



**Climate Change mitigation potential in
the Republic of Moldova through
financing investments in Energy
Efficiency and renewable energy projects**

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Republic of Moldova's vulnerability on external sources of energy.

The own energy sources in the energetic balance for 2007 year consisted 4.3% from the total RES.

In the next decade the energy consumption is estimated to be :

1.55 times higher for gas,

24.5% growth of oil products,

2.25 times higher for electricity consumption.

One of the solutions is to shift gradually to bioenergy and ensure country's energy security.

Over half of country population (59.0%) lives in rural area, and 40,7% of the total number of people employed on labor market are involved in agricultural sector.

Bioenergy production will ensure also increased income and improved livelihood of farming families

Basic energy and economic indicators of the Republic of Moldova til 2010

| Energy and economic indicators | 1998 | 1999 | 2000 | 2005 | 2010 |
|--|-------|-------|-------|-------|-------|
| GDP, billions MDL | 12.16 | 11.70 | 11.66 | 15.52 | 19.00 |
| Population, mil. inhabitants | 3.648 | 3.650 | 3.650 | 3.650 | 3.650 |
| Energy intensity, t.c.e./1000 MDL | 0,36 | 0,36 | 0,36 | 0,32 | 0,31 |
| Consumption of primary energy resources, total, million t.c.e., including: | 4,35 | 4,2 | 4,2 | 5,0 | 6,0 |
| 1. Natural gas, million t.c.e. | 2,4 | 2,4 | 2,4 | 3,06 | 3,72 |
| 2. Coal, million t.c.e. | 0,4 | 0,4 | 0,4 | 0,44 | 0,49 |
| 3. Oil product, million t.c.e. | 1,16 | 1,14 | 1,14 | 1,23 | 1,42 |
| 4. Electricity consumption, billion. kWh | 4,4 | 3,5 | 3,5 | 6,0 | 8,3 |
| 5. Consumption of primary energy resources per capita, t.c.e./per capita | 1,19 | 1,15 | 1,15 | 1,37 | 1,64 |
| 6. Consumption of electricity per capita, kWh/per capita | 1,206 | 959 | 959 | 1,644 | 2,274 |
| Note: Energy indicators are presented without taking into account the Transnistrian region. | | | | | |

Proposed Projects for Financing in the Republic of Moldova for Climate Change Mitigation and Adaptation Measures Implementation within 2009-2013 period

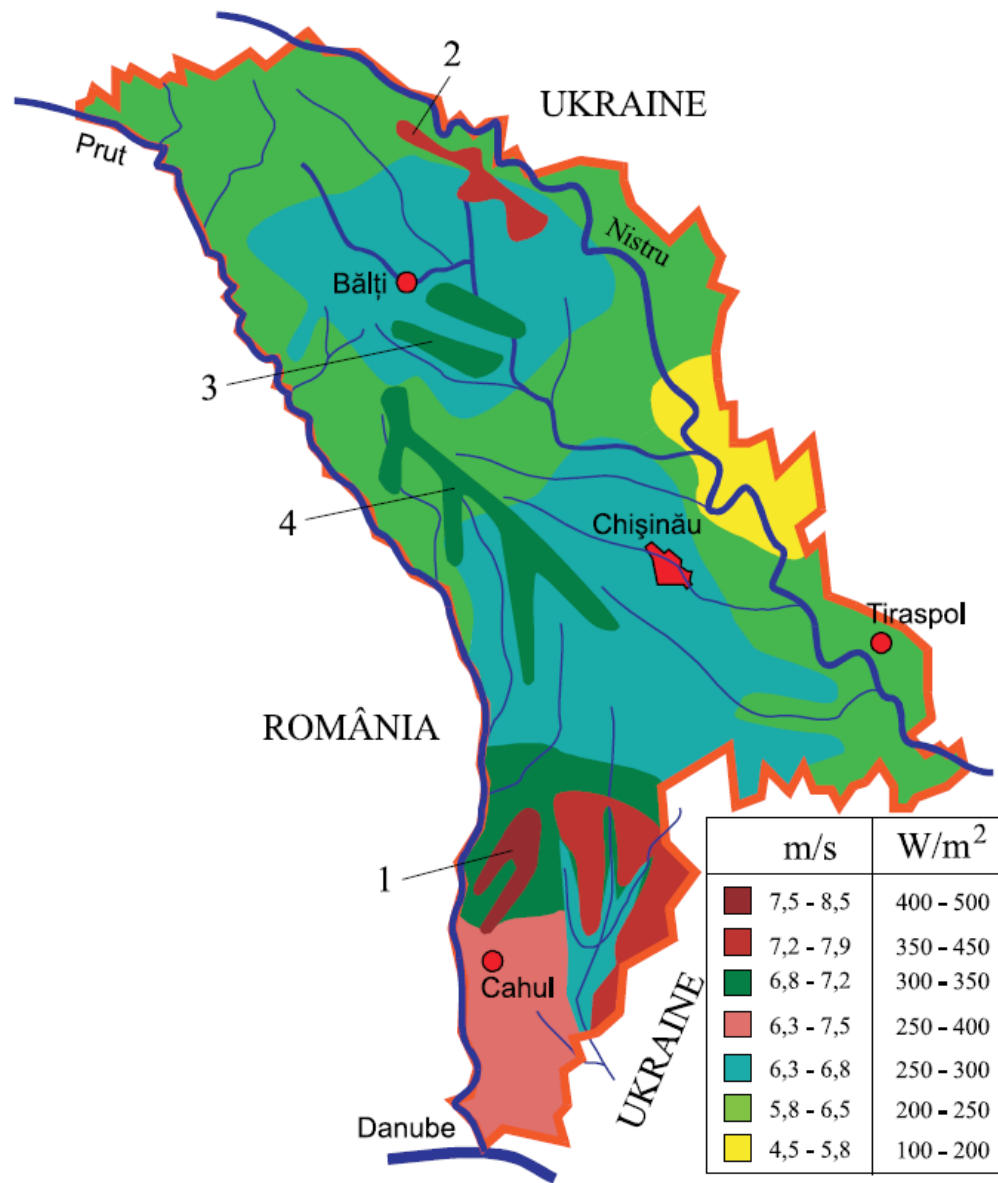
| Projects | Total cost, million | |
|---|---------------------|-------|
| | MDL | USD |
| Modernization, re-equipment of the CHP-1 in Chisinau and enhancing electric power generation capacity up to 90 MW | 350 | 31 |
| Modernization, re-equipment of the CHP-North in Balti and enhancing electric power generation capacity up to 100 MW | 650 | 58 |
| Modernization, re-equipment of the CHP-2 in Chisinau and enhancing electric power generation capacity up to 440 MW | 3,500 | 310 |
| Construction of a new TPP with a total installed capacity of 350 MW in Ungheni; | 9,500 | 841 |
| Modernization of thermal power production capacities and modernization of thermal plants into combined heat and power plants | 100 | 9 |
| Rehabilitation of the main heat supply and distribution networks in Chisinau municipality | 350 | 31 |
| Sustainable extension of natural gas distribution network and ensuring complete gasification of the Republic of Moldova | 1,500 | 133 |
| Construction of wind farms on potentially productive territories, such as Tigheci Highlands, Dnistrean Highlands, Ciuluc Hills, Hills of the Central Moldovan Upland and the hilly areas in Cahul and Taraclia regions, with a total installed power of 20 MW | 500 | 44 |
| Construction of in- flow micro-hydro-power plants on the Dniester, Pruth and Reut rivers with a total installed power of 3 MW | 50 | 4 |
| Construction of two plants for industrial production of bioethanol | 750 | 66 |
| Construction of two plants for industrial production of biodiesel oil | 100 | 9 |
| Implementing energy conservation programs in diverse branches of national economy, in particular in energy, manufacturing industry and constructions, transport, institutional and residential sector | 500 | 44 |
| Rehabilitation of the national and local roads network of the Republic of Moldova in conformity with the long term rehabilitation Plan | 21,181 | 1,875 |
| Rehabilitation of the railways network of the Republic of Moldova in conformity with the short term railways infrastructure rehabilitation Plan | 900 | 80 |
| Rehabilitation of internal waterways of the Republic of Moldova and improving the operational features of the hydraulic engineering installations | 500 | 44 |
| Optimization of industrial sector through technology transfer activities and energy conservation measures and reducing energy intensity per unit of production | 600 | 53 |
| Rehabilitation of irrigation systems in the Republic of Moldova | 924 | 82 |
| Construction of new irrigation systems in the Republic of Moldova | 2,600 | 230 |
| Implementing soil erosion control activities, using poorly productive lands and enhancing soil fertility | 690 | 61 |
| Endowment and modernisation of small and medium animal breeding farms | 101 | 9 |
| Planting of green protection strips around agricultural lands (12.1 thousand ha), antierosional (28.3 thousand ha) and water protecting (14.9 thousand ha) | 1,500 | 133 |
| Expanding forest areas by circa 7.5 thousand ha annually (prospectively, up to 20 percent of the territory of the country) on the account of degraded lands and privately owned lands | 1,400 | 124 |
| Expansion of grasslands by 3.9 thousand ha annually (prospectively, up to 20 percent of the territory of the country) on the account of eroded agricultural lands, slopes exceeding 7° etc. | 140 | 12 |
| Ecological reconstruction of the standing stock which does not correspond to stationary conditions (1.9 thousand ha annually) | 250 | 22 |
| Establishing ecological community networks and development of local programs on use, conservation and sustainable development of forestlands and grasslands | 180 | 16 |
| Planting of 20 thousand ha of energy forest to meet the public demand for fuel wood used for heating and cooking | 640 | 57 |
| Identification and implementation new solutions for preventing, minimization, recycling, and waste disposal, aiming at greenhouse gas emissions abatement in the Republic of Moldova | 100 | 9 |
| Recovery of methane from the existent solid waste disposal sites in the Republic of Moldova | 300 | 27 |
| Construction of municipal solid waste incineration plants in urban areas of the Republic of Moldova | 2,700 | 239 |
| Modernization, upgrading and construction of new water supply systems in the Republic of Moldova | 4,480 | 397 |
| Modernization, upgrading and construction of new sewerage systems in the Republic of Moldova | 2,987 | 264 |
| Reconstruction of municipal and industrial wastewater treatment plants in the Republic of Moldova | 2,500 | 221 |

Financial Needs of the Republic of Moldova for Climate Change Mitigation and Adaptation Measures Implementation for the period 2009-2013

| Areas / Sectors | Financial Needs | | % from the total |
|-----------------------------------|-----------------|--------------------------|------------------|
| | Million MDL | Million USD ¹ | |
| Electrical and Thermal Power | 18,824 | 1,666 | 24.0 |
| Transport and Road Administration | 25,632 | 2,269 | 32.7 |
| Gas and Oil Products Supply | 2,300 | 204 | 2.9 |
| Industry | 3,341 | 296 | 4.3 |
| Agriculture | 6,536 | 578 | 8.3 |
| Forestry | 6,045 | 535 | 7.7 |
| Waste Management | 5,516 | 488 | 7.0 |
| Water Supply and Sewerage Systems | 7,467 | 661 | 9.5 |
| Human Health | 2,818 | 249 | 3.6 |
| Total | 78,480 | 6,946 | 100.0 |

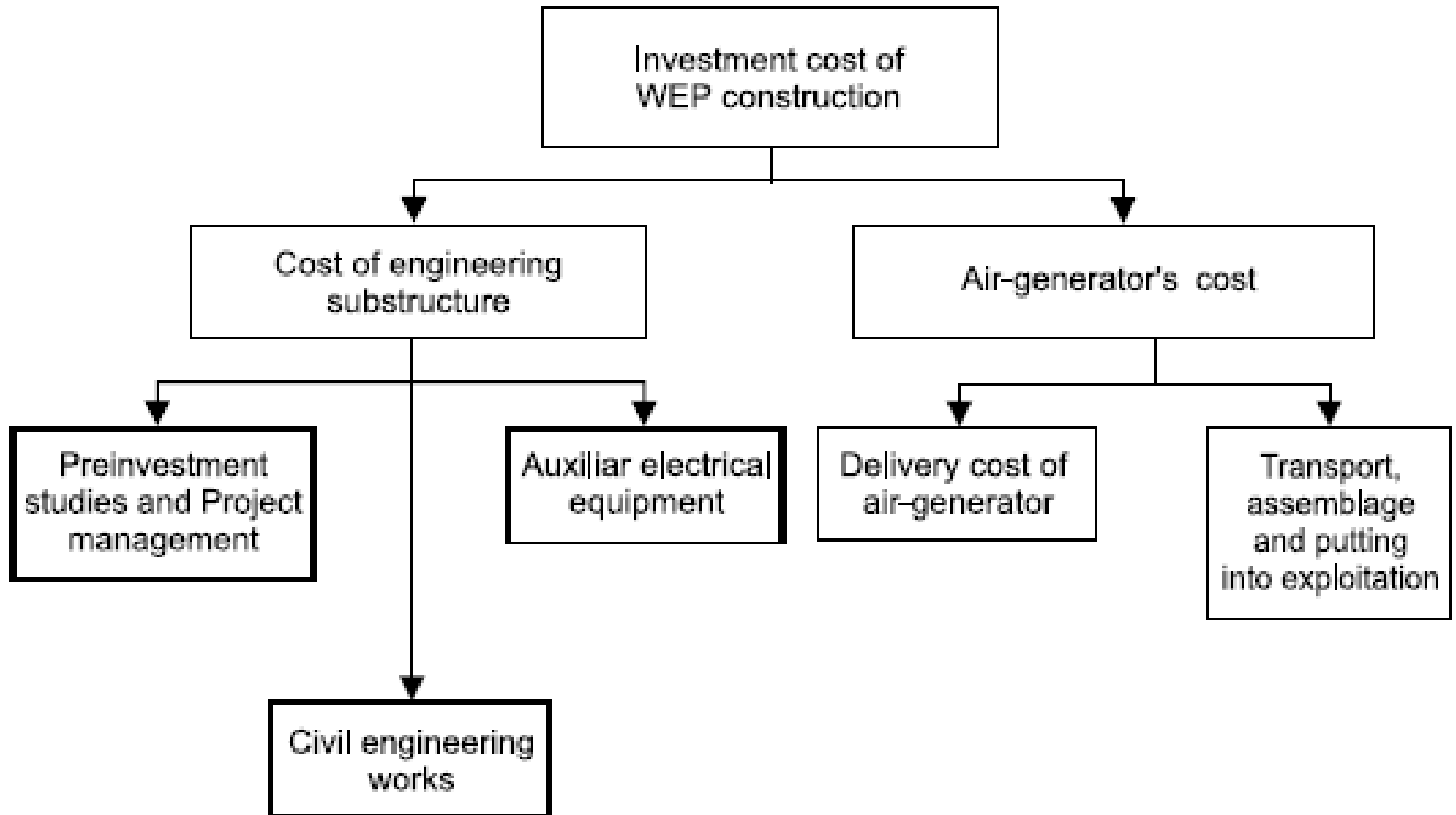
Potential of Renewable Energy .

If, for example, the Republic of Moldova would propose itself, as a strategic task, to cover towards 2020, 10% of internal demand (8,60 trillions kWh) with wind electrical energy, t bus the quantity of annually avoided CO2 would constitute 735 thousands tons.



The map of the wind energy potential of the Republic of Moldova, at a height of 70 m above the ground

The structure of the investments in wind energy power plant (WEP)



Wind Farms “Moldova’s wind waves”

PROJECT PIPELINE SUMMARY

SUMMARY OF THE INDICATIVE BORROWING REQUIREMENTS

for projects in the participating countries (see Note 1) for submission to the Investment Fund Designer or Financing Coordinator for public-private partnership investment fund(s) to be established under the auspices of and in the framework of the UNECE project Financing Energy Efficiency and Renewable Energy Investments for Climate Change Mitigation (FEEI) in order primarily to promote opportunities for investors and commercial banks to invest in the area of climate change mitigation including renewable energy and energy efficiency.

Thank you!

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