



Institut für Zukunftsstudien und Technologiebewertung
Institute for Futures Studies and Technology Assessment



Minutes on the

“EnerKey Long-term Prospective Group (ELPG) kick-off”

Johannesburg, 18th September 2008

Organised within the Project “Energy as a Key Element of an Integrated Climate Protection
Concept for the City Region of Gauteng”,

funded by the German Federal Ministry of Education and Research.

Agenda

- 10:00 **Welcome**
Round of Introductions
Neeshan Balton (GDLG)
- 10:35 **Long-term Energy planning within the EnerKey project**
Timon Wehnert, Michael Knoll (IZT)
- 11:00 Coffee break
- 11:10 **Building Gauteng as a globally competitive city region**
Dumisane Hlophe (Office of the Premier)
- 11:35 **The EnerKey Long-term Perspective Group (ELPG)-**
Participants expectations - Cornerstones of cooperation
- 12:20 Lunch break
- 13:20 **Future challenges for Gauteng's energy system**
Brainstorming Exercise – in working groups
- 15:00 Coffee break
- 15:15 **Visions for Gauteng 2040**
Presentation and discussion of working group results
- 16:10 **Defining an agenda for the ELPG**
- 17:00 End of workshop

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1 Mission of the EnerKey Long-term Prospective Group

The task of the ELPG is to explore strategic options under a long-term perspective: “Which decisions need to be taken today, to be consistent with long-term trends and requirements as well as to contribute to sustainability with a 20 to 30 years time horizon.” The focus is on implementation strategies (“How can successful approaches be applied on a large-scale?”) and on integrated strategies that go beyond the sector specific perspective.

ELPG provides a forum for experts and stakeholders with different professional and academic background, thus aims at integrating various perspectives. On the one hand, ELPG serves to gather and assess information as part of the EnerKey research process. On the other hand it simultaneously serves to quickly disseminate preliminary results to key stakeholders. Furthermore it serves to incorporate views and wishes of South African key stakeholders into the project in a participatory manner. It thus ensures that research questions are framed according to the local demand. One aim of this participatory approach is to create ownership of the EnerKey research results among Gauteng’s energy stakeholders – implying that the outcomes of EnerKey will actually be implemented.

The main tasks and functions of ELPG are as follows:

- Identification of existing visions and ongoing processes (Gauteng, cities, sectors)
- Derivation and specification of research questions (priorities, linkage with other research fields)
- Development of implementation strategies (dissemination into institutions, recommendation for pilot actions, broad diffusion)
- Feed-in of regional expertise into the Enerkey research and implementation process

The EnerKey Long-term Prospective Group, chaired by the Gauteng Department of Local Governments (GDLG), represented by Neeshan Balton. IZT – the Institute for Futures Studies and Technology Assessment, Berlin, will be responsible for scientific contributions. IZT will also facilitate and support the meetings in close coordination with GDLG. The ELPG is part of the EnerKey - “Energy as a Key Element of an Integrated Climate Protection Concept for the City Region of Gauteng” research project. The Group is located within Module 2 “Stakeholders and socio-economic drivers” and links closely to Module 1 “Integrated Modelling”.

The EnerKey Long-term Prospective Group will meet twice a year. The work programme will be collaboratively defined by the members, focusing on core requirements and needs of Gauteng region as well as taking into account available resources of IZT and other research partners to provide input. All meetings will be documented and input for the meetings will be sent in advance.

2 Welcoming and introduction

Mr. Shan Balton welcomed the participants on behalf of the Gauteng Department of Local Government to the kick-off meeting of the EnerKey Long-term Prospective Group (ELPG). After a short round of introductions, Timon Wehnert from the IZT – Institute for Future Studies and Technology Assessment introduced the agenda of the day (see p. 2).

3 Presentations

The presentations can be downloaded at:

<http://www.enerkey.info/ELPG.html>

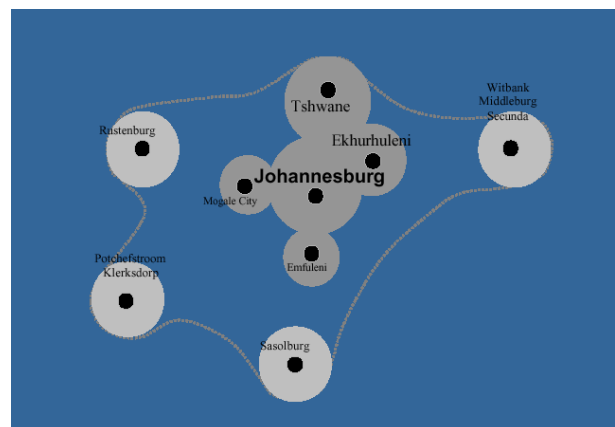
3.1 Long-term Energy Planning within the EnerKey Project

Timon Wehnert gave an overview of the EnerKey project: “Energy as a Key Element of an Integrated Climate Protection Concept for the City Region of Gauteng”. The project started in 2005 with a planning phase and has now entered its main phase. Up to 2013 the German research side will be funded by the German Federal Ministry of Education and Research.

Special attention was given to two modules: M1 Integrated modeling and M2 Stakeholders and socio-economic drivers within which the ELPG is located (see ELPG Mission in chapter 1). It was stressed in the discussion following the presentation that Modules M1 and M2 focus on strategic long-term planning. Thus the work of the ELPG will also concentrate on long-term aspects. It should give participants guiding information which may be very valuable for their daily work. However, the ELPG will not be able to support short term delivery oriented objectives. Instead it will rather have the character of a think tank providing long-term orientation.

3.2 Building Gauteng as a globally competitive city region

Dumisane Hlophe (Office of the Premier) presented the concept of developing the Gauteng region into a globally competitive city region. This demanding vision calls for cooperation and coordination between the various administrations of the province, the cities and districts as well as other stakeholders. The concept goes well beyond energy related questions but may form the umbrella under which regional long-term energy planning may take place in the future.



Footprint of the Gauteng Global City Region

4 The ELPG – participants expectations

In a written brainstorming exercise the expectations of the workshop participants towards the EnerKey Long-term Prospective Group were assessed.



In the brainstorming and the subsequent discussion the following issues were highlighted; (A detailed list with all items named by the participants is given in the annex, see pages 18ff):

- The ELPG should provide a platform to **gain new insights** on long-term energy issues and serve as a **network of experts**. Participants want to learn and **share** their **knowledge** as well as think beyond everyday working life.
- The ELPG may not become a purely academic exercise or develop into a talk shop. Instead, participants expect that the ELPG achieves to **develop a substantial long-term perspective** which will be **adopted by** the **policy makers** of Gauteng.
- To reach the groups aims a **buy-in from all relevant stakeholders** into the group needs to be ensured.
- The ELPG may bring **strategic planning coherence in energy related initiatives** and synergies between these initiatives could be fostered. The work of the group needs to contribute to other overarching aims like sustainability, development of the GCR, poverty alleviation, self empowerment, capacity building.
- However, great care needs to be taken to **establish proper links to existing networks**. Doubling of work (e.g. in similar bodies) needs to be avoided. Outcomes of other initiatives needs to be taken into account. And results of the ELPG have to be made available to other groups.
- In order to make the group an effective and successful body, meetings of the ELPG need to be well prepared. Information needs to be distributed adequately. Participants need to be committed and a high degree of continuity has to be ensured.

In the final discussion, Shan Balton and Timon Wehnert stressed that it is indeed the intention that participants of the ELPG should benefit from participating at group meetings. Interim results will be channelled through the group at all stages of the EnerKey project (and not only the end). However, it was also pointed out that the group's contribution towards short term delivery must be limited as its focus is on long-term strategic planning.

5 Challenges for Gauteng's Energy Future

The participants were requested to brainstorm problems and challenges which Gauteng will be facing in the future with respect to energy related issues. The gathered points were roughly clustered and spread out in a problem tree.



It was highlighted that there is a need for **central and integrated planning**. The current electricity crisis and the consequent demand-side management actions were given as examples for important challenges for Gauteng's energy system. It was claimed that government must take leadership in directing the energy system towards sustainability. To reach this aim an alignment of different initiatives and energy programmes on provincial and local level is vital.

One important problem is that of **investments and funding options**. In this context it was stressed that it would be necessary to look at real costs of different options. It was stated that the balance would be more in favour of **renewables instead of coal**, if externalities were taken into account. In a broader sense it was pointed out that current economic plans focus strongly on energy / carbon intensive industries. This will however cause problems in the long-term.

Another problem field addressed was that of perception, awareness and acceptance. **Consumer behaviour** may largely influence the spread-out new alternatives (e.g. renewables) as well as the overall energy demand (new demand and consumption patterns).

Furthermore the need for intensified **capacity building** was expressed. Finally the specific problems of underprivileged households were highlighted, like **fire and health hazards** in informal settlements. Long-term energy solutions must consequently be in line with the social development agenda actively addressing issues like poverty alleviation.

6 Visions for Gauteng 2040

In the next working step selected problem fields were explored further. Visions for Gauteng in the year 2040 were developed based on the problem analysis.

Method:

To this aim, the participants selected problems which were to be worked on further in small groups. Always two participants chose one problem, thus resulting in three to four problems per group.

In a first step the groups tried to pin down the problems more precisely. To do so they took the adverse perspective and gave answers to the question **How is it possible to worsen the unfavourable situation?**

Then they selected their top two problem fields and developed positive, partly visionary answers to the spelled out problems, by giving answers to the question: **How does the actual situation look like, if the problem is solved?**

6.1 Group 1: Infrastructure and type of energy supply

In working group the following two problems were chosen to develop visionary solutions:¹

- Existing infrastructure
- Always compare costs of sustainable energy to dirty coal with no externalities, including climate change (myth renewable efficiency more expensive)



¹ Two more problem fields were specified: "Lack of coordination and communication between spheres of government" and "Fire hazard from unsafe domestic use" but due to time restrictions no positive vision was formulated (see also Annex, p.22)

A) Existing infrastructure

Infrastructure, like electricity grids as well as transport infrastructure will on a long-term scale define future energy demands. Thus the maintenance and transformation of the existing infrastructure is one key challenge towards a sustainable energy system.

What would make it worse? →	Positive Vision
Stop of maintenance	Efficient preventative maintenance programme, long-term financial planning for maintenance, asset register
Plan for US-style urban sprawl	Plan for a compact city, South African Model, Pedestrian zones, incentivise Non-Motorized Transport (NMT), research minimum density to sustain public transport, remove/review subsidies that support unsustainable cities
Plan for more private vehicles	Carbon tax on cars, good public transport system, innovative technologies, subsidize public transport and not roads,
Build more highways	Build Bus-Rapid-Transport (BRT) Schemes, Convert all highways to toll schemes, including new ones with High-Occupancy-Vehicles (HOV) lanes.
Cheap cars and fuel	Tax on fuel, Park and ride system
Continue departmental planning	Integrated planning only, Integrated national, provincial and local strategies
Theft of copper cable	Regulate industry, Research and development for alternatives to copper

B) Myth: renewable efficiency more expensive

As a problem it was stated that it is common practise to: „Always compare costs of sustainable energy to dirty coal with no externalities, including climate change“ which leads to the “myth” of renewables and energy efficiency are more expensive.

What would make it worse? →	Positive Vision
Subsidize coal	Alternative energy sources, Carbon tax, Tax on coal use / extraction, Price true cost on coal use (raises price / decrease demand)
Campaign for coal use	Promote renewable energy alternatives / campaign, Subsidize alternative energy research, Information on harmful health and environmental impact of coal
Delink climate from energy	Carbon trading, A champion who shows the link
No research and development (R&D) into the social/ environmental impacts of current systems	Research on fuels causing climate change, Making research and development on this understandable to public and decision-makers
Narrowly defined short-term costing technologies	Life-cycle cost decision-making

D) Lack of central planning

It was stated that central planning could foster a more sustainable and efficient energy system in Gauteng.

What would make it worse?	Positive Vision
Lack of planning capacities	National cadre of integrated planning developers
Failure/delays to approve energy bill of 2008	Approve and implement
Lack of artisans	Education
Lack of coordination	Integrated planning system
Exclusion of other key players	Inclusive process
Lack of data information and shared understanding of drivers, patterns and trends	Promote and approve energy bill
Subtle competition	Better planning system

6.3 Group 3: Consumer perception and information flow

In working group the following two problems were chosen develop visionary solutions:³

- Consumer mindset (mentality of entitlement), culture change, acceptance
- Information sharing on interventions (savings approaches), awareness



E) Consumer mindset

The consumer mindset (in terms of mentality of entitlement) as well as culture change and issues of acceptance were considered a problem field which strongly influences the uptake of new technologies as well as future energy use patterns.

What would make it worse? →	Positive Vision
Lack of consumer education (ignorance)	Early education in schools; Sustainable livelihoods
Greedy self-absorbed	Roll out / change management; Introduce legislation / by-laws
High costs for alternatives	Internalize external costs (give true value to product & services); Better consumer health (profit/physical)
Lack of change management interventions / Resistance to change	Change of culture and consumer behavior positively brings high level of acceptance, participation, success to the Global City Region (GCR)
Force changes onto the consumers	Consumer accountability (contribution to better world), self-esteem

³ An initial third problem field “Acceptance and awareness” was merged into the other two during the discussion.

What would make it worse?	Positive Vision
Entitlement mortality not addressed could result in community disillusionment ... Changing conditions/laws all the time	Constant feed-back on energy development like, treating as sport news broadcast daily
Cost of acceptance; e.g. current geyser	Use of remote controlled systems to manage consumption by individuals

Furthermore it was pointed out that if “No free basic services” existed, this might aggravate the acceptance of policies. In this respect it was also highlighted that incentives should also be seen as a means to increase awareness and acceptance of energy policies.

F) Information and Awareness

A future challenge is to establish better „Information sharing on interventions (savings approaches)” and to create “awareness” for energy problems as well as possible solutions. It was pointed out that efficient information sharing also strongly depends on overall framework conditions. Thus disengagement and conflict, leading to a delay in the Global City Region (GCR) project would negatively affect information sharing attempts on many levels.

What would make it worse?	Positive Vision
Failure of maintenance/skills	Adequate funding of awareness campaign
Isolated/no information collected	Document and distributing of learning experience to others
No information on any activity	Inform about long-term profitability
Counter-awareness / downplaying awareness	Information sharing decisions and perspectives on what is to be done joint as well as sectoral
Stakeholder confusion and lack of shared perspective; Denial of access to information	Successful interventions; information sharing should include systematic planning, well structured aims and monitoring / evaluation implemented
Individual municipality has own funding	Maximizing region opportunity (Pushing barriers)
Role of provincial / local government (passive)	Clear planning of activities and reporting of progress through central point (info hall)

6.4 Presentation and Discussion

The candidates' speeches:

The results of the working groups were brought back into the plenary in form of candidate speeches. *It is election time in 2040 in Gauteng. The candidates for MEC and Mayors present their achievements in the field of energy over the last 30 years.* The representatives of the working groups summarised their findings in breathtaking and convincing Visions for Gauteng in 2040.



In the discussion following the presentations from the working groups it was addressed that:

- Long-term energy planning can not only focus on electricity and heat. But need to address transport issues also. Currently some 50% of Gauteng's energy demand goes into transportation and strong growth of transport needs can be anticipated.
- The question was raised, if and how EnerKey (and especially the ELPG) will address pilot actions. It was clarified that on ground implementation is covered in Module 7 of the EnerKey project. Module 2 (which the ELPG is part of) will assess existing pilot actions to learn from previous experiences, facilitate information sharing and assist in developing strategies for a mass roll-out of successful pilots. This will be on the agenda of the ELPG and special sectorial workshops in 2009.
- Several workshop participants pointed out that for them a close link of the ELPG's work and their daily business would be very beneficial. It was agreed that the ELPG needs to give itself clear objectives and touch issues of high relevance. However, it was pointed out that the focus of the ELPG should not be on short term delivery, but long-term strategic planning. The results of the ELPG need to be fed-back timely so that participants and their institutions can use long-term strategic guidance in their daily business.

7 Next steps

In the final discussion round of the workshop the next steps were highlighted

Visions assessment – framework for scenarios

Ajay Trikam and Timon Wehnert briefly sketched how the result of this workshop relate to the further work within EnerKey:

- Visions Report
IZT is currently running a literature review of documented energy related goals and visions of South African, especially Gauteng based stakeholders. The finding of this analysis will be condensed in a “Visions Report” which will be presented and discussed at the next ELPG meeting.
- Normative Framework for Scenarios
The outcome of the visions exercise (report + workshops) will largely define the normative framework of the scenarios which will be developed in Module 1 of EnerKey (by ERC, University of Cape Town and IER, University of Stuttgart).

Members of the ELPG

It was pointed out that some important stakeholders are still missing in the ELPG. Most importantly the private sector is not yet adequately represented. Furthermore the environmental perspective should be strengthened, e.g. by Gauteng’s environmental department (GDACE) and the South African Department of Environmental Affairs and Tourism (DEAT). It was furthermore proposed to invite a representative of the Department of Minerals and Energy (DME).

Invitations for the next meeting will go to all participants of the ELPG kick-off. However, some participants already noted that they would see colleagues of themselves to be more fitted to participate regularly on ELPG meetings. All participants were asked to propose the appropriate colleague of their institution if they did not intend to participate themselves.

Beyond the direct members of the ELPG ties with existing networks and similar initiatives will be established in order to make the work of the ELPG efficient and attractive for participants.

Next meeting

The next meeting of the ELPG will be scheduled in February 2009.

(Note: Current planning is Thursday, February 5th of 2009 – the date needs to be confirmed.)

8 Annex

8.1 Participants' expectations

(Summary on page 8)

The brainstorming items given by the participants were the following:

The added value for my institution should be to ...

- learn the art & science of long-term planning
- see research translated into action / mainstream activities / projects
- achieve capacity building, develop human capacity, develop knowledge, support government, excel at planning initiatives
- have a sustainable energy management strategy that develops a value chain, which enables long-term sustainable development and job creation
- learn the ability to adapt plans and strategies to the changing environment
- establish and build on synergies between a range of related initiatives and endeavours
- meet service delivery on the Global City Region (GCR) concept
- share knowledge and learn with other role players and institutions
- interact with different stakeholders and sharing experiences
- participate in the rollout of the ELPG through technical support. I would be pleased, if the strategy would increase employment.
- provide a network and source of expertise for the department's planning initiatives
- participate more in the project and share its long-term plans more within the group to facilitate integration
- ensure that everyone applies the principles of sustainable energy

I would be pleased if ...

- we are able to get all sectors involved in the development of these perspectives
- EPLG adopts a truly relational perspective on energy by considering national, regional and global trends and drivers
- we enjoy thinking beyond everyday working life
- heat pumps in sunny climates were fully investigated
- poverty eradication programmes can be facilitated
- project influences how infrastructure in the province is developed, use of alternate materials, etc.
- visible projects are implemented
- large scale implementation on sustainable energy projects could be fully achieved

- ELPG becomes the focal point for energy research / planning, i.e. an entry point to access info / people etc.
- the ELPG is a broad grouping of organisations, councillors, departments; and data can be found at a central body or structure
- this group helps to find synergies between the various energy initiatives to ensure sustainable development both on the GCR and national level; to enhance an informed and holistic rapid decision to the electricity supply value chain volume, generation transmission, distribution
- the research done by my organisation is in informing the project + complementary processes + thinking in the group
- fast track the project, also try to engage/involve the private sector (for support the funding)
- objectives achieved, sustained growth, self empowerment
- the group would be well informed about energy programmes in the region

It is necessary that ...

- we deal with real life issues
- duplication of work is avoided and that the relationship between EnerKey, the provincial and local government as well as Gauteng is improved
- funding, alignment and cooperation data made be avail
- there is a simple clear agenda
- participation and consultation heads the process
- the stakeholder group includes a cross section of interests of business, labour, energy producers
- all key stakeholders are identified and involved in the project
- to put low-income community at top of our priority list
- the DLG works closely with the ELPG to ensure "Buy-In" from all relevant stakeholders
- we distinguish our specific realities from our global experiences
- there are clear channels of communication: email, updates, www?
- energy efficient strategies (quick hits) be facilitated
- acknowledgement of all the various stakeholder roles/history and what they can bring
- implementation should be our key function to achieve objectives necessary to alleviate problems
- developmental approaches are regionally synchronised to ensure that the GCR objective is achievable
- raise enough resources
- communication and outreach programmes form an important part of this module

I would be disappointed if ...

- we did not come out with something practical or recommendations on energy that would be sustainable
- this work is not taken on board by decision-makers of Gauteng
- we do not achieve our intentions
- we do not achieve cooperation/integration of all similar initiatives
- nothing came of this initiative
- the ELPG does not link with other initiatives and does not give info
- no commitment, no feedback, no involvement, no interest
- this EnerKey does not produce what it set out to do, and not within time frames
- the project remains an academic exercise
- the group only became a talk shop
- ELPG tries to do too much
- the perspectives from the private sector is not elicited from the group
- participation in this group start to go down
- this group does not provide information from other groups
- the group representatives change by the next meeting; impacts continuity
- the group fails to deliver on its set objectives
- the emphasis of the discussions will remain at the process level and will not address substantive issues

I expect that ELPG achieves to ...

- bring strategic planning coherence in energy related initiatives
- provide both a strategic and operational energy guide that would also give perspectives on the "Regional Energy Distributors" (REDs) in the GCR
- a practical and substantial long-term perspective, which will be adopted by the policy makers of Gauteng
- formulate a sustainable energy strategy and implementation process for Gauteng to support GCRs.
- results, which are long-term implementable/achievable
- effective technologies were brought this group, e.g. Compact Fluorescent Lamps (CFLs)
- facilitate the various documents, policies, issues into one. Thus can be used to develop "real" scenarios
- becomes the focal point for energy related planning
- deal with energy constraints by developing of alternative energy sources
- develop capacities and progress objectives

- inform the drivers and trends, which impact on energy demand and supply in a meaningful way
- develop the team to ensure a strategic is established
- extract, cooperate, maintain and find a home for all relevant energy data in the city region
- ensure that all relevant key stakeholders are involved in the key decision making process
- sustainable energy usage objectives
- integrate energy planning and implementation at high level of organisational decision-making

8.2 Challenges for Gauteng's energy system

Result of brainstorming on the question: "What are in your view the most important challenges Gauteng will be facing in the future with respect to energy?"

(Summary on page 9)

Integrated Planning / Demand-Side-Management

- Development of a shared and coherent vision and thus a harmonized energy policy and implementation thereof
- Lack of coordination and communication between spheres of government
- Central Planning
- Challenges: Absence of Local Integrated Resource Planning (LIRP) model; Electricity generation capacity constraints
- Information sharing on interventions (savings approaches)
- Lack/shortage of electricity capacity to support economic and social development challenges
- Depleted electricity reserve margins
- Existing infrastructure
- Growing inefficiencies in urban form increases the carbon footprint of households and businesses

Data collection

- Lack of primary data (fragmented and difficult to access)
- Population growth pattern/statistics

Governance and Partnerships

- Lack of government leadership for energy sustainability in future needs
- Challenges: Future Energy Gauteng
- Institutionalization and alignment of energy programmes between the provincial and the local government
- Governmental institutional arrangements/Implementation

Investment

- Funding
- Costs of implementation
- Sustainability of applied interventions
- Implementation capacity by the JET cities
- Major challenges: Financial feasibility of renewable energy options

External Costs

- None payment of real cost
- Always compare costs of sustainable energy to dirty coal with no externalities, including climate change (myth renewable efficiency more expensive)

Renewable energy

- Capital investment in reticulations for expansion
- Layout / initiation costs
- Ongoing reliance on coal

Economic Growth vs. Sustainability

- Gauteng's current economic path (foreseeable future) is energy/carbon intensive
- Gauteng is influenced by national economic policy, which gives incentives to energy intensive industries
- Feasibility/practicability
- Required growth agenda
- A growing economy and population result in increased energy demand versus a diminishing sources of conventional energy, demand outstrips supply

Perception

- Awareness and acceptance by the Gauteng region residence
- Consumer apathy
- Changing culture, perception about alternative energy
- Resistance to alternative and resource efficient technologies + change in behavior that results in energy consumption
- Consumer mindset (mentality of entitlement), culture change
- Challenges: commitment to renewable energy sources of energy efficiency waivers with up or down load shedding

Capacity Building

- Skills: Regional Energy Distributor (REDs), technical know-how (competency), innovation
- Technical skills for operations, maintenance and development

Actions in line with poverty alleviation

- Transition of domestic energy away from smoky coal stoves
- Fire hazard from unsafe domestic use
- Distributed energy systems
- Governmental resources focused on coal and nuclear power
- Time to market for implementation
- Consumer protection against practices of selling sub-standard products

8.3 Further problem fields addressed in working groups

Beyond the problem fields out of which the visions were developed (see pages 10ff), three more challenges for Gauteng's energy future were discussed in the working groups:

8.3.1 Further results of group 1:

„Lack of coordination and communication between spheres of government”

- Discourage any form of interdepartmental coordination
- False information
- Reward narrow objectives and targets

- Lack of national and/or provincial strategies
- Hold only political meetings

“Fire hazard from unsafe domestic use”

- Inferior products
- Making the fuel lot cheaper
- Continue practice of political/municipal indifference to prove safe alternatives
- Proliferation of informal settlements
- Stop all information campaigns

8.3.2 Further results of group 2:

„Challenges: Absence of Local Integrated Resource Planning (LIRP) model”

- Continuation of Eskom monopoly
- Privatization
- Lack of data and information
- Non integrated planning
- Planning capacity