



Energy Agency of the Republic of Macedonia

“Financing Energy Efficiency Investment for Climate Change Mitigation”

Present situation of UN ECE 21 Grant No.: ECE/GC/2008/031

&

Possibilities for financing EE and RES

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- **Memorandum of Understanding between UNECE and EARM (NPI) is signed on February 9, 2009,**
- **Project team at NPI is established,**
- **Procedures for opening special grant account at National Bank of RM is started on February 10, 2009 by issuing request to the Ministry of Economy,**
- **Project document, MoU, ToR, Working Plan etc are officially translated in to Macedonian language,**
- **Translated project documents are disseminated to the authorities.**



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- **Country mostly preoccupied with fossil projects,**
- **High potential for developing energy production from RES:**
- **geothermal energy production is estimated at 210 000 MWh per year.**
- **400 potential small hydro plants from 45 kW up to 5000 kW (225 MW in capacity and 1100 GWh in terms of annual energy production)**
- **No wind turbines for energy production installed,**
- **The technical potential of biomass is estimated at 3361 GWh**
- **Potential annual solar energy value of 10 GWh**



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- **120 projects realized; 80 for preparation of technical investment documentation, other for realization of concrete projects for efficient use of the available energy and use of renewable energy sources.**
- **Realized projects in: wood industry, food industry, leather industry, chemical industry, building industry, metal industry, textile industry, industry for production of electrical machines and appliances, medical centers, balneology, municipal sectors, black metallurgy and**
- **ceramic industry.**
- **7% reduction of the total energy consumption of the Republic has been obtained.**



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- **In 1994 from EBRD a credit line of 4.500.000 € has been provided for realization of projects for rational energy consumption.**
- **27 enterprises were co-financed for interventions in energy efficiency, 15 for pre-adaptation of the boiler plants to use natural gas and 12 for efficient energy use.**
PSO Program (Dutch) 1998-2003, grant of 3.500.000 €
- **4 projects for efficient energy use and use of RES were realized: “Energy saving in the factory Evropa AD Skopje”, “Utilization of biomass for the energy needs of the factory Lozar AD-Veles”, “Substitution of coal with heavy fuel and natural gas”-TETEKS- Tetovo and “Market oriented improvement of the program for valves and joints in MZT, Makedonija”.**



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- **In 1998 through World Bank a grant was provided for preparation of “Program Small-Scale Hydropower Plants”**
- **With this program 70 cases of small scale hydropower plants were elaborated with total installed power of 183 MW and annual power production of 700 GWh.**
- **In continuation of this Program, also with financial support from WB, 4 small-scale hydropower plants were built.**



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Austrian bilateral cooperation

- **In 1988 a grant of 400.000 € for realization of the project “Geothermal System – Kocani” and 420.000 € for realization of the project “Geothermal System – Vinica”.**
- **2005-2007, 300.000 € for realization of the program “Solar Water Heaters”.**
- **Japanese grant, 2004, for Study preparation for gas Cogeneration Cycle Heat Plant to be built in Skopje Installed capacity should be 190 MWe and 150 MWt.**
- **In the frames of the cooperation with the Swiss Confederation in 2004, 250.000 CHF will be provided for realization of Energy Efficiency Program.**



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- **Sustainable Energy Project GEF grant of 5.500.000 USD.**
- **Development of energy market and motivation of investments in energy efficiency and using renewable energy with removal of the institutional and financial barriers.**
- **Identification and development of EE and RE Projects (PDAF)**
- **Guaranty and Loan Facilities (SEFF)**
- **Guarantee Facility is in amount of 1.2 US\$ millions**
- **Loan Facility is in amount of 2.5 US\$ millions.**
- **Initial SEFF capitalization of \$3.7 million (GEF) and up to \$2.5 million provided by the MBDP**



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Key terms of the guarantee program include the following:

- **Guarantee percentage: 50% of principal for simplified procedures; maximum of 70% for standard procedure;**
- **Maximum guarantee term: 10 years;**
- **Maximum single transaction guarantee limit: \$500,000;**
- **Guarantee fee pricing: 0,5% one-time up-front fees based on guarantee liability plus 2% annual fees on outstanding liability**

Specific eligible investments but not limited to include:

- **Improvement of the building envelope;**
- **Improvements to building mechanical heating ventilation and air conditioning (HVAC);**
- **Improvements to interior and exterior building lighting; and**
- **Street lighting.**



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Loans for EE investments

- **Loans for EE investments will be made on a commercial basis to creditworthy customers, with market rates and medium-length up to 4 years tenors**
- **The projects are expected to be in the range of US\$100,000 to US\$500,000**
- **Projects with relatively short payback time**
- **At least half of the project's benefits should come from measurable energy savings**



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Loans for RE

- The facility will provide long-term loans (10 years, with a 3-year grace period) at commercial interest rates, subordinate to senior notes
- Typically the facility would provide from 20% to 40% of total capital in a project
- Co-financing from commercial lenders and sponsor equity will be required
- The projects are expected to be in the range of US\$500,000 to US\$4,000,000
- Focus initially on small (mini) hydro, biomass and geothermal
- The pay-back time of the investments must be higher than 5 years