy Management System. How to address common barriers and resistance to change were the main topics for discussion. Exercises were conducted to encourage participants to address this fundamental issue and to identify means to overcome the identified barriers.

Common barriers identified by the participants included:

- Perceptions of high cost involved in implementing an EnMS.
- Lack of technical knowledge in industrial plants, commercial buildings and public sector regarding energy efficiency.
- Resistance to change and lack of commitment
- Bureaucracy.

It is recommended that consideration be given to addressing these issues as this program develops. They are very common issues in many regions of the world.

Day 2: Develop plans to improve performance. The use of regression analysis with excel was explained. Importance of the variables used and how to measure energy performance were very interesting topics for all the trainees. There was a good level of questions and interaction during the day.

This topic often meets resistance as it challenges widely accepted methods of measuring energy performance such as energy intensity and specific energy consumption. Traditional methods do not address the effects of variation in variables and thus produce inaccurate performance metrics. ISO 50001 requires good performance measurement including monitoring the difference between expected consumption and actual consumption.

The material also covered how to develop action plans and targets to improve performance and the alignment of targets and performance indicators.

It is notable that there are no energy efficiency legal requirements in the region but that there are likely to be some in line with international practice.

Day 3: Planning and doing. The goal of this session was to put together the planning scheme by looking at the data and the opportunities to improve energy performance. How to implement these ideas was explained with a number of exercises that helped the trainees to understand this step of the system.

The importance of operational control was highlighted. Discussion was held about low cost opportunities to reduce energy which exist in almost all organisations. It was highlighted that these need to be identified and prioritised.

Day 4: Factory visit and gap analysis. A review of the energy management system in Banks Brewery was carried out. It started with a visit to the facilities and it closed with a meeting with the staff involved in energy management.

Banks Breweries are implementing an Energy Management System in conformance with ISO 50001.. There was a tour of the plant and an overview of the current approach to energy management.

These are the highlights from the gap analysis:

- A team for energy management has not been clearly defined. There are no clear roles and responsibilities in place.
- Scope and boundaries are defined.
- The energy policy is included in a general management policy. It needs to be updated slightly to include the specific requirements of ISO 50001.
- Energy targets are in place.
- No list of opportunities has been developed. This is required to ensure meeting the targets.t.
- There is a procurement check-list for energy efficient purchasing with a payback of 2 years.
- There is a good level of energy awareness and communication.. It is required that energy performance be communicated in addition.
- Training plans need to be developed.

Day 5: Checking and next steps. The day was covered with a summary and overview of the whole system. Emphasis was placed on the idea of the implementation of the system as part of normal daily operations and not as a project with a beginning and an end.

There were three presentations delivered by the trainees with a good level of interaction and questions (Barriers and solutions, Energy performance measurement and technical versus management competence).

Program monitoring through Basecamp was also explained.

5. Open Items

- Develop the baseline to monitor the program.
- Basecamp will be used as an online platform for communication between all the countries and GEN Europe to monitor the results of the training. All the trainees joined the platform successfully.