

Round Table Raport “Energy Efficiency and Renewable Sources of Energy”

FIRST SESSION

The round table on "Energy Efficiency and Renewable Sources of Energy", organized by the Aspen Institute Romania on 07.07.2009 at the Romanian Parliament, aimed to identify the best options and measures to increase energy security and to counter the effects of global warming by improving energy efficiency and the use of renewable sources energy.

In the first session of the round table, the issues discussed were the importance of energy efficiency, the challenges faced by Romania in this area and the solutions that should be taken into consideration. Investment in the energy area is an obligation and an opportunity during the current financial crisis, especially given that such investment can improve the competitiveness of Romanian economy on short and medium term. In addition, an investment in the energy area can create tens of thousands of new jobs in the upcoming years. Unfortunately, in these times of crisis, we tend to deal only with short term goals, which sometimes "inhibit" decisions that should be taken on the long term.

Romania is unable to implement the existing legislative framework and a set of policies which are officially undertaken by state institutions. Thus, a coherent program to increase energy efficiency would reduce Romanian energy waste by nearly 40%, which is exactly the percentage covered by energy and natural gas imports.

Another important objective is related to the energy target of 20% of energy production from renewable sources. The possibility of producing energy from waste should be taken into account considering the mandatory closure of landfills. This also includes the CHP plants based on biomass in the environmental and energy policies. Romania is in the process of reengineering the collection and storage systems of municipal, industrial and agriculture waste which is a moment of strategic opportunity to introduce clean management technologies for wastes and cogeneration.

Further, representatives of the largest producer and consumer of energy in Romania, Petrom, discussed the importance of energy efficiency and the role they want to take in this area. Petrom, who is one of most important internal consumers of energy, presented their strategy of implementation on energy efficiency. Energy efficiency is important to Petrom because of the impact that it has on economic efficiency which can improve energy costs and profit margin, the reducing of carbon dioxide emissions that are covered by the EU ETS scheme and leading an example in sustainable energy. Petrom uses 5% of the total energy consumption of Romania. This is why the earnings of energy that Petrom can obtain in various branches of activity will be reflected not only in its performance, but in the Romanian balance as a whole. If we assume that Petrom's potential energy is between 10-15%, after a restructuring and modernization process, it means that Petrom can achieve half of the minimum target of 1% energy savings per year at national level as required by the European legislation. Of course, it is neither possible, nor desirable to rely on achieving the Romanian

energy savings target based exclusively only on Petrom's efforts. The entire industry and other consuming sectors should mobilize for this purpose.

In 2008, Petrom has obtained a performance of the refineries by reducing oil consumption from 12.5% to 11.5%, saving nearly 10% of current consumption. And, in terms of exploration and production, Petrom has implemented a new energy monitoring system based on smart meters. Petrom suggests that partnerships are very important in this period of time. Therefore, they are planning to organize a forum of energy efficiency in November and are hoping to consolidate as many partnerships in this area. Petrom wants to invest more in renewable sources of energy and in the capture and storage of carbon.

The issues discussed in the first session included the importance of industry as a potential in energy efficiency, as well as a sector which will further contribute to the economic development of Romania. It is important to restructure, modernize and regenerate the industry, and the programs aimed at increasing energy efficiency will certainly contribute to this. The result might even be a reindustrialization based on efficient technologies, aiming to stimulate producers of energy efficient equipment, as well as those necessary to exploit the renewable sources.

Consequently, Romania has to reduce energy consumption in the major consuming sectors of industry, public sector, transportation sector and households. One should take into consideration the entire energy chain from production to consumption. One obvious problem is the electro-energetic Romanian system which is equipped at this time with energy groups made in the 70's. Therefore, the energy efficiency production by fossil fuel is reduced by 31%, taking into account that by 2020 EU's new policy aims to reduce primary global energy consumption by 20%.

Thus, we need to encourage the installation of new energy groups and not the investment in already existing energy groups with low performance; significant investment must be made to create programs for environmental protection. Due to the significant losses in these areas, it should be mandatory to use energy groups using modern technology with zero emissions, to capture and store carbon dioxide, to rehabilitate electricity production and transport systems. The public sector should be encouraged to reduce consumption in public buildings and housing, to rehabilitate the heating systems in buildings for more efficient use of electricity, by simply upgrading the lighting system inside and outside.

In this context, it is important to continue government programs such as the green house project meant for private buildings and public institutions.

Problems were also reported in regards to banks. The EU/EBRD Energy Efficiency Finance Facility was created especially for small customers, which will be able borrow up to 2.5 million EUR from a participating bank. But this initiative is quite difficult to implement given that only 6 of the applicants have received funds to date and the remainder are trapped at the level of local banks. This problem occurs when other companies owned by international companies prefer to use international sources of financing. This is obviously because interest rates are much lower in other countries. Thus, companies that invest more in energy efficiency do not use the EEFF facilities.

This problem is also influenced by the economic crisis. Romanian companies do not lend money to the banks for investment, but for the use of working capital. Thus, investments have decreased greatly with the beginning of the financial crisis, and banks do not want to risk making loans especially in the industry, metallurgical and construction areas. Furthermore, structural funds are complementary, but are not competing with the EEFF procedure. Large funds are tempting, but are difficult to access, and getting them requires much time.

Thus, numerous energy projects are blocked because of exorbitant funding quotations, lack of money in the Environment Fond and the impossibility of Romanian companies to access EU funds. Efforts should be made to create more efficient facilities of energy consumption and to implement energy projects in line with the protection of the environment.

Currently, in Romania there are 85,000 apartment buildings that need thermal rehabilitation, and until now only 100 of them have been fixed. Even if 300 million euros would be allocated yearly for this program, the project would be completed over 20 years. Therefore, the experts believe that the government program which offers subsidies of 90% for thermal rehabilitation works is not the best solution for this problem.

The conclusions after the first session were that there is a need for a better coordination and consistency of the programs and policies. Energy efficiency is a problem that intervenes in many other sectors. It is a precondition for renewable sources of energy and for achieving the target percentage of final consumption, which we can limit through energy efficiency measures. Consequently, to ensure the success of a set of energy efficiency policies at national level in both the private and the public sector, it should include items related to financing mechanisms for investment. This involves fiscal measures (tax credits or reductions), and budgetary measures at central and local level, but also strategic measures in choosing public investment in energy efficiency projects.

In order to achieve this consistent plan in the energy area, the participants proposed the establishment of a ministry of energy and resources and an Institute of Strategic Planning. It is possible that Romania does not have yet an economic and energy long term strategy, due to the lack of this institution.

Another component for the national plan of energy efficiency consumption and promotion of renewable energies is a coherent strategy of communication. Experts in the field of energy consider that there is a need for coherent communication to the end user, who needs to understand that he/she can benefit directly by reducing energy consumption.

Therefore, measures are necessary for the short and long term, wastes can be used for energy production, the thermal rehabilitation of apartment buildings and public buildings needs to be reconsidered, and there should be incentives to promote cogeneration.

SECOND SESSION

In the second session of the round table, renewable sources of energy were discussed. Romania has a potential wind power of about 14,000 MW, and demands already exceed 17,000 MW. On top of this wind energy natural asset, Romania also has a capacity of another several thousand megawatts from hydro, solar and biomass, which unfortunately are not explored enough. Thus, those present to the discussion indicated the need to adopt a clear mechanism for the promotion of all renewable resources in Romania, which can produce both electricity and heat. The choice is not only between different types of generation, but also

between different types of optimal energy mix. Each type of renewable energy creates special problems and therefore, between the installable theoretical capacity and the desired economic, social and strategic capacity there are important distinctions. For example, the wind energy has limited financial gain and would not create many job opportunities in Romania.

In general, the problems of the companies wishing to invest in this area are caused both by inconsistent and unstable laws, and by the poor training of the authorities, both in central and local governments. More and more investors could give up on their projects in Romania if the authorities will not clarify the legislative framework.

Another alarming issue for those who wish to invest in this area is the 220/2008 law which supports renewable sources of energy and which does not have yet the necessary implementing measures. This problem combined with the effects of the crisis, which lead to a difficult and more expensive financing, but also to a reduction of energy consumption, puts in stand-by more and more projects. At the same time, the European legislation risks to rock the domestic legal framework even before the actual implementation of the law. The experts raised a question regarding the transparency and efficiency of planning and implementation of the legal framework.

Large energy companies, although they have liquidity problems, are now expecting to see such regulations, and economic evolution. The energy sector in the area of renewable sources can take Romania out of the crisis, due to the billion of euros investments made currently in this area.

In the second session, the experts drew attention towards CHP plants. Currently, the heat supplied to the Romanian population is produced mostly in CHP plants. However, their technical level corresponds to the 1960s-1970s. In order to sustain these capabilities and to supply the population with thermal energy, several amounts have been allocated from the state and local budgets. However, they were insufficient and used mainly for upgrading the heating system of settlements, especially in distribution networks rather than in units for production of electricity and heat.

In addition, these systems come in direct competition with other sources of heating present on the heat energy market. This type of solution represents a significant source of pollution in residential areas, with serious effects on human health and environmental pollution, including the increase of the level of greenhouse gas emissions.

The new European directive on renewable energies was also mentioned. This brings the biofuels and electricity under the same umbrella and adds two more areas, heating and air conditioning. The directive states that renewable energy sources must ensure a mandatory 20% of energy consumption of the European Union until 2020. Romania must provide the European Commission until June 2010, with a strategy regarding renewable energy and details on how the 24% of energy would be produced from renewable sources. Currently, Romania produces about 18% of energy from renewable sources, hydro and biomass. Thus, Romania has practically a year to identify how to grow with six percent by 2020.

This will be very difficult to achieve because consumption will increase and so the share will be even greater. It is difficult already to maintain the current percentage in the Romanian energy mix. It is also necessary to invest in the units of the hydro system which are already becoming rudimentary.

Also, the state must support and promote biomass as a source of energy. Households should be encouraged to continue to use biomass. Other solutions would be to implement individual central heating which works on biomass and to introduce efficient stoves that reduce consumer costs and emission levels.

There are opportunities in using both wind, hydro and solar resources. This is extremely obvious especially in the micro-hydro and solar systems with increased efficiency by small photovoltaic power or by generation of steam or heat.

The conclusion of the second session was that there is not a transparent and predictable mechanism for a period long enough to ensure stability for the investors. It is necessary to gradually replace inefficient cogeneration plants and reduce existing emissions of greenhouse gases nationally. There is a need for leadership and a better coordination between institutions. We need action plans, but also an effective implementation of these and to ensure a better communication between all the components of society.

The discussions indicated on one hand the coherence of the domestic actors and of the investment environment in terms of diagnosing the system's problems, and on the other hand the lack of coherence and predictable continuity in the sector policies. Another issue is the difficulty of accessing the structural funds in this field caused by the slowness of decisions of national authorities and bank financing difficulties. There is an obvious need to increase coordination of energy policies of generation and efficiency, and to increase and facilitate the financing mechanisms and fiscal support. Four priority areas are:

1. To create a long term coherence and continuity in the strategic plan and options of the national and regional government. In other words, create stability in planning;
2. To establish a transparent and stable regulatory framework that allows the investing companies and beneficiaries of the generation systems or efficiency to make long term decisions, also including the legislative items in the *acquis communautaire*;
3. To set up a priority mechanism for bank financing decisions that facilitates investment in energy, especially for those with potential in European financing;
4. To establish a fiscal framework that sustains the public and private investments in energy from renewable sources and the measures of energy efficiency through tariff and tax credits mechanisms.

All the priorities mentioned above are hard to achieve without a central level of strategic energy planning and by monitoring the cross-sectoral impact of options and decisions on public investment, fiscal and regulations etc..