

## **Regional Training / ToT - Report**



### **Regional Training and Training of Trainers on Energy Management Systems - ISO 50001 In the frame of the GIZ Programme “Regional Energy Efficiency Programme (REEP)”**

Gesellschaft für Internationale Zusammenarbeit (GIZ)  
On behalf of the Federal Ministry for Economic Cooperation and Development  
**Kathmandu, Nepal, 18 to 23 June 2012**

Commissioned by  
**GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit gGmbH)**

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## Introduction

With South Asia's demand for energy growing, the need to adopt alternative approaches (like energy efficiency, renewable energy, etc.) to energy use is also increasing. Just in this respect, 'Energy Management (Systems)' comes on the scene, which is not totally new in the region but its penetration and adoption is slow. The new international ISO 50001 standard, applicable to any organization whatever the size, industry or geographical location, benchmarks energy management, and establishes a framework for organizations to manage energy use efficiently and setting up an Energy Management System (EMS).

EMS will provide companies an important platform to strive towards greater competitiveness and sustainable growth. Using less energy to produce the same output or even more will help reduce business costs, lower energy intensity and enhance the companies' and the regions energy security.

Next to the continuous improvement of energy efficiency ISO 50001 fosters the procurement of energy efficient equipment and strengthens the market for energy efficient products. The introduction of ISO 50001 into energy intensive companies, particularly to SMEs, contributes to the mitigation of climate change, supports poverty reduction and ensures environmental sustainability.

Furthermore an Energy Management System helps companies to get access to financing. ISO 50001 implies accurate investment, pay back and ROI quantification and thus helps demonstrating the profitability of energy efficiency measures to financial institutions. However SMEs still having difficulties to assess energy efficiency measures as they usually do not result in additional revenues but rather in the reduction in energy expenditures.

## Objective

Two categories of objectives of the training were targeted. First, the training aimed to introduce Energy Management Systems to the participants. The focus was on ISO 50001:2011 and its benefits and advantages with regard to energy savings. The participants should get an increased understanding of EMS and learn how to implement it according to ISO 50001. Second, the training aimed to qualify the trainees to become trainers themselves and to adopt the methodology and content to their country specific needs. This included an introduction of practices and new advanced training methodology for trainers.

## Approach of the Regional Training

The six-day Regional Training and Training of Trainers event consisted of two parts. During the first two days a training on EMS and ISO 50001 was conducted. In the second part of the event the participants developed first draft versions of country specific training materials with (methodological) guidance of the international trainers and held test trainings.

In the follow-up of the regional training event, the participants will put the final touches on their training materials in their home countries and will receive further support via remote support from the international experts.

## Participants

Nineteen participants from Bangladesh, India and Nepal with energy related and engineering backgrounds attended the training. The participants represented governmental institutions, private companies and research institutes active in the field of energy efficiency and qualification of trainers. See annex 1 for participants list.

## Training Summary

The training consisted of a two day regional training on EMS according to ISO 50001 and a four days lasting training of trainers. The format included presentations, group exercises and interactive sessions in which the trainees had the chance to present their adjusted training materials. In the following, the rough contents of the individual sessions are presented and most crucial findings highlighted. For additional information please refer to the training tool kit attached in a separate document. Further, pictures of flipcharts and pin boards can be downloaded on the [Global Campus 21 platform](#) (for users with login rights only).

### *Day 1, Monday, June 18, 2012*

#### Morning Session

**09.30 – 09.45**

**Welcome by GIZ**

The event was officially opened by a welcome speech of the host Dr. Rolf Posorski, the coordinator of the GIZ Nepal Energy Efficiency Programme (NEEP). Dr. Posorski welcomed the participants to Nepal and highlighted the importance of energy conservation and Energy Management Systems in South Asia. As second representative from GIZ, Anita Sharma, Human Capacity Development India, introduced to the Regional Energy Efficiency Programme (REEP) and gave a brief overview on the activities already implemented under the programme. Further, she introduced to the entire training of trainers approach under the programme. She emphasized that the participants have to train themselves at least 20 people on EMS after the successful completion of the training and that the pilot trainings in Bangladesh, India and Nepal are envisaged for autumn 2012.

**09.45 – 10.25**

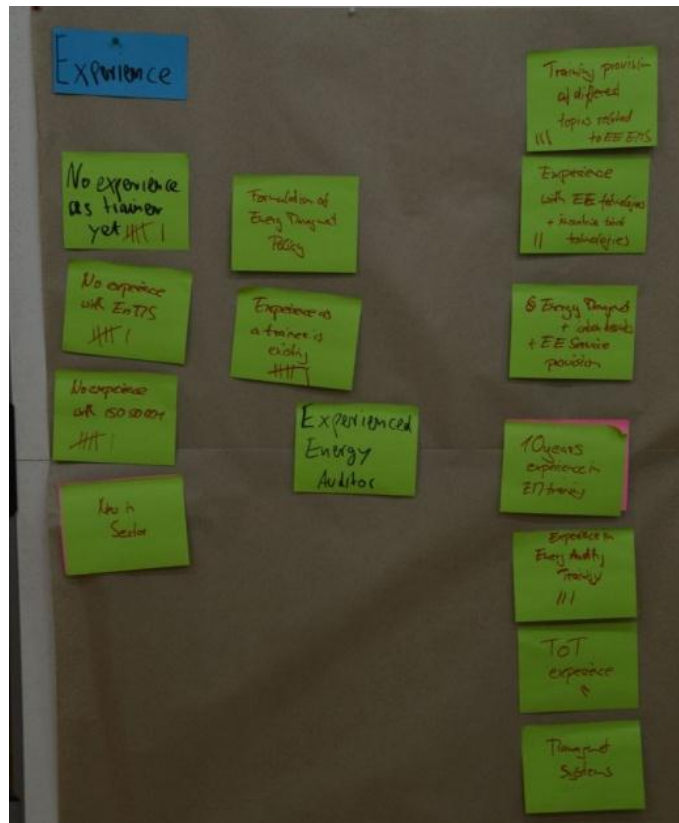
**Introduction to Training (approach, goals, agenda etc.)**

**Introduction Trainers and participants**

In the first session of the training, the three trainers from adelphi, Mr. Johannes Alexeew, Mr. Birger Prüter and Mr. Mirko Zuerker introduced themselves and Mr. Zuerker gave an outlook on the upcoming six days. Particularly he presented the goals, approach and schedule of the agenda. Also the trainees had the chance to introduce themselves to the group. The participants were asked to speak on their experience with regard to energy

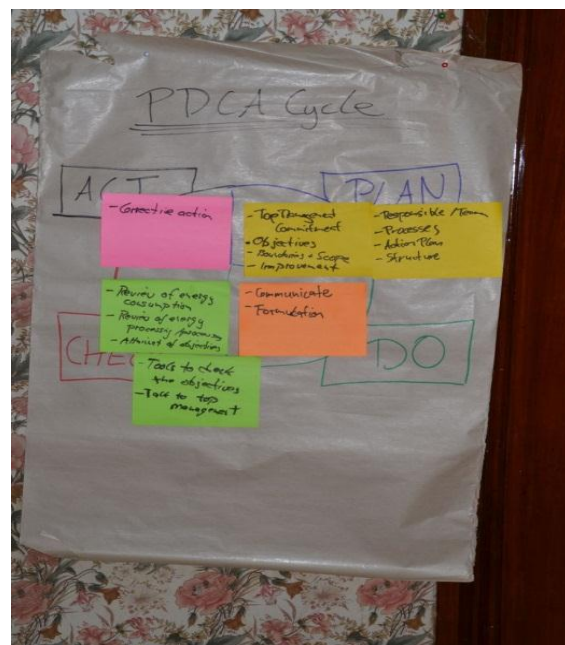
management, management systems and training experience. It showed that some of the participants already have been working in the field for many years and some of the trainees had also extensive training experience, whereas some of the participants were complete new in the sector and also had no training experience. The trainers kindly asked the trainees to acknowledge this diverse picture of experience and to be patient with the participants with little experience.

In the opening session the participants were also asked to share their expectations for the training with the trainers and the participants. A cooperative learning atmosphere, knowledge gain and experience exchange were the expectations mentioned by many participants.



10.25 – 11.15

### Topic 1: Overview of ISO 50001 and Benefit of Energy Management



After the general overview on the training, Mr. Alexeew opened the first session dealing with concrete contents and provided an overview on Energy Management Systems and on ISO 50001. Besides introducing to EMS in general and the genesis of the ISO 50001 norm, the session particularly served to present the benefits of EMS to the trainees. Another focus of the session was to get the participants familiar with the plan-do-check-act cycle,



which is the basis for all management systems and also determines the structure of ISO 50001. The session closed with a brainstorming on the pitfalls of EMS in order to prepare the trainees to deal with skeptical questions from the industries.

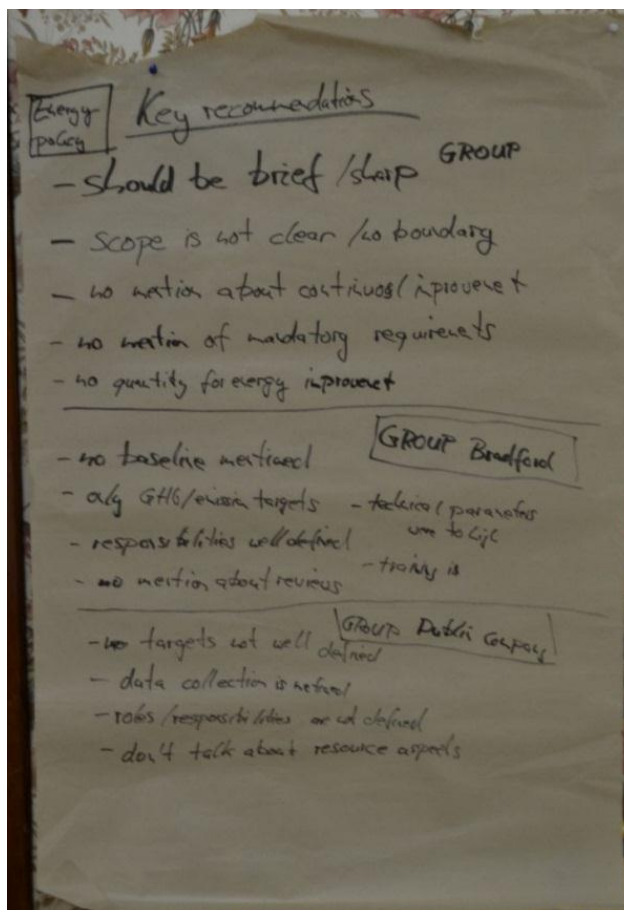
**11.15 – 11.30**      **Tea Break**

**11.30 – 13.00**      **Topic 2: Developing an Energy Policy**

The second session addressed the development of an Energy Policy, which is a key requirement for EMS according to ISO 50001. In particular the required commitment of the top-management of firms to the energy policy was highlighted.

Also the periodic cycle and continual adjustment of energy policies was discussed with the trainees. In order to illustrate the theoretical knowledge, four energy policies of existing companies were handed out and the participants had the chance to analyze them and to check whether and how they fulfilled the requirements of ISO 50001.

The session concluded with presentations of the results that the groups identified.

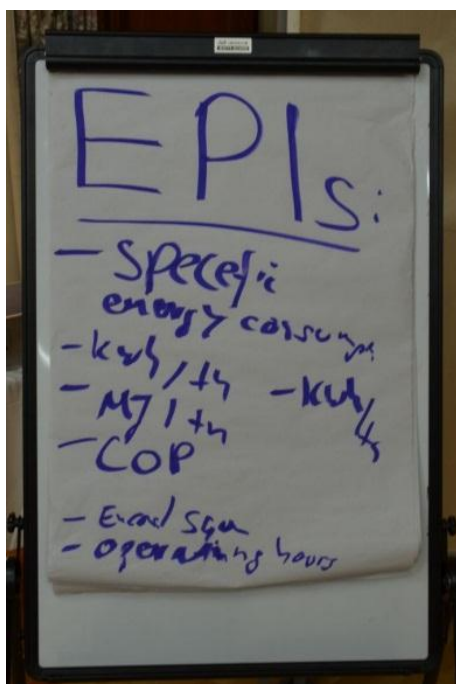


**13.00 – 14.00**      **Lunch Break**

## Afternoon Session

**14.00 – 15.30**      **Topic 3: Energy Planning - Identification and Review of Energy Aspects**

The session after the lunch break addressed the key element of each EMS, the energy planning of an entity. First the identification and review of energy aspects was introduced in the first afternoon session. Mr. Prüter started with a joint brainstorming which included the participants and addressed the importance of planning energy. Mr. Prüter explicitly



stated that ISO 50001 requires also controlling and complying with energy related legal requirements at the planning stage.

Next he showed ways how the review of energy consumption in a firm can be conducted and which instruments can be used to analyze and measure the energy consumption. It was followed by explaining the requirement of the norm to identify significant energy use and how this identification can be realized. Together with the participants it was discussed, how opportunities for energy savings can be identified and which methods can be used to estimate future energy usage. Mr. Prüter concluded the session by introducing the establishment of an energy baseline and energy performance indicators as important means of controlling improvement of energy consumption.

15.30 – 15.45

Tea Break

15.30 – 17.15

**Topic 4: Energy Planning- Identification and developing of Energy Objectives, Targets and Energy Management Action Plans**



In the last session of the first day, Mr. Alexeew introduced to energy objectives, energy targets and energy management action plans, which are required in the energy planning according to ISO 50001.

First Mr. Alexeew presented on the difference and the relationship between objectives and targets and provided examples for illustration. Following he talked on the

different levels or aspects for which targets and objectives can be defined. Afterwards, the trainers and the participants discussed the importance of S-M-A-R-T (specific, measurable, achievable, relevant, time-bound) objectives and targets. To deepen the matter examples for S-M-A-R-T objectives were jointly brainstormed. As last requirement of the ISO 50001 norm towards energy planning, Mr. Alexeew introduced to developing of action plans stating how to reach certain targets and objectives (incl. the kind of information that is required to be incorporated in action plans).

In order to deepen the learned contents, the participants were asked to form three groups. Templates were handed out assigning each group a certain energy objective. The groups had to discuss how the objectives can be achieved and to decide on targets,

responsibilities, timelines etc. The results of the group work were presented at the end of day 1.

## Day 2, Tuesday, June 19, 2012

### Morning Session

09.30 – 11.00

#### Topic 5: Implementation and Operation of the EnMS (presentation and group exercise)



The first session of day two dealt with the concrete implementation of an energy management system and related aspects like awareness and communication. Mr. Mirko Zuerker started with an overview of resources needed and how the conventional process of implementation looks like. He continued by addressing the fact that a designated energy manager could be located at different levels and departments within different kind of company structures. In order to let the participants deal in more detail with the mapping of an energy manager (team), the participants were asked to decide in three groups for several company organization charts where

the energy manager (team) ideally could be positioned.

Next Mr. Zuerker referred to awareness, training and communication and highlighted the importance of energy awareness programmes and a well prepared training matrix in order to conduct successful training. The presented information contained advises on both internal and external communication and on the different types of documentation. Not only have the different types of documentation been explained but also the extent and its dependence to the related organization. The first morning session finished with an introduction on operational control, design and procurement.

11.00 – 11.15

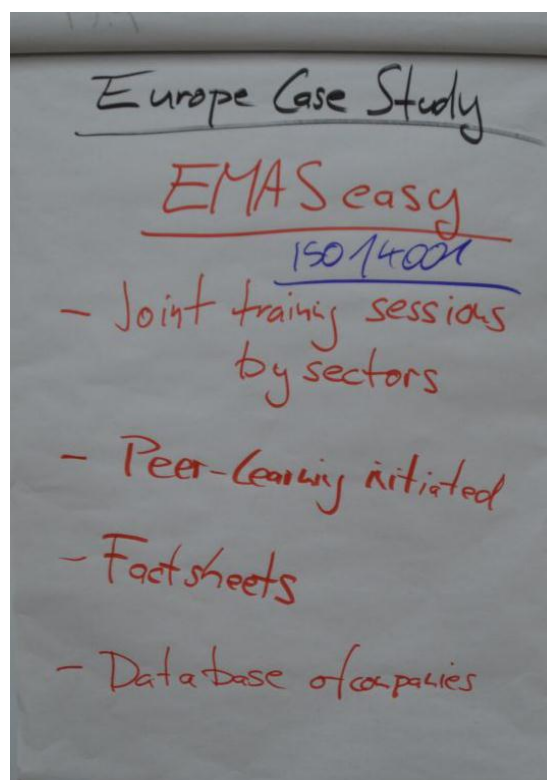
Tea Break

11.15 – 13.00

Topic 6: Checking and Monitoring (presentation and exercises)



The second session of day two addressed the monitoring, measurement and evaluation of EMS. Mr. Birger Prüter presented on the main activities to consider and undertake in order to gain an appropriate monitoring and measurement system. In this context he particularly introduced energy audits and internal audits as main monitoring instrument. How to develop an audit plan as well as main steps in conducting were outlined. This included the phase's preparation, starting, conducting, the audit report and follow-ups. The second part of the session dealt with the implementation of control and measurement methods. First Mr. Prüter addressed the issue of nonconformity and how to handle it by identifying corrective and prevention actions. Thereafter he talked about control of records and listed potential existing record sources which can be used.

**13.00 – 14.00****Lunch**

### Afternoon Session

**14.00 – 15.00**

**Topic 7: Review of Energy Management System by Top Management (role play)**

The first afternoon session was dedicated to the topic “review of energy management system by top management”, since ISO 50001 requires a regular review of the energy management system. Mr. Alexeew presented to the group the foreseen inputs that have to be discussed during the top management review according to the norm. Also the outputs and the decisions that have to be taken in the top management review were presented and discussed. In order to get a better understanding, what kind of topics have to be dealt with in the top management review, the participants were asked to work on a group exercise. After forming three groups, each group got the exercise to imagine they had to inform the top management of their fictive company of a certain problem with regards to their energy management system. The groups were asked to think about how to convince their top-management to undertake actions in favor for an ambitious energy management system. After the group internal discussions, two group members and the adelphi trainers simulated the top management review in role play.



<b>15.00 – 15.15</b>	<b>Tea Break</b>
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<b>15.15 – 17.05</b>	<b>Topic 8: Accreditation of ISO 50001 Certification</b>
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The last session of the two day training dealt with the certification of EnMS. Although, the procedures and requirements of certification of energy management systems are not explicitly addressed in the norm, certification is the main driver of most industries to implement an EnMS according to ISO. Mr. Alexeew first asked Mr. Basnet from the Nepal Bureau of Standards and Metrology to explain on the general concept of certification under the ISO schemes. After this, Mr. Alexeew explained the general scheme and required steps of certification by a third party certifier. Then the participants and the trainers collected and discussed the benefits of certification of companies. Mr. Alexeew's presentation concluded with some examples of companies providing certification in Bangladesh, India and Nepal, as well as of some examples of already certified firms in the regions.

### Day 3, Wednesday, June 20, 2012

#### Morning Session

<b>09.30 – 10.00</b>	<b>Brief Recap of Day 1 &amp; 2</b>
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<b>10.00 – 10.30</b>	<b>Intro to training development and design</b>
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<b>10.30 – 11.00</b>	<b>Group work on training development and design</b>
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After the first two day training the trainers asked the three groups to prepare a three minute recap of the training and to present it in a role play like situation to a BBC TV Team. This kind of role play situation created a good framework for the participants to be brief and concise while doing a recap in front of the other participants.

In order to understand the priorities of the participants and the need for tailoring of the several training the topics, the trainers asked the participants to evaluate the eight training topics regarding their relevance and their need for tailoring with the sticky dots





technique.

The priority topics were the first six training topics which then also build the focus of the following four training days.

As a first input on the ToT part of the training Mr. Mirko Zuerker introduced the participants to the essentials of training development and design. After this introduction the participants were asked to work in their three country groups on their training design and to identify their training objectives, to identify their target group and to think about the general conditions of their pilot trainings.

<b>11.00 – 11.15</b>	<b>Tea Break</b>
<b>11.15 – 12.15</b>	<b>Group work presentation in training development and design</b>
<b>12.15 – 13.00</b>	<b>Intro developing training and developing materials</b>

After the tea break the three country groups continued their group work and presented the outcomes to the other participants. It became clear that the training for each country would need to be tailored in a different manner according to their target group and the general conditions. In all cases the participants were planning with a three days lasting training.

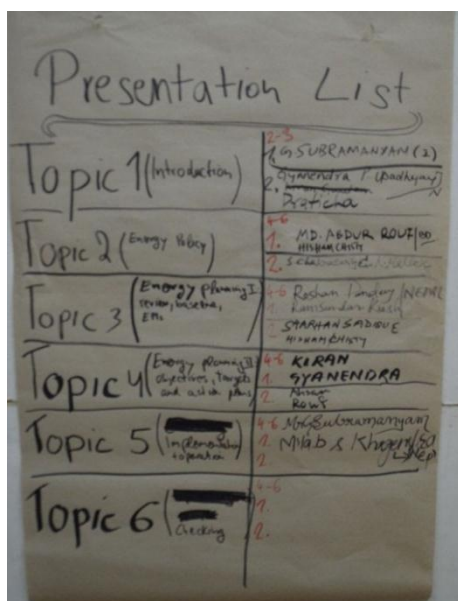
After the group presentations Mirko Zuerker gave an overview of important aspects while delivering training and developing materials. He gave some background information about different presentation techniques, highlighted the use of various methods and media and gave an introduction on how to develop good and appealing training materials.

After a round of discussion on the presented aspects the morning session was closed.

<b>13.00 – 14.00</b>	<b>Lunch Break</b>
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<b>14.00 – 14.15</b>	<b>Energizer: PowerPoint Karaoke</b>
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<b>14.45 – 15.30</b>	<b>Tailoring the Material of Topic 1</b>
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Afterwards the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 1. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 1. This structure was later used as a basis for the country groups to tailor their materials for topic 1.

After the plenary discussion was finalized the country groups continued the discussion on topic 1 regarding the used methods and the amount of time that would need to be allocated for each method and

After the groups agreed on the methods and timeframe the members started to work on the tailoring of the materials. The tailoring included the inclusion of country relevant information and case studies / examples as well as the formatting and adaption of the provided slides and materials.

15.45 – 16.15	Understanding the Material of Topic 2
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<b>16.15 – 17.00</b>	<b>Tailoring the Material for Topic 2</b>
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After the tea break the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 2. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 2. This structure was later used as a basis for the country groups to tailor their materials for topic 2.





After the plenary discussion was finalized the country groups continued the discussion on topic 2 regarding the used methods and the amount of time that would need to be allocated for each method and content. The trainers moderated the discussion in each country group and everything was captured on flipcharts.

After the group agreed on the methods and timeframe the members started to work on the tailoring of the materials. The tailoring included the inclusion of country relevant information and case studies / examples as well as the formatting and adaption of the provided slides and materials.

**17.00 – 17.15**
**Wrap-up**

At the end of day three the trainers did a summary of day 3 and gave an outlook for the coming day.

#### Day 4, Thursday, June 21, 2012

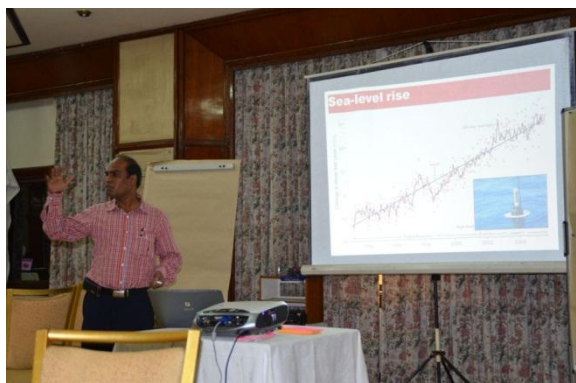
##### Morning Session

**09.30 – 10.00**
**Brief Recap of Day 3**
**10.00 – 11.00**
**Presentation of Topic 1 through pax (Role Play)**

After a short recap of day three the participants had time to finalize their preparations for their presentations. The trainers also highlighted some important presentation principles that should be considered while holding the presentations.

Before the presentations started the groups were broken down in two separate groups in two separate rooms in order to provide more opportunities for the presentations. Every topic was always presented from two country groups in parallel.





On the side of the Indian country group Mr. G. Subramanyam was presenting topic 1 and on side of the Nepalese country group Mr. Gyanendra Prasad Upadhyay and Mr. Pratiksha Tiwari were presenting topic 1 to the participants.

The presenters used the tailored slides, but also some methods such as moderated brainstorming, visualizations at flipcharts, videos and in-country case studies and data.

After the presentations the trainers moderated a feedback round, where the participants provided feedback on what was good and what could be improved. After the participants feedback the trainers provided additional feedback in order to make sure that all aspects would be covered.

<b>11.00 – 11.15</b>	<b>Tea Break</b>
<b>11.15 – 12.00</b>	<b>Presentation of Topic 2 through pax (Role Play)</b>
<b>12.00 – 12.30</b>	<b>Understanding the Material of Topic 3</b>

After the tea break the two country groups were presenting topic 2. On the side of the Indian country group Mr. Sankar Chakravorty and Mr. Krishanu Mallick were presenting topic 2 and on side of the Bangladeshi country group Mr. Abdur Rouf Miah and Mr. Mohammad Hisham Uddin were presenting topic 2 to the participants.



The presenters used the tailored slides, but also some methods such as moderated brainstorming, visualizations at flipcharts, videos and in-country case studies and data.

After the presentations the participants had the possibility to give feedback on what they liked and what could be improved. Thereafter the trainers provided their feedback in order to make sure that all aspects would be covered.

After the presentations the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 3. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 3. This structure was after the lunch break used as a basis for the country groups to tailor their materials for topic 3.

<b>13.00 – 14.00</b>	<b>Lunch Break</b>
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## Afternoon Session

**14.00 – 14.15**      **Energizer Video**

**14.15 – 15.30**      **Tailoring the Material of Topic 3**

The afternoon session started with an energizing video on Energy Management Systems. After the video the country groups continued the discussion on topic 3 regarding the used methods and the amount of time that would need to be allocated for each method and content.



Now the participants were asked to moderate the discussion in each country group and to capture everything on flipcharts. In this way the participants had also chance to improve their moderation techniques and their experience working with flipcharts.

After the group agreed on the methods and timeframe the members started to work on the tailoring of the materials. The tailoring included the inclusion of country relevant information and case studies / examples as well as the formatting and adaption of the provided slides and materials.

**15.30 – 15.45**      **Tea Break**

**15.45 – 16.15**      **Understanding the Material of Topic 4**

**16.15 – 17.00**      **Tailoring the Material of Topic 4**



After the tea break the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 4. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 4. This structure was later used as a basis for the country groups to tailor their materials for topic 4.

After the plenary discussion was finalized the country groups continued the discussion on topic 4 regarding the used methods and the amount of time that would need to be allocated for each method and content. One participant moderated the discussion in each country group and everything was captured on flipcharts.



Like in the session before the group members started to work on the tailoring of the materials. This included the reflection of country relevant information and respective case studies and examples. But also formatting and adaption of the provided slides and materials was considered.

**17.00 – 17.15**
**Wrap-up**

At the end of day three the trainers did a summary of day 4 and gave an outlook for the coming day.

### Day 5, Friday, June 22, 2012

#### Morning Session

**09.30 – 10.00**
**Brief Recap of Day 4**
**10.00 – 11.00**
**Presentation of Topic 3 through pax (Role Play)**

After a short recap of day four the participants finalized their preparations for their presentations.

On the side of the Nepali country group Mr. Roshan Pandey and Mr. Kusi Ramsundar were presenting topic 3 and on side of the Bangladeshi country group Mr. Qamber Anjum Sadique and Mr. Mohammad Hisham Uddin were presenting topic 3 to the participants.



The presenters used the tailored slides, but also some methods such as moderated brainstorming, visualizations at flipcharts, videos and in-country case studies and data.

After the presentations the trainers moderated a feedback round, where the participants provided feedback on what was good and what could be improved. After the participants feedback the trainers provided additional feedback in order to make sure that all aspects would be covered.

**11.00 – 11.15**
**Tea Break**
**11.15 – 12.15**
**Presentation of Topic 4 through pax (Role Play)**



After the tea break the two country groups were presenting topic 4. Ms. Kiran Gautam and Mr. Gyanendra Prasad Upadhyay from the Nepali country group presented topic 4 and Mr. Mohammed Ahsan and Mr. Abdul Hamid Khaled represented the Bangladeshi country group.

They used the prepared and adjusted slides, different presentation methods and in-country case studies and data.

In the following the trainers gave time for a feedback round, where the participants could mention issues they liked and issues which should be improved. Additionally the trainers gave feedback in order to cover all relevant aspects.

**12.15 – 13.00**

### Understanding the Material of Topic 5



Afterwards the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 5. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 5. This structure was after the lunch break used as a basis for the country groups to tailor their materials for topic 5.

**13.00 – 14.00**

### Lunch Break

## Afternoon Session

**14.00 – 14.15**

### Energizer

**14.15 – 15.30**

### Tailoring the Material of Topic 5





After the lunch break the country groups continued the discussion on topic 5 regarding the used methods and the amount of time that would need to be allocated for each method and content. One participant moderated the discussion in each country group and everything was captured on flipcharts.

After the group agreed on the methods and timeframe they began to tailor the materials. The tailoring included the inclusion of country relevant information and case studies / examples as well as the formatting and adaption of the provided slides and materials.

### Day 6, Saturday, June 23, 2012

#### Morning Session

09.30 – 10.00	Brief Recap of Day 5
10.00 – 11.00	Presentation of Topic 5 through pax (Role Play)



After a short recap of day five the participants had time to finalize their preparations for their presentations.

Mr. G Subramanyam from the Indian country group presented topic 5 and whereas Mr. Milabh Shrestha and Mr. Khagendra Basnet from the Nepali country group presented the same topic 5.

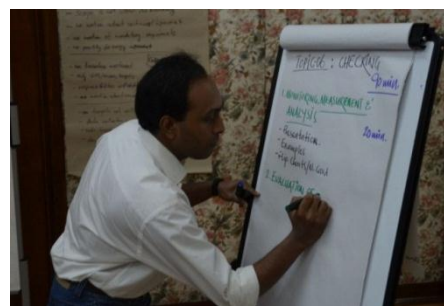
They used the previous tailored slides, but also some methods such as moderated brainstorming, visualizations at flipcharts, videos and in-country case studies and data.

As in other role play sessions time was given for a feedback round, in which the participants could mention any feedback they wanted. Again the trainers gave feedback as well and mentioned mainly positive matters.

11.00 – 11.15	Tea Break
11.15 – 12.15	Understanding the Material of Topic 6
12.15 – 13.00	Tailoring the Material of Topic 6

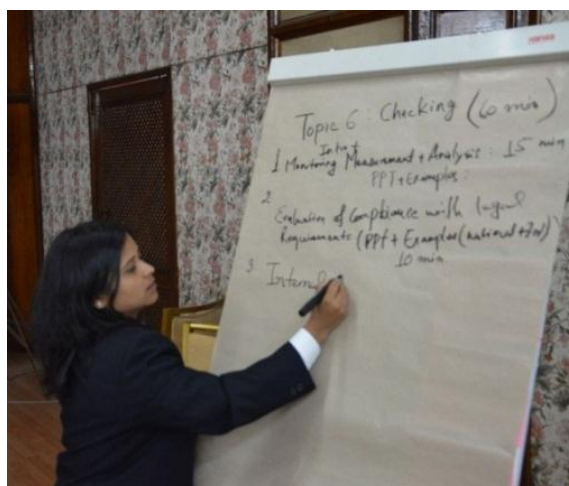


After the tea break the trainers moderated a plenary discussion in order to identify the content for the tailoring of topic 6. In a moderated brainstorming the trainers developed with the participants a sample structure for topic 6. This structure was later used as a basis for the country groups to tailor their materials for topic 6.



After the plenary discussion was finalized the country groups continued the discussion on topic 6 regarding the used methods and the amount of time that would need to be allocated for each method and content. One participant moderated the discussion in each country group and everything was captured on flipcharts.

After the group agreed on the methods and timeframe the members started to work on the tailoring of the materials. This included important aspects like the inclusion of country relevant information and case studies / examples. But also the formatting and adaption of the provided slides and materials was considered.



**13.00 – 14.00**

**Lunch Break**

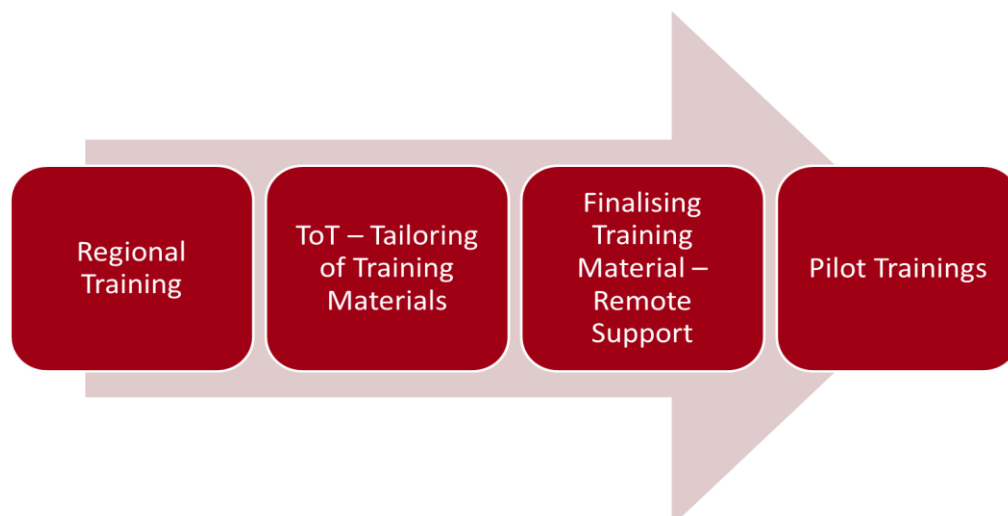
## Afternoon Session

**14.00– 15.30**

**Develop a Roadmap for Implementation**

In order to ensure a proper preparation of the pilot trainings in autumn 2012, this session was used to discuss and define roadmaps for the pilot trainings. First, Mr. Alexeew once again presented the next steps after completion of the regional training and the training of trainers. In the next months, adelphi will support the future trainers via remote support, who will be working on the finalization of their training materials. Each pilot training will be attended by one adelphi trainer. The adelphi trainers will function as a coach and help to prepare the venue. Also he will be giving feedback to the trainers during

the entire pilot trainings and will support the new trainers if required. However, the adelphi coaches will not participate as co-trainers.



**Graph 1: Approach and follow-up**

After the input presentation, the participants were asked to sit together in their country groups and define on key elements of their roadmap for their pilot trainings and to present afterwards. The table of annex 2 illustrates the results of the group consultation.

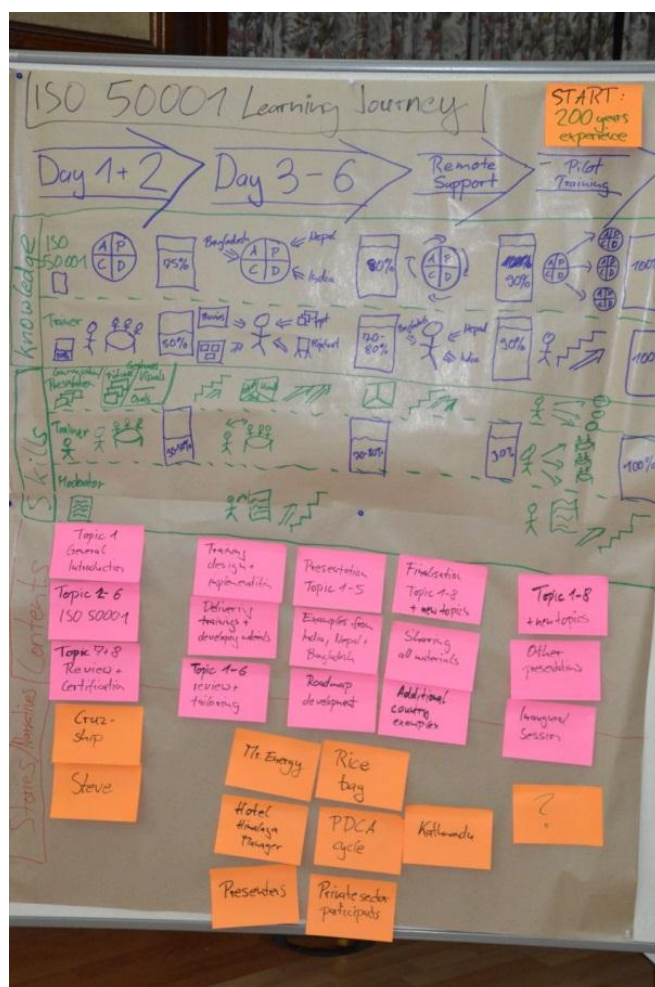


**15.30 – 16.15**

**Final evaluation**

Before the participants were requested to give feedback on the last six days, Mr. Zuerker summarized the training. He illustrated that the trainees learned a lot in the training on two levels. First the participants increased their (theoretical) knowledge on the topic “EMS according to ISO 50001” and on presentation/trainings techniques. Secondly, the trainees had the chance to practice being a trainer, which lead to increased training skills, including presentation and moderation techniques.

After the presentation, the participants were asked to give oral feedback on the training. Overall, all participants were satisfied with the training and gave positive feedback. In particular, the learning of new training and presentation techniques was mentioned as beneficial. Also the productive and interactive way of training was especially found as



fertile. There were some minor issues mentioned as downsides. Some of the participants found the training too long and several trainees stated that one or two days of break would have been helpful. After the oral feedback, the participants filled the standard evaluation forms. The statistics and results of the written feedback are presented in Annex 3.

16:15 – 16:45

Closing remarks and handover of certificates for participation

Dr. Posorski closed the six day trainings with final remarks. He again emphasized the importance of global efforts for more energy efficiency as essential means on the path of sustainable development. He referred to the final statement of the Rio+20 conference, in which cleaner production is highlighted as an important pillar. Dr. Posorski further shared his belief that the training will contribute to an outreach of energy management systems and more energy efficiency in the region. He thanked the adelphi trainers for their efforts and the participants for their overwhelming active participation. Before he finally closed the training, Dr. Posorski officially handed over the training certificates to the participants individually.





## Annex

### Annex 1: Participants list

No.	Title	First Name	Name	Organization	Country
1	Mr.	Abhishek	Adhikari	Nepal Electricity Authority	Nepal
2	Mr.	Khagendra	Basnet	Nepal Bureau of Standards and Metrology (NBSM)	Nepal
3	Mr.	Sankar	Chakravorty	National Productivity Council, Ministry of Industry	India
4	Mr.	Ashis	Dhakal	Industrial District Management Central Office	Nepal
5	Ms.	Kriam	Gautam	Water and Energy Commission Secretariat	Nepal
6	Mr.	Anil Shankar	Giri	Federation of Nepalese Chamber of Commerce and Industry (FNCCI)	Nepal
7	Mr.	Mohammad	Hisham Uddin	Clean Energy Alternatives	Bangladesh
8	Mr.	Khaled	Ibn Abdul Hamid	Emkay Enterprises Ltd.	Bangladesh
9	Mr.	Ramsundar	Kusi	Industrial Energy Management Project(IEMP)	Nepal
10	Mr.	Krishanu	Mallick	National Productivity Council, Ministry of Industry	India
11	Mr.	Roshan	Pandey	Centre for Energy Studies(CES)	Nepal
12	MD.	Mohammad Mafizur	Rahman Ahsan	ELEMENTS Ltd.	Bangladesh
13	MD.	Abdur	Rouf Miah	Power Cell, Ministry of Power, Energy & Mineral Resources (MPEMR)	Bangladesh
14	Mr.	Qamber Anjum Sharhan	Sadique	Energy Audit Cell, Office of the Electrical Advisor & Chief Electric Inspector, MPEMR,	Bangladesh
15	Mr.	Suresh	Shrestha	Water and Energy Commission Secretariat	Nepal
16	Mr.	Milabh	Shrestha	FNCCI	Nepal
17	Mr.	G.	Subramanyam	Siri Exergy & Carbon Advisory Services (P) Ltd.	India
18	Ms.	Pratikshya	Tiwari	Nepal Electricity Authority	Nepal
19	Mr.	Gyanendra Prasad	Upadhyay	GIZ/Integration	Nepal

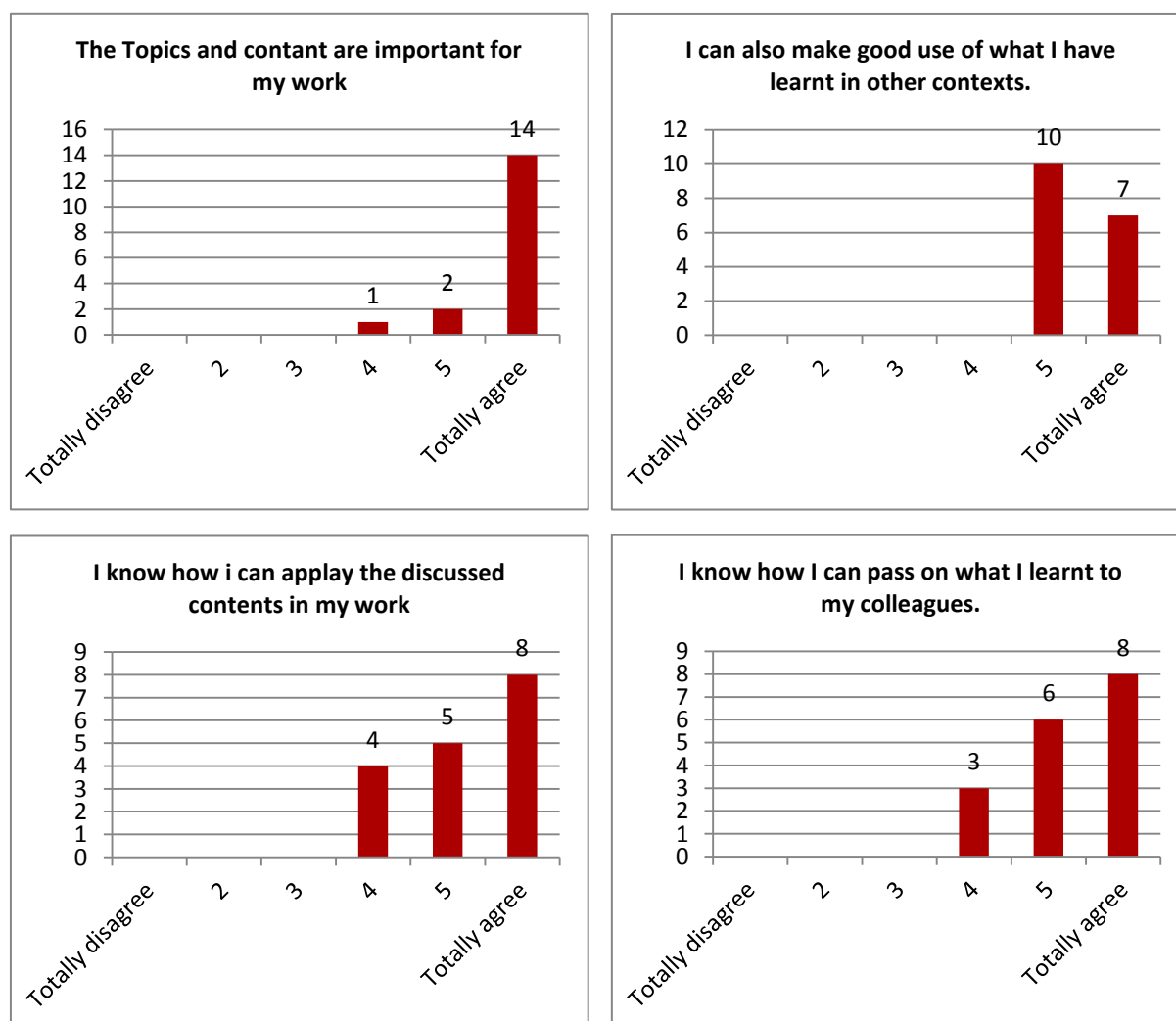


**Annex 2: Country Road Maps**

	Objectives	Target Group	General Conditions	Lead organizations	Stakeholder Assessment	Action Plan / Coverage
<b>Bangladesh</b>	<ul style="list-style-type: none"> <li>• Awareness building on EnMS</li> <li>• Understanding of ISO 50001 requirements</li> <li>• Acquire knowledge for implementing ISO 50001 and performance improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Sector: Energy Intensive Industries</li> <li>• Position: Top Management, Energy Manager, Service Engineer</li> <li>• Qualification: Preferably Engineering</li> <li>• Experience: Minimum 1 year</li> </ul>	<ul style="list-style-type: none"> <li>• Location: Dhaka</li> <li>• Venue: Training Room / Hotel</li> <li>• Time frame: 2 days</li> <li>• Number participants: 40</li> <li>• Fees / Honorium</li> <li>• Support: GIZ and other relevant organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Power Cell, Ministry of Power, Energy &amp; Mineral Resources</li> <li>• Power Division, Ministry of Power, Energy &amp; Mineral Resources</li> </ul>	<u>Stakeholder involved:</u> <ul style="list-style-type: none"> <li>• MPEMR</li> <li>• Ministry of Commerce and Industry</li> <li>• Business Associations</li> <li>• Bangladesh Power Development Board</li> <li>• GIZ, Bangladesh</li> <li>• Energy Intensive Industries</li> </ul>	<u>Required Resources:</u> <ul style="list-style-type: none"> <li>• Training Room</li> <li>• Training material</li> <li>• Transport</li> <li>• Lunch &amp; Refreshment</li> <li>• Human Resources</li> <li>• Financial Support</li> </ul> <p>• Deadline: 30th Aug. 2012</p>
<b>India</b>	<p>The programme aims to familiarising the participants with:</p> <ul style="list-style-type: none"> <li>• Latest concepts and tools related to ISO 5001 EnMS</li> <li>• Tool Kit for implementation of EnMS</li> </ul>	<p>The program is beneficial to all senior / top level Executives from:</p> <ul style="list-style-type: none"> <li>• Industry, Power sector, Govt. Dept.'s, PSU's, Commercial Buildings, Consultants, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Location: Hyderabad / Kolkata</li> <li>• Venue: Conference rooms</li> <li>• Time frame: possible: 18<sup>th</sup> to 20<sup>th</sup> September 2012</li> <li>• Fees approx. Rs. 10.000</li> </ul>	<ul style="list-style-type: none"> <li>• Siri Exergy</li> <li>• National Productivity council</li> </ul>	<ul style="list-style-type: none"> <li>• Bureau of Energy Efficiency</li> <li>• Local Nodal Agency – NREDCAP</li> <li>• 3<sup>rd</sup> party Certification bodies (DNV, TUV, BVQ)</li> </ul>	<u>Programme Coverage:</u> <ul style="list-style-type: none"> <li>• Changing business environment &amp; need for EMS</li> <li>• Overview of ISO 5001 and benefits of EMS</li> <li>• Implementation &amp; Operation of EMS</li> <li>• Integrating ISO 9001/ 14000 with ISO 50001</li> <li>• Implementation of Energy Efficiency measures through ESCO route</li> <li>• Case Studies</li> </ul>
<b>Nepal</b>	<ul style="list-style-type: none"> <li>• Awareness building on EnMS</li> <li>• Understanding of ISO 50001 requirements</li> <li>• Acquire knowledge for implementing ISO 50001</li> <li>• Realization of need of EMS in their org.</li> <li>• Communication on top management</li> </ul>	<ul style="list-style-type: none"> <li>• Representatives from industry (e.g. cement, pulp and paper, brick, metal)</li> <li>• Mid-level Manager from selected Industry</li> <li>• Qualification: Engineering / technical Field, management etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Time frame : 3 days</li> <li>• Number of participants: 20</li> <li>• Fees: Government of Nepal will bear the cost of training</li> </ul>	<ul style="list-style-type: none"> <li>• Nepal Bureau of Standards and Metrology (NBSM)</li> <li>• Water and Energy Commission Secretariat (WECS)</li> </ul>		<u>Knowledge Acquired by participants:</u> <ul style="list-style-type: none"> <li>• Management System</li> <li>• Documentation</li> <li>• Idea on Standards EMS and ISO 50001</li> </ul>

### Annex 3: Evaluation

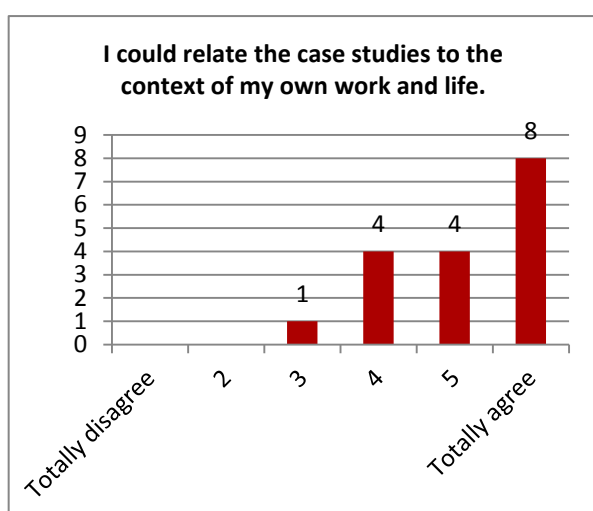
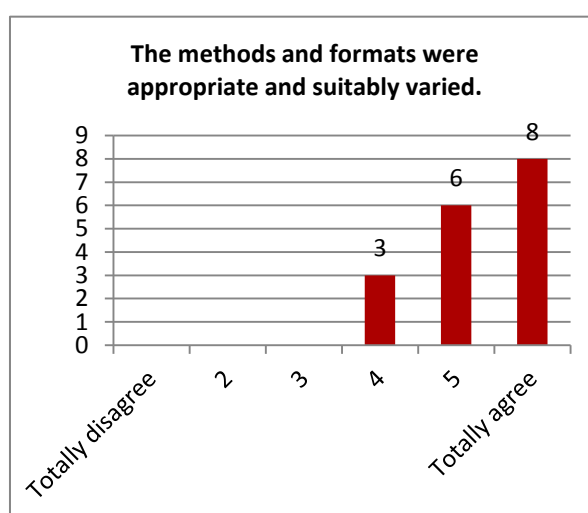
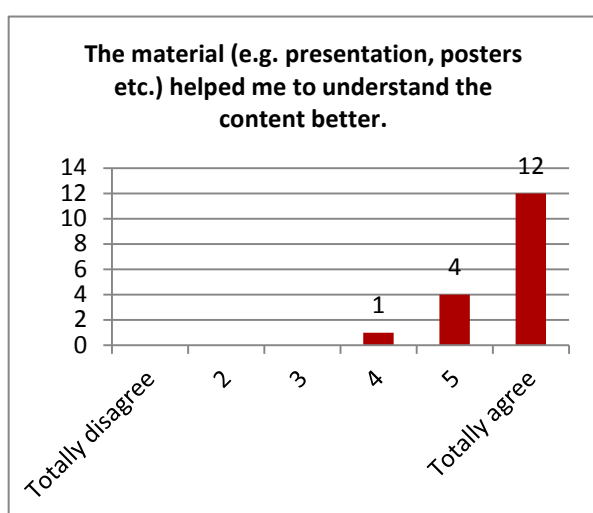
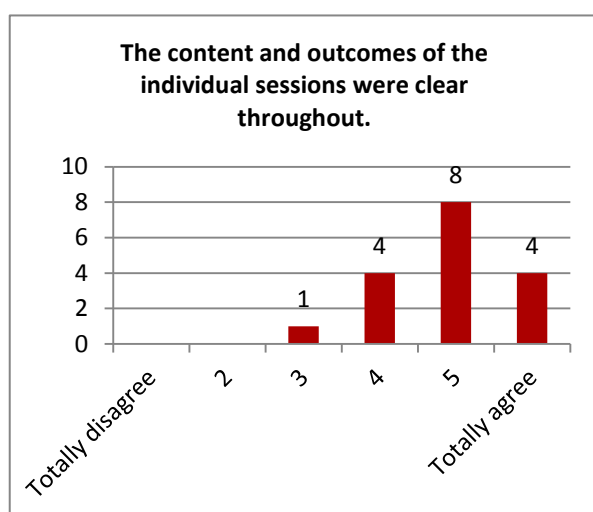
To get an overview of the results, the most relevant outcomes will be presented. Some other personal remarks and answers to open questions will also be shown.



Some of the answers to the open questions have already ideas on how to apply what they learned:

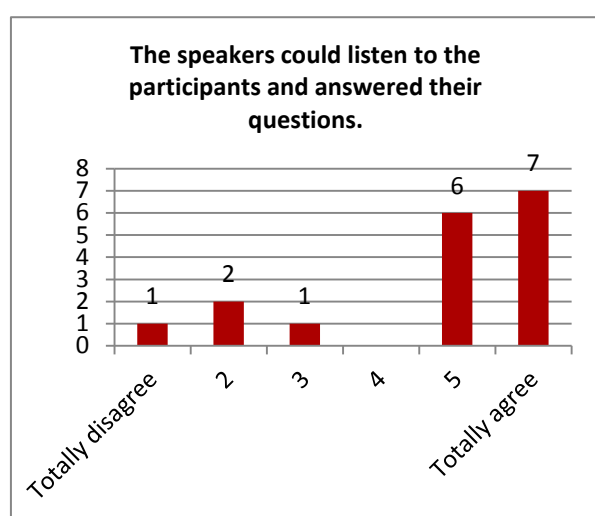
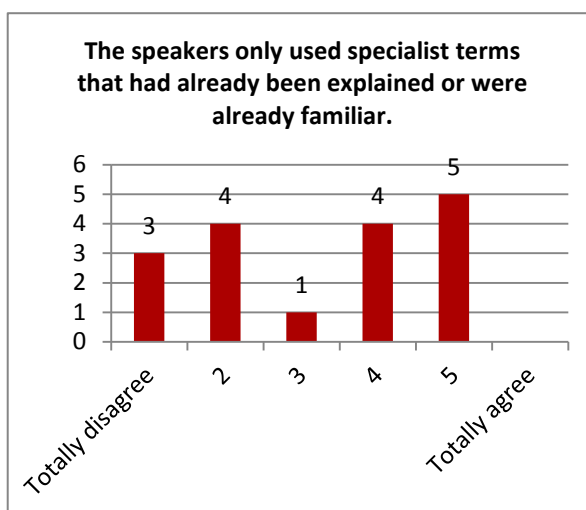
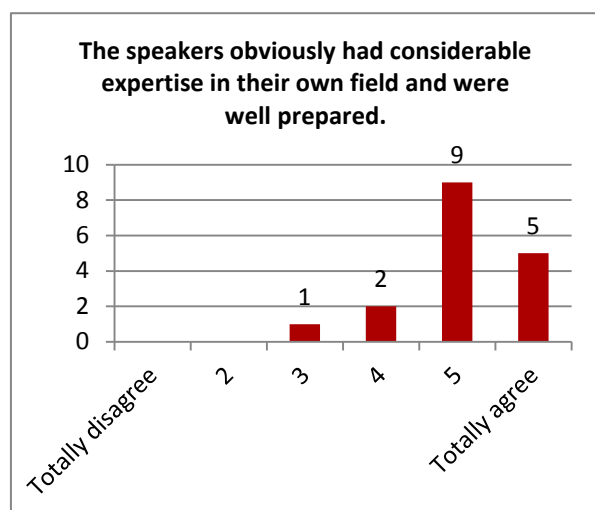
- *"Knowledge and skill sharing with colleagues."*
- *"Conducting a training programme and using all techniques and methods learned."*
- *"We will have a pilot training with representatives from energy intensive industries so that it will have a multiplier effect."*
- *"Try to incorporate lessons learned in my field work."*
- *"Awareness raising and training on EnMS and ISO 50001."*
- *Organizing training programmes and conducting frequent team meetings."*
- *"Integrate ISO 50001 with ISO 9001, 140001 and OHSAS 150001."*

Related to the **working and learning methods**, the following results were obtained in the questionnaire.

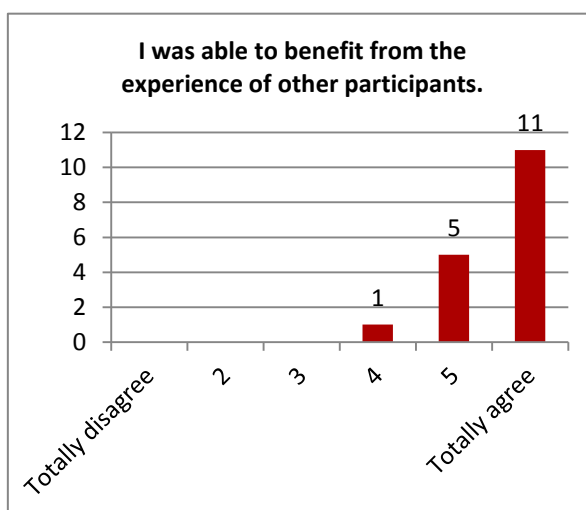
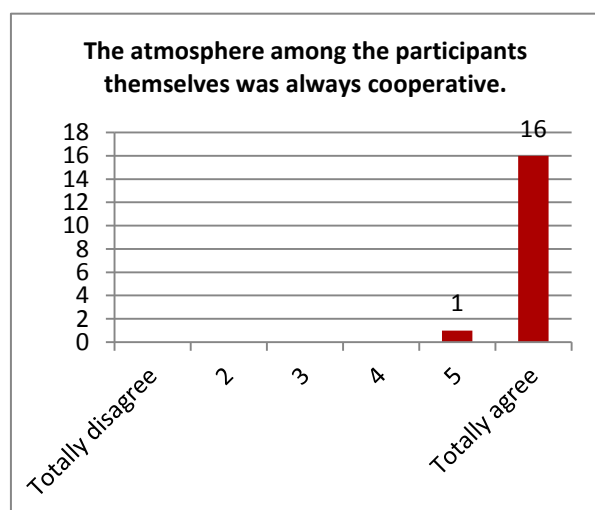


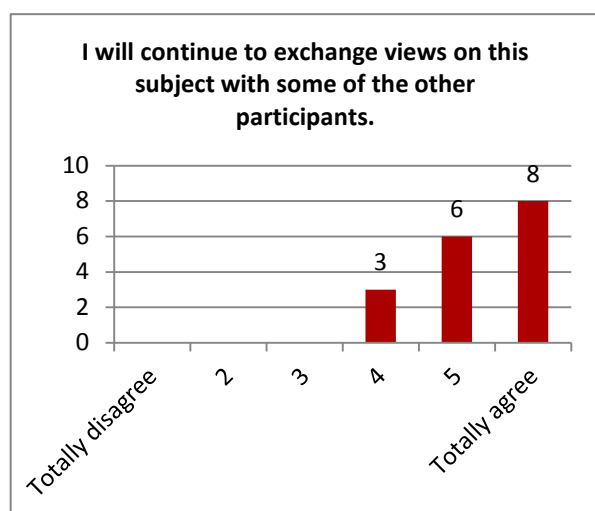
Regarding the question concerning the duration of the training, 11 of the participants thought it was just right. Whereas six participants had the impression it was too long.

The results regarding the **speakers** and their expertise are given below.

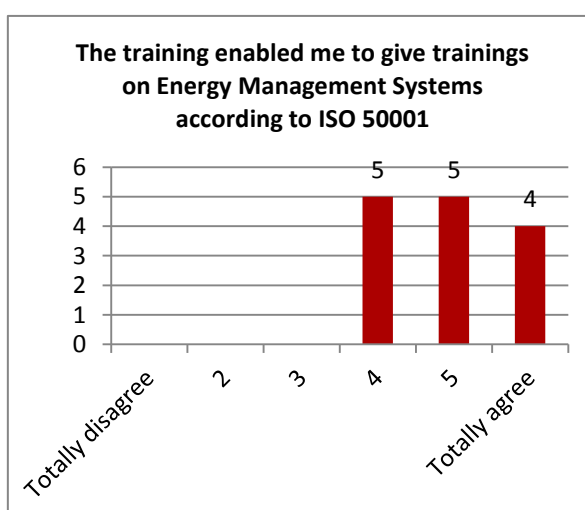
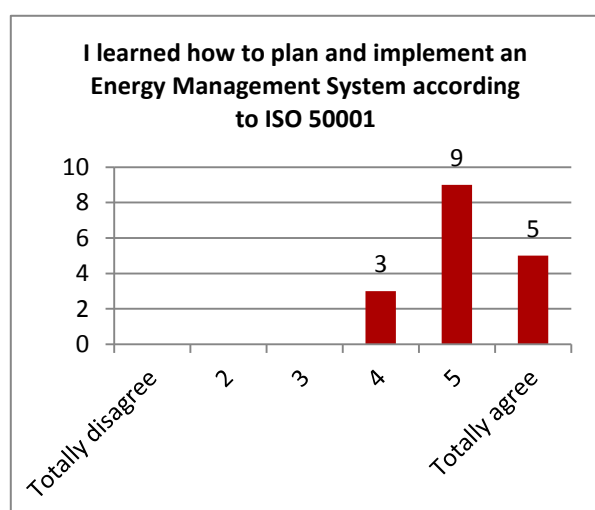
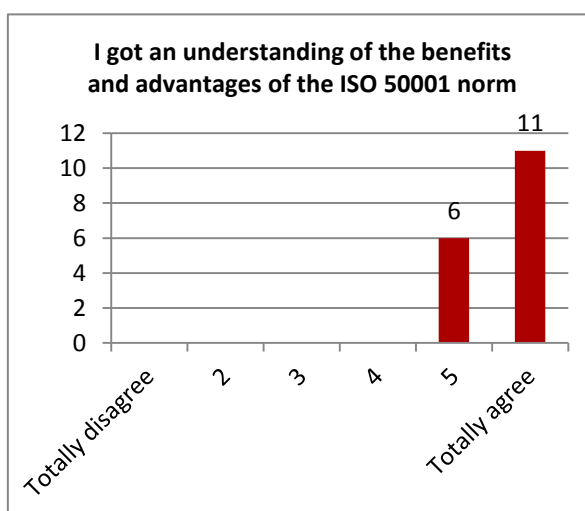
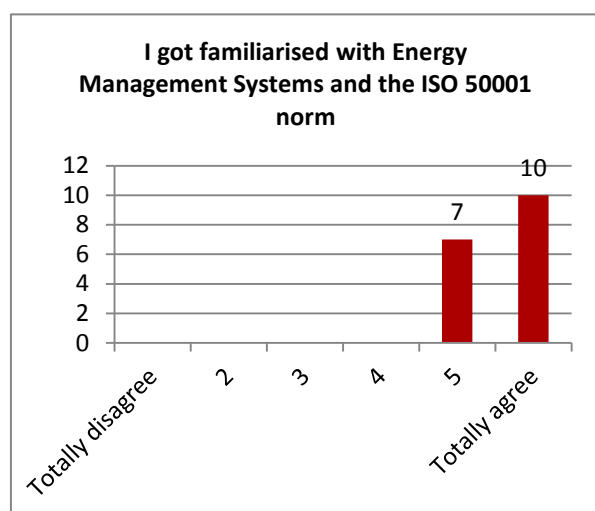


Concerning the atmosphere among the **participants** and the interaction between them during the dialogue following impressions were obtained.

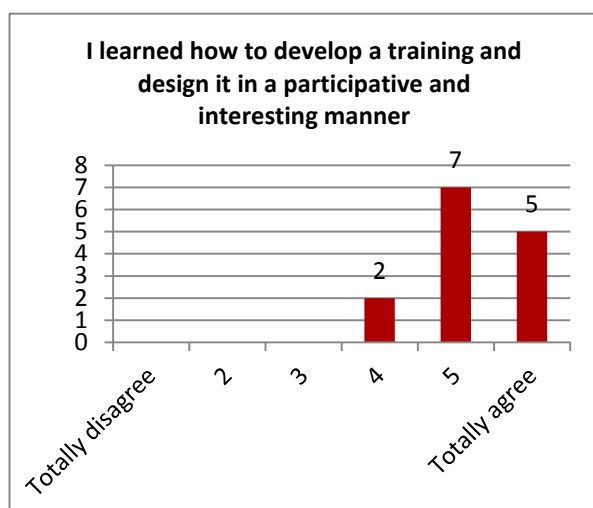




The impressions on how well the training addressed the **objectives** are as follows.







Some answers to the open question on what changes the participants would recommend for future Regional Training are presented here:

- *“Integrate more (successful) case studies / practical examples.”*
- *“Daily allowances for foreign participants.”*
- *“There should be a break in between.”*
- *“ISO 50001 should be presented to the Nepal Electricity Authority.”*

Last but not least the questionnaire asked if the participants were satisfied with the **overall organization** of the dialogue.

