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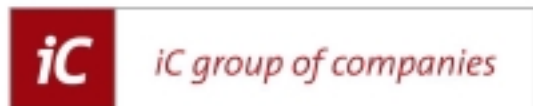
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Preparation Paper

United Nations Industrial Development Organization (UNIDO)

“Energy for Sustainable Development to Alleviate Poverty and Foster Economic Growth”

The UNIDO Committee thanks for the support of:



The United Nations Industrial Development Organization (UNIDO)

Vision

“To reduce poverty in countries with developing and transition economies through sustainable industrial growth.”

Mission

The United Nations Industrial Development Organization (UNIDO) helps developing countries and countries with economies in transition in their fight against marginalisation in today's globalised world. It mobilises knowledge, skills, information and technology to promote productive employment, a competitive economy and a sound environment.

Why UNIDO?

Because there are challenges in the developing world that can only be met by an international organisation. To improve standards of living through industries that are both internationally competitive and environmentally sustainable, the Organisation has, for instance, created the largest portfolio of projects related to trade capacity-building in the United Nations system. UNIDO has a long experience and thus understands the needs of governments, industrialists and entrepreneurs everywhere. In many fields it has rightly earned a reputation as a neutral, honest broker. Today UNIDO is the world's most experienced industrial problemsolver. Among the UN family of agencies and organisations, UNIDO focuses on industrial development and serves as a global forum on its social, economical and technical consequences.

Background

UNIDO was set up in 1966 and became a specialised agency of the United Nations in 1985. As part of the United Nations common system, UNIDO has responsibility for promoting industrialisation throughout the developing world, in cooperation with its 172 Member States. Its headquarters is in Vienna, and it is represented in 35 developing countries. This representation and a number of specialised field offices, for investment and technology promotion and other specific aspects of its work, gives UNIDO an active presence in the field. The current Director-General of UNIDO, Kandeh Yumkella (Sierra Leone), was elected in December 2005 (see <http://www.unido.org/>).

Structure

UNIDO has three policy-making organs: The Programme and Budget Committee; the Industrial Development Board; and the General Conference.

The General Conference consists of representatives of all Members and holds at least one regular session every two years. The Conference determines the guiding principles and the policies of the Organisation. It approves as well the programme of work, the regular budget and the operational budget of the Organisation. The General Conference has the authority to adopt, by a two-thirds majority of the Members present and voting, conventions or agreements with respect to any matter within the competence of the Organisation and to make recommendations to the Members concerning such conventions or agreements.

The Industrial Development Board consists of 53 Members who are elected by the Conference and holds at least one regular session every year. It acts under the authority of the Conference, reviews the implementation of the approved programme of work and of the corresponding regular budget and the operational budget, as well as of other decisions of the Conference.

The Secretariat comprises a Director-General, as well as such Deputy Directors-General and other staff that the Organisation may require. The Director-General is the chief administrative officer of the Organisation who has the overall responsibility and authority to direct the work of the Organisation. The Director-General is appointed by the Conference upon recommendation of the Board for a period of four years.

The Programme and Budget Committee assists the Board in the preparation and examination of the programme work, the regular budget and the operational budget of the Organisation, and other financial matters pertaining to the Conference.

Core Functions of UNIDO

UNIDO has two core functions: a normative function as a Global Forum, and an operational function, providing Technical Cooperation.

As a global forum, UNIDO generates and disseminates knowledge relating to industrial matters and provides a platform for the various actors in the public and private sectors, civil society organisations and the policy-making community in general to enhance cooperation, establish dialogue and develop partnerships.

As a technical cooperation agency, UNIDO designs and implements programmes to support the industrial development efforts of its clients. It also offers tailor-made specialized support for programme development. The two core functions are both complementary and mutually supportive. On the one hand, experience gained in the technical cooperation work of UNIDO can be shared with policy makers; on the other, the Organisation's analytical work shows where technical cooperation will have the greatest impact by helping to define priorities.

Objectives and priorities of UNIDO

The programmatic objectives and priorities are given in the Business Plan on the Future Role and Functions of UNIDO endorsed by the seventh session of the General Conference in 1997, in its resolution GC.7/Res.1. This Business Plan grouped the activities of UNIDO into two areas of concentration: Strengthening industrial capacities, including programmes in support of the global forum function and policy advice; and cleaner and sustainable industrial development.

In addition, while maintaining the universal character and vocation of UNIDO, the Business Plan provided for the Organisation's activities to be focused geographically on the least developed countries, in particular in Africa; sectorally on agro-based industries; and thematically on small and medium enterprises (SMEs). UNIDO achieves these objectives through: (a) Integrated programmes (IPs) or country service frameworks (CSFs), based on combinations of its eight service modules or in (b) Stand-alone projects involving only one or two service modules.

UNIDO's eight Service Modules are:

1. Industrial Governance and Statistics;
2. Investment and Technology Promotion;
3. Industrial Competitiveness and Trade;
4. Private Sector Development;
5. Agro-Industry;
6. Sustainable Energy and Climate Change;
7. Montreal Protocol (substances that deplete the ozone layer);
8. Environmental Management

Introduction to the Issue

“Energy for Sustainable Development to Alleviate Poverty and Foster Economic Growth”

Access to reliable and affordable energy is a prerequisite for economic growth and poverty reduction. Energy is important for enterprise development, assisting in economic growth and better job opportunities. All economic sectors depend on access to energy services for their development. Energy is also critical in improving the wellbeing of the poor who need it for cooking, lighting, productive purposes, heating, water pumping and transport. These amenities directly affect the quality of life, contributing to better public services such as health care and education, as well as to improve the possibilities for income generation and employment.

Improving access to energy is, however, not sufficient. Over two billion people have no access to modern forms of energy, in particular electricity and clean fuels for cooking and heating. Around half of the people in developing countries still depend on biomass such as wood, dung and crop residues. Women in particular often find their socioeconomic prospects seriously curtailed by having to spend many hours gathering and utilising these traditional fuels.

The human health and environmental impacts of the current energy systems cause serious problems, such as respiratory diseases and premature deaths due to indoor and urban air pollution. The environmental impacts also affect the economy. Environment-related diseases, for example, result in less production and increased health costs. Climate change threatens both industrialised and developing countries, although the latter may be more vulnerable and less equipped to cope with the consequences.

All developing countries face an array of difficulties in the provision of energy. Energy markets often do not function efficiently. Poor organisational structures, a lack of sound institutional and legal frameworks, and huge electrical grid losses impair the provision of efficient, reliable and affordable energy. Scarce foreign exchange is wasted when expensive imported fuel is inefficiently converted and distributed.

The problems of the energy sector in developing countries need to be coherently addressed. The ultimate objective must be to extend and improve energy supply and services, including cleaner cooking and electrification, through both grid extension and decentralised electricity generation, to alleviate poverty and stimulate economic growth. Improving and widening access to energy in a sustainable manner requires well-conceived long-term-policies to be established by national governments. In meeting these objectives, priorities must be set. Although the importance of energy for development was emphasised at the World Summit on Sustainable Development (WSSD) in 2002, national governments do not always address energy and environmental issue in poverty reduction strategies and sustainable development strategies, and the relationships with other economic sectors are still not sufficiently recognised.

Advancing the economic, social and environmental sustainability of the energy sector confronts developing countries with four major challenges:

1. Widening access for the poor
Improving and extending access to energy services for the urban and rural poor is one of the most urgent tasks that lies ahead since one-third of the population in developing countries still has no access to electricity, and about one-half rely on biomass as their principal household fuel.
2. Ensuring sound energy sector management and good governance
Sound sector management and good governance are prerequisites for a well-performing energy sector that is equipped to address areas of pressing social and environmental needs.
3. Enhancing environmental performance
Adequate, timely measures can reduce the present environmental and health hazards related to energy use. Not only the use of traditional fuels such as firewood, but even more fossil fuels, have negative side effects on humans and the ecosystem.
4. Mobilising financial resources for energy investments
To meet future energy demands, the required investment levels in developing countries are much higher than current annual outlays. They will also account for a much larger share of GDP than industrialised countries.

The importance of energy for development was especially emphasised at the World Summit on Sustainable Development (WSSD) in 2002. During the WSSD the European Union started e.g. an Energy Initiative for poverty reduction and sustainable development (EUEI). In 2004 the first World Conference on "Energy for Development" took place in the Netherlands, where the above mentioned 4 main challenges were figured out.

Better cooperation and more effective institutional work as well as further technical assistance in developing countries are needed if any of these ambitious goals should become reality. UNIDO with its two core functions, as a global forum and a technical cooperation agency in industry- and economy-related issues offers a great platform to work and discuss on these energy-related issues. Under Service Module 6 ("Sustainable Energy and Climate Change") UNIDO works on providing access to modern, sustainable energy services for the poor, through rural energy for productive use. This Service Module includes a huge potential of this extension.

Although energy is not explicitly mentioned in the Millennium Declaration (A/res/55/2), it plays a crucial role in realising directly and also indirectly almost each of the United Nations Millennium Development Goals (MDG's) and the goals mentioned in the Johannesburg Plan of Implementation.

Energy and the Millennium development goals:

- To halve extreme poverty (Goal 1): access to reliable energy enables enterprise development, lighting enables income-generation beyond daylight hours, energy increases productivity through being able to use machinery, local energy supplies can often be provided by small-scale and locally-owned businesses creating employment in provision and maintenance.

- To reduce hunger and improve access to safe drinking water (Goal 1): modern energy services can improve access to pumped drinking water, and 95% of staple foods need cooking before they can be eaten.
- To achieve universal primary education; and to promote gender equality and empowerment of women: (Goals 2 and 3): modern energy services reduce the time spent by women and children, especially girls on basic survival activities (gathering firewood, fetching water, cooking, etc), lightning permits home study, increases security and enables the use of educational media and communications in schools, including information and communication technologies.
- To reduce child and maternal mortality; and to reduce diseases (Goals 4, 5 and 6): energy is a key component of a functioning health system, for example, lighting operating theatres, refrigeration of vaccines and other medicines, sterilisation of equipment and transport to health clinics.
- Environmental sustainability (Goal 7): improved energy efficiency and use of cleaner alternatives can help to achieve sustainable use of natural resources, as well as reducing emissions, which protects the local and global environment.

Priority Topics concerning “Energy for Development” in detail

Widening energy access for the poor

One of the most pressing problems of the energy sector is the social inequity in energy provision in many developing countries. Widening access to affordable energy services for the urban and rural poor is one of the most difficult tasks ahead.

Access to energy differs widely between urban and rural areas and has therefore to be addressed separately.

In urban areas electrification is a top priority. Electricity services in urban and peri-urban areas have to become financially self-sustaining through a competent power-management, realistic cost-based pricing and adhering to appropriate financial performance criteria.

Often, expanding access for the urban poor is more a matter of regulatory policy than of costs, where governments could contribute with important measures. A key issue is nevertheless – who pays the connection costs?

Operating costs are a lesser problem once there is agreement on the financing of connections. An example to deal with this is that regulators could allow companies serving urban markets to charge lifeline rates to poor customers and charge somewhat higher rates for other categories of customers to make up for lost revenues.

But it should not be forgotten that full urban electrification may not contribute to the eradication of poverty. The lack of purchasing power limits access to all kinds of energy. Especially amongst the very poor economical factors are at least as important, as the general provision of infrastructure, thus the overall issue may be addressed by various measures.

Often energy supply in isolated rural areas is financially non-viable because of low and dispersed demand, and the high costs of either grid extension or small-scale local power generation. Wherever the added operation revenues do not cover the service costs, there is no incentive to expand to new customers in rural areas. Mainly for this reason large areas of Sub-Saharan Africa have been deprived of modern energy supplies for decades.

Accordingly a decentralized approach is required and location-specific solutions are a must. The involvement and decision-making of local communities are furthermore a very important condition for success. Particularly in regions with extremely limited access or very low purchasing power, as a precursor to household access, the community has the option of focusing initially on public facilities that provide indirect access to all. Such schemes are sometimes combined with small-scale energy supplies for business use. For example, a diesel- or solar-powered platform supplying energy for water pumping, for a school, a clinic and a community centre is able to transform village life despite the continuing absence of a service to individual households as well. Nevertheless one should not forget the continuing public sector responsibilities.

It has also be thought about a subsidies-system in the rural areas. But as this is a very complex problem in rural areas and differs from area to area, grassroots initiatives are probably rather demanded than central planning.

Ensuring sound energy sector management and good governance

In many developing countries, the structure of the energy sector provides poor incentives for meeting the objectives of the sector; and operations leave much to be desired. Investment capital is in short supply and, given the large incidence of poverty, addressing social problems requires more effort than in industrialised countries. Sound sector management and good governance are prerequisites for a well-performing energy sector that is equipped to address areas of pressing social and environmental needs.

Within the energy sector there is a whole range of issues which should be in the responsibility of the government. Some areas of the energy sector are almost like public goods: Energy access for the poor, environmental and health problems through the use of energy and energy security. In other areas the private sector is involved a lot. As all of these issues are of great importance for developing countries it has to be carefully thought about an efficient and reasonable assignment of tasks between the private sector and the state / public sector.

The supply of energy and energy security is a high priority everywhere. A pressing problem concerning energy supply for a lot of countries is their absolute dependence of a foreign energy source as for example petroleum which is very sensitive to price changes. This issue is especially pertinent for those developing countries that are net importers of crude oil. Temporary supply disruptions and price shocks are almost usual in the petrol-industry. Price fluctuations of gasolines may have negative effects on the economic growth, influencing especially weak economies as such African countries, and last but not least can lead to disastrous debt problems. Especially developing countries are more vulnerable because of their much lower energy efficiencies and limited financial and technical means.

Besides the efforts on the supply end, energy efficiency measures are a key to energy security. Energy efficiency concepts and a diversification in the energy mix are not only important for developing countries but also for industrialised and developed countries. A problem concerning this issue is that policy makers until now do not fully appreciate the benefits of improved energy efficiency. Therefore, also in politics, a lot of steps have to be made in order to make these concepts working.

The development of the energy sector in many developing countries is difficult because commercial markets are constrained by a low demand density, low household incomes and, in many countries, large transportation distances. State-owned electricity utilities are often inefficient organized and work in deficit. To ensure also energy access for the poor is often neglected by the state.

Furthermore there is very often a huge lack of supply infrastructure especially in rural, unprofitable areas.

To open new energy markets cross-sector cooperation in the energy sector is absolutely needed. Moreover it is crucial to ensure that Poverty Reduction Strategy Papers are related directly to the energy sector and are not running on a separate track.

Another important point is a sound energy pricing policy which is the key to determine which energy markets are commercially viable and which ones may need support. On the one hand energy pricing should reflect concern for the poor on the other hand it is important that even regulated prices must give correct signals to consumers and end users if the energy sector is to function with a minimum of distortions within a market economy.

The most current problems in the power sector of developing countries are the following: Poor service quality and not enough state budgets and financial means are worsening the situation in the energy sector. In most of the cases a grid extension is needed as well as decentralised electricity. Furthermore operation performance is often well below commercial standards. The total revenues collected frequently do not reflect full cost of service and low rates tend to benefit the better-off, connected households, while the poor lack access.

For privatised distribution companies a clear regulatory framework is necessary. And finally it is crucial that power sector reforms are compatible with sustainable development goals holistically, including an increasing access in rural and remote areas.

New cooperation concepts between the private and the state sector are not only important in the power sector reform but also in the ownership and operation of electric utilities. The need for government intervention in the energy sector, in both urban and rural areas, will vary depending on the degree of maturity of the infrastructure and the level of private participation. Historically, most countries have seen electrification as a state responsibility in order to create a stable environment for technical development, economic growth and improving living standards. But purely public financing and provision have failed in many developing countries. Thus, poor governance substantially hinders infrastructure development and the availability of energy.

The legal framework must allow a degree of autonomy for energy companies that shield their management from political interference, while providing for competent supervision and legal recourse. The development of capabilities and institutions to regulate power markets are an important for sector reforms.

All in all it is very important not to forget, for reforming the energy sector, an integrated approach is of utmost importance. National investment needs, energy economics, macroeconomic and fiscal implications have to be taken into account as well as the social and environmental dimension of the availability of energy, to achieve a successful result at the end.

Enhancing environmental and health performance

The existing energy systems in many developed and developing countries are associated with a number of environmental problems and are also related to health problems.

The main energy-related environmental and health problems of the rural poor are caused by the use of solid fuels such as biomass and coal. Coal is for example used a lot in countries such as South Africa, India and China, which have ample coal readily available to meet the large demands of impoverished urban dwellers. Outside the cities, traditional energies like firewood, charcoal, dung and crop residues will, for many years, remain the cheapest source for cooking and heating.

Very often industries exploit forests and woodlands without regard for the sustainability of supply of the environmental externalities.

The use of solid fuels leads to severe indoor air pollution which disproportionately affects women and children. Results are increased illnesses and even death in rural and urban areas. Effective program's to reduce indoor air pollution have to be developed. Furthermore the use of biomass and fuels for cooking and heating must be improved and modernised.

Renewable energy might be part of the solution as well. It has the potential and promise of contributing to economic growth and reducing environmental impacts at the same time. Especially in remote areas, renewable energy offers potential for decentralised energy systems.

Another problem is, as countries develop, their witness towards a sharp increase in energy demand. The result is likely to be a further deterioration in the environmental and health conditions.

Developing countries are also most vulnerable to climate change as they have fewer opportunities to protect themselves from the negative consequences and associated risks, such as a crop loss or floods.

However, fossil fuels will remain the dominant energy source in developing countries in the coming decades. To reduce the negative environmental and health effects of fossil fuel production and consumption, substitution by cleaner fossil fuels - such as natural gas, and stricter environmental regulations and enforcement are an option, although cleaner fossil fuel technologies will need to be deployed.

UNIDO and its activities concerning energy for development

To improve the quality of life and the economic and social development, industrial energy is vital. The availability of affordable and sustainable energy to all people is critical to the achievement of the Millennium Development Goals. Energy is especially a prerequisite for poverty alleviation since it enables income-generating activities and the establishment of micro-enterprises. Similarly, energy helps to alleviate hunger and meet most of the other social and welfare-related MDGs by providing the light and power of that the achievement of these goals critically depends on.

In the last centuries energy has always been a central issue within UNIDO's work. With its programmes UNIDO was addressing the supply side by the provision of energy for industry, the use of renewable energy resources as well as the demand side by improving industrial energy end-use efficiency. UNIDO helps its clients to solve two fundamental problems: De-linking intensity of energy use from economic growth and reducing the environmental damage that occurs with energy use. Again, UNIDO works in close cooperation with other international bodies, including GEF, UNEP and the Montreal Protocol (see <http://www.unido.org/doc/51262>).

Under his 3 core activities UNIDO has also enlisted "Energy and Environment" besides "Poverty Reduction through productive activities" and "Trade capacity building".

Some typical examples of UNIDO projects in this field are "Energy efficiency in China" or "Micro-hydro power in India". Within the Energy efficiency project in China UNIDO tries to install industrial motor-driven systems to create opportunities for industrial energy savings.

UNIDO tries to link quality and environmental management systems with industrial system optimisation. The objective is a permanent change in corporate culture towards energy efficiency using the structure, language, and accountability of the existing ISO management structure.

Under UNIDO's Service Module 6 "Sustainable Energy and Climate Change" it is especially active in the following 3 areas: providing access to modern energy services for the poor through rural energy for productive use with emphasis on renewable energy projects, increasing industrial productivity and competitiveness through industrial energy efficiency projects, projects related to climate change.

Concerning the field: "Rural energy for productive use with emphasis on renewable energy" UNIDO considers that an effective approach to reduce and/or remove the obstacles that hinder access to affordable and sustainable energy in rural areas would have to contain three essential elements: facilitation of access; creation of employment; and technology transfer. To realise this UNIDO has developed a rural energy programme aimed at demonstrating the social and economic viability of the selected energy generating approach. Furthermore UNIDO created sustainable local enterprises that can deliver reliable energy services based on renewable energy technologies and it is also identifying income-generating activities which are related to the production and use of energy in rural areas. The beneficiaries of the programme would be/are the rural poor who would gain access to affordable and reliable energy services both to meet their basic needs (cooking, heating and lighting) and for income generating activities.

Energy efficiency is another important field where UNIDO is engaged. Industrial energy consumption has evolved into a more global environmental concern with the prospect of climate change. Therefore the issue of promoting the efficient usage of energy, including energy-saving technologies has gained growing international importance. Energy efficiency is especially something where also highly developed and industrialised countries can and have to contribute. Concerning this issue UNIDO has developed approaches at the national and industrial plant level and supports the issue by policy support and capacity building as well as with advisory services. UNIDO for example analyses energy systems that are used by industry and subsequently provides recommendations for improvements. Furthermore the organisation supports the introduction of agreements between industry and environment enforcement authorities. Last but not least UNIDO does also give assistance to promote the necessary financing and investment for energy efficiency at national and industry levels and transfers the required knowledge and skills to improve the efficiencies of industrial energy systems in developing countries.

This is so far, in brief, what UNIDO is mainly doing concerning energy-related issues. But there seems to be still a huge potential to increase UNIDO's activities in these areas.

What else could be done within UNIDO to enforce this direction? Where are possibilities within the structure of the organisation to enlarge its energy-related activities? Where can UNIDO build actively the link between energy and development? To answer these questions will be up to the delegates during the conference.

Dear Delegates

On behalf of the VIMUN-Chairteam of the UNIDO-committee please be reminded that this document is a Preparation Paper and should give you just a general overview of this topic. It should help you to get familiar with the current situation concerning the topic and provides you with some tips and hints how to prepare for the conference.

To participate actively during the committee sessions more research from your side, especially about your country's characteristics, position and needs will be necessary! You will find further tips about the country research and the position preparation as well as links for further research at the end of this paper. Further information about the conference itself and about the preparation you will get from us by Mail.

Last but not least, in all our preparations and also discussions at VIMUN 2007 it is important not to forget the following:

"When we discuss poverty alleviation, or industrial development, we must always remember it is about people. It is not an abstract concept. It is about people in my village. So let us be real, let us be practical. Theory must come to practice; practice must be financed well."

and also

"Together we can make a difference" (Kande Yumkella in his Vision statement on UNIDO 2005)

In this spirit we are looking forward to see you all at VIMUN 2007 and to have fruitful and exciting discussions together.

Your UNIDO-Team

Links for further research

Energy linked with development, Environment and sustainable development

<http://www.energyfordevelopment.org/> - The 1st World Conference on Energy for development in the Netherlands (2004)

<http://www.undp.org/energyandenvironment/> - United Nations development Programme and its energy actions

<http://www.un.org/esa/sustdev/csd/policy.htm> - Commission on sustainable development

<http://www.unep.org/themes/energy/> - United Nations Environment Programme on the issue Energy

<http://cordis.europa.eu/eesd/> - Thematic Programme of the European Commission: "Energy, Environment and Sustainable Development"

<http://www.unido.org/doc/51262> - "Energy and Environment" within UNIDO

<http://www.unido.org/doc/18258> - UNIDO Service 6: "Sustainable Energy and Climate Change"

<http://www.iea.org/> - International Energy Agency

http://www.un.org/esa/sustdev/documents/docs_csd15.htm - UN department of economic and social affairs: Division for sustainable development

http://www.un.org/esa/sustdev/publications/energy_indicators/full_report.pdf - Energy indicators for sustainable development (country studies)

Observers

<http://www.iisd.org/> - International Institute for sustainable development

<http://www.worldbank.org> – Worldbank

<http://www.oecd.org> – Organisation for economic cooperation and development

How to prepare my country's position

To be able to present your country's position in a realistic way during the VIMUN-conference, an elaborate statement and understanding of your state's position on the topics to be discussed is necessary! Here are some possible hints how to find out more about your country's position in general:

- contacting your country's Mission to the UN (sometimes they have very useful homepages)
- contacting an embassy of your country or the country's foreign ministry
- see the CIA-factbook for country facts
- checking libraries, medias, newspapers and books about your country
- looking for speeches from the countries president or foreign minister concerning the country's stance

A further useful link to prepare for VIMUN might be

<http://www.unausa.org/site/pp.asp?c=fvKRI8MPJpF&b=457131>

Here you will find a "Model UN preparation guide" with a lot of tips concerning: Research, Position Papers, Public Speaking, Rules of Procedure, Writing Resolutions and Dress Code. But keep in mind: VIMUN has specific Rules of Procedure and Resolutions Writing etc – this link can just give you some general ideas about a Model of United Nations.