1st TWG III meeting
Wednesday 11 November 2009

Venue:

Shangri-La Hotel, Jakarta - Java

Present:

North Sumatra: Mr. Ori Novanda
West Nusa Tenggara: Mr. Yesung Allo Padang
Yogyakarta: Mrs. Lilies Sertiartiti, Mr. Tony Khariadi
Central Java: Joko Windarto (replacing Mr. Hermawan due to illness)
Papua: Mr. Widyastomo
MEMR: Ms. Indarti, Ms. Livi, Mr. Jamil
ECN: Raouf Saidi
MVV Decon: Rainer Behnke, Helmut Lorenz

Agenda: see Annex A

Welcome note/Introduction:

Raouf opens the first meeting of the Technical Working Group III of CASINDO on energy efficiency by welcoming all participants and discussing the agenda. Special thanks were given to Mrs. Indarti, and Ms. Livi who at the last moment found time to join the workgroup. As most people were present at the EE meeting, Raouf briefly explains what the goals of the TWG and CASINDO as a whole are. After a brief introduction by all members present the meeting begins.

MEMR review of national EE policy.

Mrs. Indarti provides the members with a presentation on the current EE policies. As Mr. Dadan has already done so during the EE training at ETCERE, it is a shortened version but it allows several members to ask more in depth questions. The main observations and questions from the presentations were:

- Mrs. Indarti also presented information on the past policy note (RIKEN) on EE from 1995. She stated that although the problem definition was clear, and a detailed financial needs assessment was made, as opposed to the 2005 RIKEN, little action was taken.
- The 2005 RIKEN had several results. Most notably are the audits that the ministry had implemented at several buildings for a varying group of sectors.
- Part of the presentation was focused on the RIKEN for 2010, and involved several objectives of the ministry that had already been proposed in the RIKEN for 2005. These included the labelling of appliances, market transformations to allow easier access to energy efficient appliances, establishing a clearing house on energy conservation and awareness programs.

The main questions for MEMR were directed towards the planned phasing out of subsidies. Mrs. Indarti replied to this by saying that the govt believed that results were needed before this could be done. She stated that the national target of reducing energy demand by 1% has been reached since 2005, and if that continues it will provide the motivation to phase out subsidies. Rainer also

pointed out that no costs were connected to the actions in the 2005 RIKEN, while the 1995 version did have these estimates.

Presentation by regional teams:

The following item on the agenda was intended for the regional teams to show the group what the status of energy efficiency was in their region. Yogyakarta and Central Java had prepared presentations, while the other regions provided some data which were noted on the flipchart by Raouf. The main findings per region were:

- Yogyakarta:
  - Although fuels were being subsidised they had not yet touched the baseline value of the poor.
  - Yogya has no big power plant and is reliant on the JAMALI grid
  - Large untapped potential for renewable energy technologies (RETs)
  - They claimed that households (HH) accounted for the consumption of 94% of electricity
  - Large potential for Jatropha in Yogya.
- Central Java:
  - The goals for reducing the dependency on fossil fuels in the energy mix have not been realized and, in general, the goals have been too ambitious.
  - The modelling done for CAREPI was based on these goals and to reach these goals, serious steps in the introduction of RETs need to be made.
  - Recommended steps for EE include awareness programs for farmers, and a clearer reward and punishment program.
- Nusa Tenggara
  - Currently the electrification rate is very low, roughly 37%.
  - Although plans are being made to improve the energy supply, they involve mainly fuel switch options.
  - The use of traditional biomass for cooking is still substantial.
  - Several patches of unused land are being planned for Jatropha plantation
- Papua
  - Currently the electrification rate is roughly 33%
  - Although there is a large potential for hydro energy, the demand is not large enough for the proposed plans
  - The spread of nature of the villages and towns in Papua also involve very high costs.
  - A solution could be the production of smaller micro hydro stations.
  - He also mentioned that Nico had just been to Papua for the first time and that the meeting had been a success but he unfortunately missed the second day.
- North Sumatra
  - Due to the fact that the ministry hasn't been cooperating there was little data to be obtained.
  - Kerosene is still widely used, and the LPG distribution network does not reach outside of Medan.
  - HH consume a large portion of primary energy.

Raouf made several comments on the large portion of time spent on renewables, and reminded the group that although RETs do not need to be excluded, the main focus is too look at energy efficiency solutions. If large savings can be achieved due to simple implementations, changes or fuel switches the use of fossil fuels can still be maintained. If RETs, however, offer a cheap and affordable solution then it should be considered. In addition, care should be taken with proposing the use of biofuel crops as sustainable and renewable energy sources. Some jatropha projects in Africa have been a failure, because not enough was known about the yield in sub-optimal land,

and the indirect effects, such as replacement of food crops or the slashing of forests, where not properly assessed and could create *negative* environmental effects.

Presentation of the methodology and discussion.

Rainer gave his presentation on the methodology and commented that he felt that RETs and energy should not be separated and that the final energy master plan for the regions will incorporate the two into one document. The recommendations should therefore be aligned with the RE TWG. His presentation built upon the following goals and objectives:

- **Short term (CASINDO):**
  - Development of regional energy master plans
  - Agreement of implementation conditions with stakeholders (energy forum)
  - Development of the capacities for implementation of the master plan
  - Start-up implementation of the master plan activities
- **Medium term:**
  - Wide implementation of measures of the regional master plans
  - Solving of emergency gaps
  - Improvement of energy saving awareness of stakeholders
  - Replication to other regions
- **Long term:**
  - Reduction of the energy intensity and emission level
  - Reliable and affordable energy supply for end consumers

He continued by introducing the following points:

- The energy statistics given need more detail to be able to proper recommendations
  - This does not mean that for the public sector all schools will need to be counted, but rather that a school is visited and analyzed, and estimates are made of the amount in the region.
  - An example of such a simplified energy balance was shown.
- The description of a master plan was given, and stated that it does not need to be a replacement for feasibility studies, but rather acts as a guideline for decision makers.
- The importance of involving the stakeholders in strategic planning was emphasized and it was suggested to involve stakeholders that are not directly linked to energy, such as financial institutions and pro-poor NGO's.
- An overview of the structure for a master plan was given.
- Energy use should be grouped by consumers and fuel types.
- Proper cost calculations need to be introduced to allow implementations to be budgeted and business cases to be proven.
- Municipal utilities should also be targeted as EE potential targets.
- Several packages were presented where technical and non-technical solutions were shown per consumer type, e.g industry and HH
- A short example of EU development in these areas of EE strategic planning was illustrated.

The main concern with the presentation was not the end result, but the availability of data for the different sectors. Rainer explained that estimates can still be made but that the data collected needs to be deeper than was previously done. Using concrete examples for EE measures or technology in the master plan will be evident to showcase the potential of EE measures, and to obtain an idea of the costs involved and payback times. Raouf asked all participants whether there were any other objections, clarifications or questions and whether everybody agreed with this approach.

Closing statements/planning

Raouf mentioned that the next physical meeting of the TWG will be in 6 months but that he will always be available for comment by email and that it was agreed that there should also be a monthly update report. He also stated that he would create a google groups page for the TWG, where he would place the recent literature that Helmut had found for RETs and EE technology and policy. This would also be used to provide a place to post the reports so that they can be read by everybody, and to have a portal to provide planning and guideline documents. The next action plans were on the side of ECN/MVV Decon and involved:

- minutes of this meeting (ECN)
- guideline on energy master planning and stakeholder identification (Annex B and C)
- the creation of the google groups page with literature from Helmut (ECN)
- The circulation of the presentation of Rainer on the google groups page (ECN)

Everybody was thanked for traveling to Jakarta, and the members of MEMR were thanked for making time for us.

Next actions:

The actions to be carried out by the technical teams for the following six months are:

1. Analysis of energy balance and inventory of energy consumer groups:

   - Household sector up-date
   - Industry sector up-date
   - Commercial service sector up-date

   Public sector analysis

   - Street lighting
   - Water supply
   - Buildings/ schools
   - Buildings / hospitals
   - Buildings/ administrative

The goal is to study energy demand, type of energy, energy purpose and create a list of stakeholders involved in that energy consumer group. As discussed, the objective is not to visit *all* sites but to take an inventory of the amount of sites per consumer group and visit several typical ones, be it in size or energy use. The public sector analysis is aimed at studying the typical technical apparatus used for several public utilities, administrations and services.

2. From the above analysis prepare a comprehensive list of stakeholders for both the demand and supply of EE measures for both private and public consumer groups.
3. Including the above group to the energy forum, a workshop should be organised to assess the gaps and barriers in the region to implement EE measures.
4. Including financial institutions, regional donors and NGOs a needs assessment for further capacity building should be prepared.

Summarised, the result after 6 months should be a description of the sites visited and technical financial EE measures possible. In addition, a list of stakeholders and their barriers towards implementing EE measures should be created for each consumer group. The combination of

these two data should also lead to an initial proposal for further capacity building, focusing on either technological or policy EE measures that are relevant to the regions.

Annex A : Agenda

	11 Nov	Full day, start: 09:00 until 15:00	
	Introduction session of the Working group "Regional energy master plans"		
09:00	Round of introduction		Raouf Saidi, ECN
09:30	Presentation of national EE policy in Indonesia		MEMR
10:00	Presentation by regional teams on current status in their region on EE Incorporation of the results of regional energy outlooks		Participants of TWG
11:30	Presentation and discussion of methodology to develop regional EE master		MVV decon, Rainer Behnke
13:00	**Break/ lunch**		
13:45	Discussion of work plan for the coming 6 months and beyond , Feed-back from experts of the regions for design of the work/ action plan		MVV decon, Rainer Behnke Raouf Saidi, ECN
14:45	How to monitor progress and provide support from Germany/Netherland		MVV decon, Rainer Behnke Raouf Saidi, ECN

Table 1: Agenda for the TWG on the 11th of November

Annex B: Template for stakeholder identification

Information on stakeholders (institutions and consumers), which can play a role in the implementation of the energy master plan are given in table 2 divided into three categories, i.e. policy makers, intermediaries and consumers. Within this table it is indicated what role the various stakeholders can play, either as an actor for contribution to the activities of the master plan, or as a beneficiary of the activities of the master plan according to their potential. The individual stakeholders have different levels of importance related to the master plan and have not been ranked in accordance with their importance. However, they could all support energy efficiency to perform its actions and disseminate results in an effective way. It is obvious that there are some key stakeholders:

- In the category 'Policy makers' the most important stakeholder is, of course, the Ministry of Energy;
- In the category 'Intermediaries' three groups of players important for different energy efficiency fields (industry and buildings) can be identified:
  - Association and Municipalities,
  - Industrial Branch Association (sugar mills, etc.) and Chambers of Commerce and Trade - industrial energy efficiency projects
  - University Centres and Technical Faculties and Technical Scientific and Research Institutes - research actions;
- In the category "Consumers" four consumer groups can be identified: the industrial sector (in particular SME and building stock) household sector, public and administrative buildings. Another important group is represented by public buildings because they are the property of the government given to different ministries for management, amongst them the most important are the Ministry of Health and Environ-mental Protection, the Ministry of Education , etc.
- . As the government has a large interest in supporting energy efficiency projects in general, there are promising prospects regarding the improvement of the energy efficiency in the building stock owned by it.

Table 2: List of beneficiaries and parties involved in EE&C according to their relevance to contribution to the activities of the regional energy master plans (REMP)

Institution or group	Activities	Role as ACTOR in REMP	Role as BENEFICIARY of REMP measures
Policy makers			
Ministry of Mining and Energy (MoME)	• Governmental energy policy making • Preparation and adopting energy legislation, secondary legislation and regulation	•	• Support to energy policy development • Evaluation of effects of governmental EE programmes and investments • Energy saving in own premises/ public buildings
Ministry of Economy	• State budget control • Ensuring sustainability of state budget through sound tax policy and tax collection	• Approval of budget of • • Assistance in development of financial stimulation measures to implement EE measures (tax relieves for EE equipment production and import)	• Increase of energy revenues via state owned utilities • Energy saving in own premises/ public buildings
Ministry of Construction	• Co-operation aimed to improve domestic codes for energy losses in buildings	• Provision of expertise on building and infrastructure rehabilitation	• Technical advice on implementation secondary legislation for implementation of EE in construction • Energy saving in own premises/ public buildings
Ministry of Health and Environmental Protection	• Co-operation on environmentally friendly energy efficiency projects; • improvement of legislation for protection of the environment	• Preparation of EE projects in the public health sector • Common implementation of legislative and regulatory measures to reduce emissions • Ensuring the development of EE policy in line with EU environmental standards	• Reduction of emissions caused by energy production in all sectors and in transport • Combination of efforts on environment and energy auditing • Ensuring energy policy in line with environment policy • Energy saving in own premises/ public buildings
Municipalities	• Decision making on municipal infrastructure, public and administrative buildings • Planning and implementation of energy efficiency in municipal supply structures	• Development and support of EE projects • Development local political consensus for larger infrastructure EE investments and local EE policy • Provision and guarantees for loans • Determine extension for gas networks according to demand	• Advice on development and implementation of efficient local energy supply strategy • Assistance on local EE initiatives • Demonstration projects • Secondary legislation, which supports energy saving and environment

Institution or group	Activities	Role as ACTOR in REMP	Role as BENEFICIARY of REMP measures
			protection al local level • Energy saving in own premises/ public buildings
Regional governments	•	•	•
Energy Regulatory Agency	• Development, implementation and control of privatisation and liberalisation of the energy sector • Development and implementation of appropriate energy tariff systems in all sectors	• Analysis of proper cost and tariff ratio for national energy conversion and supply • Common efforts on modelling of effects of implementation of energy tariff system	• Implementation of tariff system, which is targeted, effective and sustainable • Utilisation of the effects of liberised energy market for EE,
Intermediaries			
Ministry of International Economic Relations	• Co-ordination of the support to the energy sector • Attraction of investors and donors	• Channelling of loans and grants for energy efficiency projects	• Proposals for donations in high quality • Energy saving in own premises/ public buildings
Industrial Branch Associations (sugar mills, etc.)	• Representation of industry branches • Information on benchmarking and increase efficiency of production of industry branches • Support marketing of products	• Provision of data of industrial branch • Dissemination of best practice on energy efficiency and technological processes • Support to organisation of events	• Information on best practice projects for replication • Strategies to implement EE in main industrial branches • Demonstration projects • Information on international benchmarking • Availability of qualified energy auditors
Chambers of Commerce and Trade (	• Support the several branches of the economy • Provision of contacts • Development of industrial cooperation	• Stimulation the local production of EE equipment • Support of events and training • Support know-how transfer due to industrial cooperation • Assistance of local industries in EE field to negotiate with banks, investors •	• Support to labelling of EE products and services • Know-how transfer on EE equipment • Promotion of locally produced EE equipment
Technical Scientific and Research	• Fundamental and applied research • Support equipment	• Expert provision for specific measuring, diagnostics and certification measures	• Assistance to orient research activities and services to practical

Institution or group	Activities	Role as ACTOR in REMP	Role as BENEFICIARY of REMP measures
Institutes	manufacturers • Education and training	• Provision of expert know-how on evaluation of effects of specific technology implementation	project application according to demand of industry,
Ministry of Agriculture	• Ensure efficient energy supply of agricultural industry • Promotion of efficient use of local resources (biomass, biogas)	• Determination of the potential of local energy resources (biomass) • Support in development of renewable energy projects • Assistance in the analysis of costs and setting of prices for agricultural products to be used for energy generation	• Conceptions for the efficient energy supply of agriculture industry and rural / remote areas • Demonstration projects • Developing market for using biomass for energy production
Statistical Evidence Institution (	• Annual energy balance • Comparable energy figures of the industrial branch	• Provision of relevant data on sectors of economy • Dissemination of results and energy balance data	• Statistical comparable data • Implementation of energy balancing system according to international standards
Consumer Association, other consumer associations	• Information of consumers on advanced and efficient technologies and devices • Information on traders • Protection of consumer rights	• Promotion of energy efficiency actions • Dissemination of results •	• Use of information and promotion materials and advice • Dissemination of energy efficient equipment and devices (labelling actions etc.)
Environmental groups and associations (local NGOs;	• Promotion and initiatives of environmental protection, reduction of pollution	• Support to the initiation of local activities and cooperation • Assistance of local information events on EE and environment protection • Push of authorities to become active in environment saving and emission reduction actions	• Use of information and promotion materials and advice
Oil Industry of	• Production and distribution of high quality oil and gas products • Development of municipal natural gas distribution networks	• Improve efficiency of production and distribution • Provision of detailed data on consumption and import and output of refineries, etc.	• Increase of natural gas sales by wide
Electric Power Industry	• Ensure stable power supply • Diversification of resources • Increase efficiency of energy transformation	• Provision of the technical conditions for connection of power plants to public grid • Improvement of efficiency of production and distribution • Provision of detailed data on electricity consumption and	• Stable power supply • Reduction of imports (coal, power) • Rational use of electricity in all sectors

Institution or group	Activities	Role as ACTOR in REMP	Role as BENEFICIARY of REMP measures
	sector • Optimisation of energy supply to consumers	trading	
Consumer groups			
Industrial enterprises	• Ensure stable and economic viable energy supply of industrial company • Maximise the efficiency of the production process	• Initiation of EE and rehabilitation measures	• Information on benchmarking • Best practice information on EE measures and auto-production • Issuing of qualified energy audits • Demonstration projects • Reduction of the energy bill
Households	• Energy consumption • Responsible for rehabilitation measures in flats	• Development of own (personal) initiatives for EE	• Improvement of quality of living • Stable energy supply • Reduction of the energy bill
Commercial services	• Energy consumption • Responsible for rehabilitation measures	• Development of own (personal) initiatives for EE	• Improvement of quality of working places • Stable energy supply Reduction of the energy bill

Annex C: Guidelines on energy master planning

1. *Introduction*

The purpose of this document is to give an introduction to how to develop a regional energy Master Plan and the purpose, contents and structure of such plan.

The target groups for the document are regional and local politicians, municipal technicians and planners, energy supply utilities, energy consultants and other organizations and persons involved in energy planning.

2. *The master planning phases*

In countries, which have years of experience with energy planning and have developed legislation in this field, the typical phases are drafted below:

0. Definition of objectives and establishment of working groups
    - o Defining the major objectives and scope of work
    - o Understanding and defining roles and responsibilities

- Forming technical and political steering and working groups

1. Collecting information about:
   - The present institutional setup
   - The energy infrastructure and the economic situation (actual energy and money flows (gas, electricity, tariffs, taxes, subsidies, accounts and budgets)
   - Future energy demands and regional development plans
   - Local energy resources, natural or industrial
   - Development possibilities and on-going plan/projects
   - Federal and regional plans and regulations

2. Technical, economic, financial and environmental analyses
   - Option Catalogue of possible technical and economic priority of actions
   - Identification of barriers to the implementation
   - Conditions for different financial sources (local bank loans, WB/EBRD bank loans, self-finance, support from the government, international grants)
   - Technical, economic, financial and environmental comparison of scenarios ("do nothing scenario" compared to investment scenarios)

3. Elaboration of regional Master Plan
   - Describing the conclusions of the analyses
   - Defining the future energy supply infrastructure
   - Planning of steps, timetable, means and resources
   - Approval of the Master Plan by the regional government

4. Implementation of projects
   - Detailed project proposals within the master plan frame
   - Business Plans, Audit Plans, Plans for Information Campaigns
   - Applications for favorable loans
   - Realization of the projects

5. Follow-up
   - Status of the energy supply infrastructure and the economic situation
   - Evaluation of the implemented projects so far
   - Mater Plan evaluations and adjustments

2. *Definition of objectives*

When deciding to make an energy Master Plan it should be discussed and decided the whole purpose of such plan and what areas it should cover.

Generally the objectives are to make a Master Plan for the energy supply within the border of the city. The Master Plan may include:

- Action plan(s) for the regional administration;
- Action plan(s) or business plan for the energy supply company;
- Action plan(s) or business plans local/ regional energy agency;
- Energy audits for the local industry, or the industry may be included only as a producer of energy and as a consumer of energy;
- Action plan(s) for buildings inclusive energy savings information for dwellers and commercial entities.

Furthermore a discussion should be started of what are the objectives of these plans, what are the long-term goals for the municipality or region, and how should the strategy be to reach the long-term goals.

In the start phases such discussion could be difficult as the knowledge is sparse, and the ideas are unclear. But such discussion can be used for the planners as a kind of guidelines. It is also recommended to collect proposals for objectives and recommendations for the development of the energy supply systems. The most important actors in the energy sector should be asked to submit such proposals.

The long-term objectives and strategies will deal with the development of the energy supply systems in the municipality or region and for reducing the energy consumption and emissions of carbon dioxide and other harmful gasses. Recommended long-term objectives for the participating administrations might include subjects such as high quality of energy supply services based on efficiency energy production and distribution.

When formulating the objectives, they should be:

- Quantitative (to make it possible to measure the degree of success when implementing project proposals that try to fulfill the objectives);
- Ambitious, but possible to realize by reasonable investments;
- Accepted by the most important actors;
- Possible to adjust according to changes in the development of prices, industry, technology, etc.

3. *Influence from the surroundings*

The Master Plan cannot be seen isolated from the federal and regional energy planning. Also subjects like the expected general development of the financial loan market and the energy prices can have a strong influence on the planning.

The influence on the Master Plan from the surroundings can be divided into:

Economic and financial conditions:
- General development of the energy prices;
- Development of the international and national market of venture capital
- International or national possibilities in financial support and support in technical assistance.

Regulations:
- Norms for energy systems and for new buildings;
- Regulations on subsidies and taxes;
- National regulations and programs on energy savings;
- National regulations and programs on environmental improvements.

Technical conditions:
- Experiences from pilot projects as basis for full-scale project proposals;
- Experiences from other full-scale projects.

It is especially recommended to study specific pilot projects to obtain knowledge and data concerning specific subjects. Information about such projects should be collected, analyzed and disseminated to the municipal/ regional planners and decision-makers. The information may include:

- Technical description;
- Investment costs;
- Experience with operation and maintenance of the new equipment;
- Economic savings and environmental benefits;
- Improvement of the energy supply service and the customers' satisfaction.

4. *Tasks for the regional administration*

To ensure a strong management of during planning and implementation process each involved party should know their role and responsibility. Especially the tasks for the regional administration should be clarified. They may include:

- Establishing and maintaining a data register with the energy planning data (named Assumption Catalogue);
- Making forecasting of the future energy demands and the supply possibilities (which include establishment of a Option Catalogue);
- Elaborate, evaluate and adjusting the Master Plan;
- Taking care of that possible projects are being analyzed and implemented in the Master Plan;
- Coordinating the projects with other related plans (electricity savings, water savings, new buildings, new enterprises, etc.);
- Approving project proposals within the frame of the approved Master Plan.

In countries, which have developed legislation about municipal (regional energy planning, the municipality is by law assigned the central role in the energy planning process. Based on these international experiences the key functions of the municipality may include the following:

As *initiator* the municipality / regional administration typically has the following tasks:

- Securing that the necessary conditions for decision-making are available;
- Formulation of long-term municipal / regional objectives and strategies according to energy, environment, local employment etc.;
- Elaboration of action plans.

As *coordinator* the municipality typically has the following tasks:

- Ensuring that all the areas (collectively and individually supplied areas) in the municipalities/ region, as well as the supply side and the demand side, are included in the energy planning;
- Environmental considerations;
- Considerations as to activities that may have influence on the employment;
- Considerations as to economic benefits and development of welfare. Focus on the total costs in the municipality / region (what is paid by inhabitants, by utilities and by the municipal or state budget in total), which are used for energy purposes, and are therefore not available for other investments or consumption of other goods;
- Securing that the different actors agree in the decisions taken;
- Securing that the decisions taken are coordinated with the municipal objectives according to energy and environment;
- Securing that the decisions taken are coordinated with the municipal or regional objectives according to other sector areas in the region;
- Securing that the decisions taken are coordinated with the national objectives according to energy and environment.

As *decision-making authority* the municipality typically has the following tasks:

- Securing that the necessary decisions according to the planning process are taken;

- Securing that the decisions taken are in accordance with national law.

As *institution for information dissemination* the municipality typically has the following tasks:

- Ensuring that the relevant actors are informed about the decisions taken;
- Ensuring that the relevant actors are informed of the long-term municipal objectives and strategies according to energy and environment and the plan of action;
- Ensuring that the relevant actors have knowledge of feasible solutions that could be implemented.

5. *The roles of stakeholders*

The regional energy utility will play a very dominant role. But it is important that the regional administration defines and separates the role of the municipal authority from roles the energy supply utilities.

The electricity utility, representing the electricity consumers, could also be involved or should at least be informed about the activities.

The energy supply utilities and building associations or building committees should naturally be more and more involved, when the phases approach realization of the projects. The energy supply utilities are primarily the national power utility. The tasks of the utilities may include:

- Elaborating proposals for utility business plans, utility action plans or energy audits;
- Organizing and managing the tendering procedures and the implementation procedures;
- Organizing rising of the necessary investment capital (probably in cooperation with the city administration).

In general it is recommended that the energy supply utilities, which participate in implementing the Master Plan, should annually report to the city administration on the progress of implementing the projects.

Also regional or national authorities, representing the state budget and potential investments, may be involved in the group. Involvement of central authorities depends on how much the decisions are made locally or by central governmental decision-makers.

6. *Division of tasks and roles*

It is recommended to clarify the tasks and roles of the stakeholders in the coordination group and the city council. Below is a list of some recommendations:

- Each participant in the coordination group should be asked to contribute all relevant information and supplement the analysis prepared by the consultant regarding their own activities;
- The parties in the coordination group should be asked to comment on the final analysis and recommendation before it is put forward to the city council;
- The city council should discuss the final recommendations, in particular the investment projects, which are suggested or recommended by the co-ordination group;
- The city council should inform the public about the ongoing planning and organize a public hearing in accordance with normal practice in the municipality;
- The city council should negotiate with the organizations within the municipality, which are involved in or affected by the plans

- The city council should negotiate the final proposals and investment projects with the central authorities and pave the way for financing of investment projects;
- The city council should approve the plan and investment projects and support the energy utilities in the implementation of the projects, such as collaboration with various municipal authorities, loan guarantees etc.

7. *Contents of a Master Plan Report*

The Master Plan Report should be organized in such a way: First the objectives and summaries are described, then follows the action plans and at last the more detailed calculations and assumptions, for example collected in a separate report of appendices:

1. Executive summary with the recommendations for the political level of the municipality;

2. Introduction, objectives, background, overview of the studies and plans and the target groups;

3. Description of the assumptions, divided into:
   - External factors: the political and legislative framework and plans, macro economic factors
   - Local assumptions: political decisions/plans in the energy sector and in related sectors,
   - Key data from the option catalogue, which contains data about possible technical improvements, for example, the investment costs, and the assumed savings in energy and money.

4. Description of the recommended scenario consisting of specific action plans for technical, institutional, economic and environmental measures put into a technical and an economic order of priority:
   - Low or no cost measures with immediately actions, with a payback within 1-2 years, and/or which are necessary before the next steps;
   - The investment plan for medium term measures with a pay-back within 1-5 years;
   - The long-term strategy.

   The actions for the short and medium term measures can be organized in a time, action and investment table ("when is who investing or doing what?"). The perspectives and necessary investments for the long-term strategy are described in a more general way with a rough timetable.
   The chapter could refer to an appendix, where the pre-feasibility study report is presented

5. Misc. analyses and discussions, including uncertainties, barriers, sensibility analyses and risk assessment;

6. Appendices with assumptions, detailed technical descriptions and calculations.

- If necessary, defining new analyses in how to rehabilitate the energy system. Such analyses should be defined and carried out in co-operation with the relevant stakeholders;
- Negotiations with the relevant stakeholders and authorities about principles for price setting and state subsidies, which might function as barriers against the long-term strategies;
- Discussion and analyses of the possibilities of developing and using new technologies in the energy sector;
- Evaluation of relevant possibilities of financing;

- Discussion of proposals for improving the organizational framework of energy, including the relationships with the consumers;
- Formulation of information strategies;
- Defining procedure for the next steps after the initial activities.

The activities for the near future should include activities with high focus on the actual barriers, which may hinder the next steps and realization of the Master Plan in the long term. High priority should be given to reveal and discuss the actual barriers and frustrations, and realistic ways to overcome them.