

RESEARCH AND DEVELOPMENT

STATEMENT OF PRINCIPLES

Kosovo's growing energy sector should be used to significantly strengthen the capacity technology transfer and innovation and to establish a leading edge energy research and development center.

One of the essential components of a successful modern society is a culture that supports innovation through research and development (R&D). The energy sector presents a rich and diverse set of R&D opportunities. They include energy efficiency, monitoring and management of energy use, renewable sources, and particularly relevant rapidly expanding field of clean coal technologies.

Kosovo has a long tradition in energy sector development. It is capable to create synergies among all the relevant players – universities, government and private sector – to develop a broadly based capability in energy related applications and innovations.

BACKGROUND

Research and development are two parts of the innovation continuum. Research, the discovery of new knowledge, is a principal activity of universities as well as some government and private institutions. Development is more appropriately the domain of industry, where new knowledge can be turned into more concrete forms, such as inventions or applications useful to society.

Kosovo has the youngest population in Europe. Therefore it is faced with large number of new students that are entering into Prishtina University every year. However, the University in general and in the energy sector in particular has suffered from the years of decline in academic development.

Innovations and new technologies are the key factors of economical development. Therefore it is important for Kosovo at current transitional phase of stabilization and development, to create conditions for fast gaining of knowledge in energy sector, and to create necessary institutions for preparing the staff that would implement such knowledge and lead the R&D programs in the future.

Having in mind that Kosovo main domestic resource is lignite that is used for electricity generation – clean coal technology is on the forefront of immediate know-how transfer interest, followed by other energy conversion technologies.

Further, coal, mineral ores and other raw material processing requires significant amount of energy, and also creates most of the non-transport

related environmental pollution. Therefore “Clean Production Technologies” are other focal area for know-how transfer and R&D promotion. Clean production represents continuity of preventive strategy that is based on processes, products and services, and continual search for economic, social, health, security and environmental benefits. Clean production includes not just conventional “hard” technologies, but also management based “soft” technologies starts from the concept that decreasing environmental burden starting from raw materials extraction, through processing until disposal of products and reuse of waste.

STRATEGY OBJECTIVES

- To enhance Kosovo research base so that it has capacity to support energy sector, develop new approaches to its traditional lignite sector, and guide it through eventual transition to an energy economy based on renewable sources.
- To create university-private sector – government partnerships that will strengthen energy sector R&D, and help multiply government funding with private and international funds.
- To create a culture shift in Kosovo toward a knowledge and innovation based economy through enhanced research and development in energy.

Actions to achieve objectives

CAPACITY BUILDING

Although Kosovo has institutions and personnel that routinely perform R&D, actual state of the art of the R&D capabilities in the energy sector is far behind European standards.

Realizing that R&D is a potentially important tool for implementing the goals of the energy strategy, new mechanism will be employed to create additional R&D capacity.

Building capacity will not occur quickly or spontaneously. It will be a stepped process, extending over an extended period and requiring funding and incentives.

A four-phased approach to building public research capacity in energy is proposed.

Phase 1: Technology and know-how transfer

The first phase should focus on bridging the gap between Kosovo Technical University and its European counterparts. Future centers of excellence in related technical fields needs to be recognized and Government's and

donors efforts directed in creating a human resource and material base for R&D programs in energy through programs of international cooperation, twinning arrangements, scholars exchange, joint research project, students.

Phase 2: Drawing researchers into high-priority projects

The second phase will be a form of outreach to the researchers in the form of funding for specified contractual research. This will signal the importance of R&D and explicitly solicit external participation, create incentives for research, and provide the initial conditions or collaboration between government, the private sector, University and researchers.

Phase 3: Developing consortia focused on important commercial opportunities

The third phase is the creation of consortia with private, public and university partners. Governmental funding needs to be secured for support of long-term public-private associations with well-defined business and R&D plans.

Phase 4: Encouraging commercialisation

Contractual success leading to more refined and focused research, carried out by consortia, would yield proprietary results, which could be either absorbed by the partners or spun off into joint ventures or new companies. At this point the process will become self-sustaining, still with government involvement, but relying more on direct interactions between private and public sector institutions and researchers.

GOVERNMENT ROLE AND RESPONSIBILITY

The government is responsible for the R&D policy framework within which energy sector programs are managed, and for basic funding of R&D activities.

However, fostering a broad research and development strategy requires leadership and focus. Therefore Energy Department will develop a small group to work with other Ministries, the University, and the private sector to coordinate this growth. The group will help to build partnerships, secure funding, and help identify research opportunities.