

## **CTI-Investors Forum for CDM and JI projects**

### **Country Profiles**

**14-16 October 2007  
Hotel Breitenfelder Hof, Leipzig**

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## **1. Albania**

### **1.1 General Overview**

The Republic of Albania has joined the United Nations Framework Convention on Climate Change in 1995. As a non-Annex I party to the Convention, Albania has finalized and submitted its First National Communication at COP 8 on October 2002. The country has finished the first step in the process of the preparation of the Second National Communication, by finalizing the self-assessment exercise and by producing the Synthesis Report on stocktaking of climate change activities. As a follow up to the stocktaking exercise, in March 2005, Albania has started the UNDP/GEF funded project for preparation of the Second National Communication.

Albania ratified the Kyoto Protocol on December 2004. The DNA was established within the Climate Change Unit of the Ministry of Environment, Forests and Water Administration. National rules and procedures for JI are not yet in place.

### **1.2 Potential**

In general, there is a large potential for GHG mitigation especially in the Albanian hydro sector. Apart from the 11 hydropower plants (HPPs) identified by Italy (see below), there are more hydropower projects that could be realized as CDM in the future, although the projects identified by Italy are the most reasonable ones so far.

According to Albania's Second National Communication to the UNFCCC, total GHG emissions in 2005 reached 8.5 mln t CO<sub>2</sub>e/year. Without additional emission reduction measures GHG level will reach 37 mln t CO<sub>2</sub>e in 2020. Sectors with most emission reduction potential are the energy sector (400 000 t CO<sub>2</sub>/year), renewable energies (1.35 mln t CO<sub>2</sub>/year), waste sector (130 000 t CO<sub>2</sub>/year) and LULUCF (620 000 t CO<sub>2</sub>/year). In total, there is a potential of 2.5 mln t CO<sub>2</sub> emission reduction per year, with hydropower and forestry accounting for 75% of it.

### **1.3 Current International Cooperation**

Currently, there are several countries and international institutions engaged in CDM activities and capacity building in Albania. MoUs were signed with Denmark and Italy.

Key expected deliverables of cooperation with Italy are the development of a package of rules and procedures for CDM approval and DNA functioning, the development of standard baselines for energy and forestry sectors and a national strategy for positioning Albania in the carbon market.

Italy has already supported the development of a DNA report that included an analysis of existing institutional and legal frameworks in the field of CDM. With Italian support a local unit was established in Tirana to facilitate the overall CDM exercise in Albania.

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Italy also elaborated a portfolio of potential CDM projects (PIN status) in the field of energy efficiency and renewable energy. With Italian cooperation, 11 projects have been developed in different sectors (waste management (3), renewable energy (2), energy efficiency/fuel switch (5), afforestation (1)). The presentation of the CDM project portfolio took place in Milan, Italy in May 2007. The Albanian Ministry for the Environment issued a call for tender for the feasibility studies in September 2007. Italy aims at further broaden Albania's capacity for the preparations of PINs and PDDs.

The Austrian Development Assistance is also involved in CDM capacity building in Albania. It focuses mostly on the same issues as the Italian cooperation. Austria has elaborated a report on CDM in the Albanian energy sector. An increased interest has been shown by Austrian private companies especially for the development of the CDM projects in the area of construction and rehabilitation of small hydro-power plants. Furthermore, under the framework of the UNDP/Austrian Government project "Capacity building to access carbon finance in Albania", which officially started in June 2007, a pipeline is currently being developed. There is no information available about specific projects yet.

The World Bank Carbon Fund has developed at least one project in Albania. The KfW has also carried out an initial assessment on a potential CDM project with the aim of carbon sequestration through natural regeneration of forests around the Prespa lake. Apart from the CDM activities, UNDP and KfW are also active in the promotion of energy efficiency in Albania.

## **1.4 Outlook**

There is still a lack of national rules and procedures for CDM project approval in Albania. The technical and financial capacity to elaborate PINs and PDDs is low. There is only limited knowledge on the advantages of carbon finance to the economics of investment (IRR). Project owners lack of national data for the estimation of the baseline emissions. Attempts to get involved into carbon finance have started relatively late compared to other countries so that investors have shown little interest in the country in the past.

## **2. Armenia**

### **2.1 General Overview**

The Republic of Armenia signed the UN Framework Convention on Climate Change in June 1992 and ratified it in May 1993. According to the provisions envisaged by Art. 4.1 of the Convention, the Republic of Armenia as a non Annex I Party has prepared its First National Communication on Climate Change and submitted it to COP IV. In December 2002, the National Assembly of Armenia ratified the Kyoto Protocol, which made Armenia the 108th Party to join the Protocol.

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In 2003, the Ministry of Nature Protection of Armenia was appointed as the Designated National Authority for CDM under the Kyoto Protocol. National procedures for the approval of CDM projects are in place. The letter of endorsement will be issued 15 days after the submission of the PIN. The PDD must be revised or approved no later than 30 days after submission. The approval procedures include consultations with the Ministry of Trade and Economic Development and the Ministry of Labor and Social Security as well as with stakeholders.

## **2.2 Potential**

Currently, there are 12 CDM projects in Armenia two of which are already registered as CDM projects. Six potential projects are small hydro power projects (SHPPs) with a total capacity of 42 MW and a required investment of 29.1 mln USD. Up to now a bundling of projects is not possible due to the fact that there is still little knowledge on bundling in Armenia. Project Partners of SHPPs should pay special attention if the project complies with the additionality criterion due to the fact that Armenia has realized 45 SHPPs within the last 15 years without CDM financing. The general environment for SHPPs in the country is favorable because Armenian law allows SHPPs up to 10MW to sell power without any restrictions.

On CTI-Investors Forum Armenia presented 4 projects: 2 SHPPs, 1 biogas, 1 energy efficiency.

## **2.3 Current International Cooperation**

Armenia got support with respect to its Global Climate Change Commitments within the framework of the EU TACIS program. UNDP has provided capacity building for the development of GHG inventories and National Communication as well as for the Clean Development Mechanism. UNDP/GEF currently support the improvement of energy efficiency of municipal heating and hot water supply (2005-2009).

A good cooperation in the field of CDM is developed with Japan (Shimizu company) and Denmark who appears to be a significant buyer of CERs through the Danish Carbon Fund. The MoU between Armenia and Denmark was signed in 2004 and entered into force on March 17, 2005. Japan and Denmark invested in CDM capacity building in Armenia and developed bilateral project portfolios.

## **2.4 Outlook**

Climate for CDM investments is favourable in Armenia as several potential projects have been identified yet, especially SHPPs. Of special interest are developments in the reorganisation of the District Heating sector which may be a good example for other countries in Transition in case the efforts will result in success.

If additionality will be assured, Armenia presents a good host country for investors.

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### **3. Azerbaijan**

#### **3.1 General Overview**

The Azerbaijan DNA was established in April 2005. The internal procedures for the DNA as well as the sustainability criteria for CDM projects were adopted in February 2007.

#### **3.2 Potential**

Currently, the Azerbaijan CDM portfolio comprises 30 projects, 4 of them already have a PDD, 14 a PIN and LoE and 12 projects only have a PIN yet.

The energy sector, landfill gas, renewable energies, energy efficiency in industry and forestry present the sectors with most emission reduction potential in Azerbaijan.

On CTI-Investors Forum Azerbaijan presented 5 projects: 1 methane capture, 1 HPP, 1 fuel switch, 1 landfill gas, 1 afforestation.

#### **3.3 Current International Cooperation**

There are several international organizations working on environmental policy and CDM in Azerbaijan.

The EU TACIS program gives technical assistance with respect to their Global Climate Change Commitments. UNDP provides capacity building for the development of GHG inventories and the First and Second National Communication as well as for the Clean Development Mechanism.

The Norwegian Ministry of Foreign Affairs (ECON, Norsk Energy) supports CDM in Azerbaijan as an instrument for industrial development and poverty alleviation in Caucasus.

Furthermore, Azerbaijan participated in the Caspian Basin Greenhouse Gas Emission Reduction Training Programme (CTP) funded by the Canadian Climate Change Development Fund and administered by the Canadian International Development Agency. The programme's duration was three years. It ended in 2005. The goal of CTP was the strengthening of the participating countries capacities to reduce future growth in GHG emissions and create an environment more conducive for future private sector investment in the energy sector, especially through the participation in the flexible mechanisms. Within CTP, four demonstration projects have been developed in Azerbaijan, all of which expect emission reductions less than 400 t CO<sub>2</sub>e/year.

Up to now, Azerbaijan has only signed MoUs with Germany and Denmark. Denmark has identified some potential CDM projects with Azerbaijan as it is in general very active in making use of the flexible mechanisms.

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### **3.4 Outlook**

The Azerbaijan government is interested in developing the country's energy efficiency and renewable energy potential. For tapping this potential in the framework of CDM, Azerbaijan needs technical guidance in the preparation of new baseline and monitoring methodologies and in the testing of additionality. The Cabinet of Ministers also needs support in the management of CERs, the improvement of environmental law concerning CDM activities and the reorganization of the State Committee on Climate Change.

Having these challenges in mind, Azerbaijan needs capacity building in the first place. On the middle and long term however, investment in CDM projects seems to be attractive.

## **4. Belarus**

### **4.1 General Overview**

Belarus has signed the United Nations Framework Convention on Climate Change in June 1992 and ratified the Kyoto Protocol by accession in August 2005. In 2006 the COP/MOP 2 adopted in its Decision 10/CMP.2 an amendment to Annex B to the Kyoto Protocol, adding Belarus to it. According to the Kyoto Protocol, it will enter into force for Belarus as soon as at least three fourths of the Parties to this Protocol accepted the amendment. The Czech Republic already ratified the amendment, the Group 77 made a corporative decision on the ratification, too.

Belarus meets five of the six eligibility criteria for the participation in JI activities. It has established a DFP within the Ministry of Environmental Protection and created a national GHG inventory system and a national registry for carbon credits. But the quantified emission limitation must still be set up and registered. While Belarus claims its JI procedure simple, for foreigners it seems quite complex with several governmental bodies involved.

Within the framework of JI, Belarus plans to develop large scale projects and bundled projects. Track II procedures should be operational soon, however Track I should remain available.

### **4.2 Potential**

Belarus strongly depends on energy imports from Russia. 92% - 96% of its energy production is based on natural gas. 89% of this gas must be imported from Russia. Energy imports from other neighbouring countries are limited due to weak links between the energy systems.

Because of the country's import dependency Belarus aims to further develop its own energy resources. In accordance with that orientation, a law was adopted that regulates the decrease of energy imports.

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Although there is one JI project idea on a HPP, in general there is little potential for large hydropower in the country, according to a recent report made on the energy sector. Currently there is 10 MW capacity of hydropower installed. With regard to its JI potential, the development of HPPs in Belarus is critical. Most potential for JI project is rather seen in Combined Heat and Power Plants (CHPs), modernisation of electricity generation, fuel switch, energy efficiency in industry and the building sector and renewable energy (biomass and wind).

On CTI-Investors Forum Belarus presented 19 projects: 1 N2O, 3 waste management, 1 HPP, 5 landfill gas, 2 biogas, 7 energy efficiency.

#### **4.3 Current International Cooperation**

UNDP/GEF and World Bank are currently supporting Belarus with capacity building. The Central European Initiative (CEI) as well as UNECE supports the country in the identification of energy efficiency and renewable energy potential. The Belarusian government supports JI initiatives and is keen to develop respective projects.

Regarding Green Investment Schemes (GIS) Belarus is in an advantageous position. For 2008 – 2012 it has an assigned amount of 586 mln t CO<sub>2</sub>e and a surplus of 173 mln t CO<sub>2</sub>e for use in GIS.

#### **4.4 Outlook**

The respond of the Belarus enterprises to dena's call for JI projects was significant. This was not surprising considering the dependency on Russian energy imports and the fact that the country's energy system is out-dated, inefficient and emission intensive.

Nevertheless, there are some challenges regarding JI implementation in Belarus. According to a Belarussian presentation on the CTI-Investors Forum, there is still little experience with project development and there are many immature project proposals as well as a lack of well grounded additionality explanation. Today, direct investors have still little interest in the country because of the obstacles for foreign direct investment, especially in state-owned industries and the high country risk due to the "golden share" principle. However, the development of JI projects in order to purchase of ERUs could be of interest in the future. At present, many projects are developed under the scheme of VER.

## **5. Bosnia and Herzegovina**

### **5.1 General Overview**

Bosnia and Herzegovina is a non-Annex-I Party to the UNFCCC since December 2000 and ratified the Kyoto protocol in July 2007. The country has fully committed to meet the requirements of Art. 4 and Art. 12 of the Convention.

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The National Focal Point within the Ministry of Physical Planning, Civil Engineering and Ecology has made significant efforts to prepare the Initial National Communication. It should also work as Designated National Authority, however the CDM Board still needs to be created.

## **5.2 Potential**

Bosnia and Herzegovina's energy sector is characterized by hydropower and coal with a total capacity installed of 1900 MW. The country currently develops an energy strategy that focuses on HPP, especially on SHPP. Bosnia has made some legal concessions with respect to HPP in order to support the development of this type of project. However, the identified CDM projects are still in a very early stage.

On CTI-Investors Forum Bosnia and Herzegovina presented 2 small-scale hydropower projects.

## **5.3 Current International Cooperation**

In 2003, Austria prepared a MoU with Bosnia and Herzegovina and is engaged in technical assistance for environmental projects.

## **5.4 Outlook**

So far, not many projects have been developed. However, interest in international cooperation and further project development was expressed on the CTI-Investors Forum. Capacity building among potential project owners is necessary for further develop Bosnia and Herzegovina's project potential and the establishment of the DNA will be the crucial prerequisite for CDM activity.

# **6. Bulgaria**

## **6.1 General Overview**

Bulgaria has ratified the UNFCCC in 1995 and the Kyoto Protocol in 2002. The DFP is established within the Ministry of Environment and Water. The Bulgarian JI guidelines and procedures are available.

## **6.2 Potential**

According to the many experts and banks, Bulgaria is one of the most attractive Eastern European Countries for JI projects. This is shown by several ratings of international institutions as well as by the number of already developed and approved JI projects.

Bulgaria has opened its energy sector for private investment. State-owned and municipal energy and heat supplier have been privatized. The energy market was liberalized so that the abolishment of subsidies led to higher energy prices for household and industries. Against this background, the



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Bulgarian industry is looking for ways to reduce energy costs while securing energy supply in the future. JI seems to be one useful instrument in this context.

Fuel switch, CHP, energy efficiency in industry and renewable energy projects are among the project types that have most potential for emission reductions in Bulgaria. However, wind projects are confronted with non-encouraging feed-in tariff system in Bulgaria. (Up to 2,250 hrs/year the tariff is 175 BGN/MWh, above 2,250 hrs/year only 156 BGN/MWh will be paid.)

However, with the accession to the European Union and the European Emission Trading Scheme in 2007 Bulgaria will trade off between JI and exclusively domestic emission reduction efforts.

There are also opportunities for implementation of GIS because of the currently existing attractive volume of GHG emissions that remains below the Kyoto commitments.

On CTI-Investors Forum Bulgaria presented 1 wind project.

### **6.3 Current International Cooperation**

Bulgaria has signed MoUs with the Netherlands, Austria, Switzerland, Denmark, Japan, Sweden and Finland as well as with the Prototype Carbon Fund of the World Bank. The German-Bulgarian MoU is in preparation.

The interest of the contacted Bulgarian enterprises to participate in the CTI-Investors Forum was low. It seems that development of projects is mainly result from bilateral initiatives.

### **6.4 Outlook**

The general investment climate for JI projects is favourable in Bulgaria. But due to the country's participation in EU ETS JI potential seems to be limited somehow.

## **7. Czech Republic**

### **7.1 General Overview**

The Designated Focal Point is established within the Ministry of the Environment. National procedures for JI approval are in place.

According to the approval process for JI projects the Ministry of the Environment registers the project on the basis of a PIN by the issuance of the LoE. For obtaining the Letter of Approval (LoA) from the Ministry the project will be registered by the State Environmental Fund (SEF) and approved by an expert panel of the MoE.

According to the presentation made by the Czech Energy Agency at CTI-Investors Forum, the basic prerequisites for Track I eligibility are fulfilled. The national registry system is in place and GHG inventories are elaborated regularly.

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## **7.2 Potential**

The Czech Republic already participated in the AIJ pilot phase. During this time, 5 projects had been realized.

Recently, about 98 JI projects have been developed, 33 of them already received LoAs. Total project emission reduction equals 1 mln t CO<sub>2</sub>e/year. Two portfolios of projects were set up, one by the Prototype Carbon Fund and one by BTG. The agreement between the Czech Energy Agency and IBRD as trustee of the PCF was signed on October 15, 2003. The Czech Energy Agency committed to transfer 500 000 t CO<sub>2</sub>e to PCF within the period 2002-2012. The PCF portfolio comprises 16 SHPPs, 1 fuel switch and 1 central heating project with a total amount of 100 000 t CO<sub>2</sub>e/year of emission reductions. The BTG portfolio has 13 biomass and central heating projects that present a total emission reduction of 120 000 t CO<sub>2</sub>e/year.

## **7.3 Current International Cooperation**

There are MoUs signed with Denmark and Austria and further MoUs are prepared with Japan, Netherlands, Finland, Portugal, Spain, Slovenia and other countries.

The interest of the contacted Czech enterprises to participate in the CTI-Investors Forum was low.

## **7.4 Outlook**

According to the representative of the Czech Energy Agency in the Forum, the Czech Republic today faces some problems with identifying new potential for JI projects. New JI projects could only be developed in the field of heating (biomass, biogas) and non –CO<sub>2</sub> projects (landfill gas).

An additional problem is the limitation of CERs and ERUS within the EU ETS as well as the Czech reserve of about 100 000 allowances per year in NAP 2 for the indirect linking.

Regarding Green Investment Schemes the Czech Republic is in a relative advantageous position due to a surplus of about 30 mln AAUs/year.

# **8. Georgia**

## **8.1 General Overview**

Georgia ratified the United Nations Framework Convention on Climate Change in October 1994 and has accessed to the Kyoto Protocol in June 1999. By the Decree of the Government of Georgia of January 20, 2005 the Ministry of Environment Protection and Natural Resources of Georgia was appointed as DNA. Within the Ministry the Hydrometeorology and Climate Change Administration is responsible for the functioning of the DNA.

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By a Decree of the Government of Georgia of September 2005 the CDM National Council of Georgia was formed. The main task of the CDM National Council is to determine whether the proposed projects comply with the sustainable development criteria of Georgia and to authorize DNA to issue the letter of approval on behalf of the Government of Georgia. The CDM National Council is formed by several ministers as well as other representatives of key ministries and NGOs. The sustainability criteria for Georgia must still be formulated, however.

In addition, there is a new auxiliary structure planned to be established in order to search for and prepare CDM projects and to participate in the process of project evaluation.

## **8.2 Potential**

At the moment, there is one Georgian project registered at the CDM Executive Board. Project partner is a Japanese company. Three more projects are under development. Partners of the projects are the Danish Environment Protection Agency, the World Bank Carbon Fund and the World Bank Community Development Bank. There are more projects under consideration in the field of cement production, energy efficiency in industry, water and waste management and SHPPs. In the case of hydropower, there are several potential bundled projects, e.g. 9 SHPPs with a total of 8 MW.

Considering the fact that only HPPs smaller than 10 MW can sell the produced electricity without any restrictions, especially small hydropower projects are reasonable. There are other HPP projects in Georgia with 700 MW, 400 MW and 43 MW, but they will not be developed as CDM.

On CTI-Investors Forum Georgia presented 6 projects: 1 SHPP, 1 wind, 1 waste management, 1 biogas, 2 energy efficiency.

## **8.3 Current International Cooperation**

Georgia gets support from the EU through the TACIS program with respect its Global Climate Change Commitments.

On 12 November 2004 a MoU between Georgia and Denmark was signed. There is also a MoU signed with Norway. Currently the initiative “CDM as instrument for industrial development and poverty alleviation in Caucasus” is being implemented by the Georgian Energy Efficiency Centre in partnership with Norsk Energi, ECON (Norway) and with the financial support from the Norwegian Ministry of Foreign Affairs. The project envisages capacity building, the development of PINs and PDDS and the implementation of projects. ECON has already prepared feasibility studies and economical and ecological assessments. As a result, 35 hydropower projects were identified, 7 of them were labeled as especially attractive for CDM. The report will be online available soon.

There will be an investor forum with Norway in the near future.

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## **8.4 Outlook**

One obstacle to make use of Georgian JI potential is the lack of national sustainability criteria. However, in general the country is very attractive for CDM investment due to its identified project potential.

Georgian representatives at the CTI Forum expressed their interest for German companies to invest in Georgian CDM projects. Fichtner, a German project developer, underlines its positive experience regarding cooperation with the Georgian government.

Responsible for facilitating further investment projects in energy efficiency and renewable energies is the Ministry of Economy. A Georgian Investment Council could be approached to identify and develop additional projects.

## **9. Kazakhstan**

### **9.1 General Overview**

Kazakhstan has still not ratified the Kyoto Protocol although this is expected to be realised by the end of 2007 or early 2008. The huge potential for CDM in the country therefore remains underdeveloped so far. Kazakhstan wishes to participate in Kyoto Protocol and post-Kyoto regime as an Annex 1 country. However, it is still not clear whether the country will become an Annex 1 country or not.

A Climate Change Coordination Centre (C4) is established as CDM/JI office. In July 2007, it has signed a MoU with the Ministry of Environment of Kazakhstan which allows C4 to register potential CDM/JI projects of Kazakh project owners. After ratification of the Kyoto Protocol these projects will be transferred to the nominated official governmental authority for registration.

Up to now, Kazakhstan has very little environmental legislation. There are only two articles on the regulation of greenhouse gases.

### **9.2 Potential**

Coal is the most important energy source in Kazakhstan followed by natural gas and oil. The southern part of the country is characterized by a lack of power supply.

It is expected that electricity prices for end users will triple or quadruple from 0.03/0.04 USD up to 0.12 USD during the next years. By increasing the prices the Kazakh government wants to support energy savings. At the same time there are also a lot of financial resources needed, because 60% of the power plants in Kazakhstan are old and must be replaced. The revenues from electricity sale should be spent on the decentralisation of the power system and the implementation of renewable energy projects.

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Currently, there are 5 projects considered as CDM/JI projects. 3 projects are SHPPs (1.8 MW, 1.75 MW, 1.5 MW), although total Kazakh capacity for hydropower is estimated as rather low. Furthermore, there is 1 CHP and 1 afforestation project considered for CDM/JI.

30 more projects in the energy and industry sector are in preparation with minimal costs per project expected to be US\$ 100 mln. Financing for these projects will be provided by Kadena, who has accumulated US\$ 4 bln for this purpose. However, the projects will be implemented regardless of the ratification of the Kyoto Protocol.

On CTI-Investors Forum Kazakhstan presented 2 projects: 1 energy efficiency, 1 SHPP.

### **9.3 Current International Cooperation**

UNDP/GEF provides support within the project “Assistance to the Republic of Kazakhstan in preparing Second National Communication to the UN FCCC”.

Kazakhstan also participated in the Caspian Basin Greenhouse Gas Emission Reduction Training Programme (CTP) funded by the Canadian Climate Change Development Fund and administered by the Canadian International Development Agency (see chapter 3.3).

The EU is also engaged in capacity building in the country. Since 2005 the TACIS project “Technical Assistance to Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan with respect to their Global Climate Change Commitments” is being implemented.

By the decision of the Fourth Pan-European Conference in 1998 the Central Asia Regional Economic Cooperation (CAREC) was established in Almaty, Kazakhstan. CAREC’s goal is to improve living standards and to reduce poverty in CAREC countries through more efficient and effective regional economic cooperation. To date, the Program has focused on financing infrastructure projects and improving the region's policy environment.

Kazakhstan also receives support and funding from the Central Asia Regional Economic Cooperation (CAREC).

A MoU between Kazakhstan and Japan was signed in 2004. One project was implemented as VER in co-operation with a Japanese party.

### **9.4 Outlook**

At the moment, investment in Kazakhstan is difficult due to the pending ratification of the Kyoto Protocol. Once ratified Kyoto Protocol the country could become an interesting host for JI/CDM projects. Currently, the uncertain situation for Kazakh project owners regarding CDM/JI leads to a dynamic development of projects under the VER schemes.

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## **10. Kyrgyz Republic**

### **10.1 General Overview**

The Kyrgyz Republic ratified the UNFCCC on 25 May 2000 and the Kyoto Protocol on 13 May 2003. In 2006 the State Agency on Environmental Protection and Forestry of Kyrgyzstan was appointed as DNA.

### **10.2 Potential**

Kyrgyzstan has a strong commitment to develop CDM projects. At the moment, there is one Kyrgyz landfill gas project in the CDM pipeline and about 8 small and medium projects with a total emission reduction of 268 000 t CO<sub>2</sub>e/year that are considered to be developed as CDM. All those projects are conceptually completed and have either private or public owners. Important project types for the country are hydropower stations, both, modernization and green field, as well as biogas projects and energy efficiency in gas distribution systems.

On CTI-Investors Forum Kyrgyzstan presented 2 projects: 1 biogas, 1 fuel switch.

### **10.3 Current International Cooperation**

There are several international organizations involved in capacity building in Kyrgyzstan. Within the TACIS program, the EU has started its project “Technical Assistance to Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan with respect to their Global Climate Change Commitments” in 2005.

UNDP projects also assisted in developing national procedures for CDM and in establishing the National Climate Change Committee (NCCC) that was finally set up in July 2005. UNDP/GEF assisted the Kyrgyz Government and Parliament in the preparation of the law on “State regulation and policy in the field of GHG emission reduction” which facilitates the implementation of project activities under the CDM.

Moreover, Kyrgyz Republic also receives support and funding on technical and environmental issue through the Central Asia Regional Economic Cooperation (CAREC) (see Chapter 9.3).

### **10.4 Outlook**

Generally, Kyrgyz Republic has good capacities to develop CDM projects and private consulting companies in the country are very active. However, the overall project potential is rather small due to a population of about 5 mln and a GDP of 10 bln US\$.

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## **11. Lithuania**

### **11.1 General Overview**

Lithuania ratified the United Nations Framework Convention on Climate Change in 1995 and the Kyoto Protocol in 2003. It has already set up the national procedures for JI. There are several governmental bodies and organizations involved in JI activities. The Ministry of Environment organises and coordinates the execution of JI, the Ministry of Economy coordinates JI projects in the energy sector and the Lithuanian Environmental Investment Fund (LEIF) is responsible for the registration of PINs, the GHG registry and the issuance of ERUS. A PIN will be submitted to the Ministry of Environment and LEIF and then goes to the Supervisory Committee. Finally the Ministry of Environment issues the LoE.

### **11.2 Potential**

Most potential for JI is identified in renewable energy (not energy sector), landfill gas and animal waste projects. At the moment, Lithuania hosts 11 JI projects: 6 wind power, 2 N<sub>2</sub>O reduction, 1 biofuel, 1 flare gas reduction and 1 landfill gas project. In total, these projects will generate emission reductions of about 11 mln t CO<sub>2</sub>e in 2008-2012.

### **11.3 Current International Cooperation**

Current JI projects are developed with NEFCO, Denmark and one project (N<sub>2</sub>O) with BASF/Germany.

### **11.4 Outlook**

The development of new JI projects in Lithuania will be problematic due to the country's participation in the EU ETS.

Regarding Green Investment Schemes, there are good possibilities for implementation, according to a representative of LEIF. However, challenging in this context will be the calculation of AA proportion for GIS, the identification of institutions to administrate GIS funds and the formulation of a financing scheme and the appropriateness criterion for GIS projects.

## **12. Macedonia**

### **12.1 General Overview**

In 1998 Republic of Macedonia became a party to the UNFCCC. In 2004 Macedonia ratified the Kyoto Protocol and became party in 2005. In 2007 the Macedonian Government adopted the National Strategy for the Clean Development Mechanism.

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With the changes of the Law on Environment in March 2007, and in accordance with the 1st of June 2006 Governmental decision, the Designated National Authority has been established.

Macedonia's DNA is now located within the Ministry of Environment and Physical Planning.

The CDM procedures in Macedonia are in place. They specify that the letter of endorsement must be issued within 15 days after the submission of the PIN. The PDD must be revised or approved no later than 30 days after submission.

## **12.2 Potential**

Macedonia has one of the highest levels of GHG emissions per unit of GDP in Central and Eastern Europe. The energy sector contributes about 70% to the total emissions. It is dominated by thermal power plants based on coal and lignite.

The high carbon intensity makes Macedonia attractive for CDM. CDM projects are especially reasonable in the field of energy efficiency and renewable energy.

Energy saving measures present the greatest emission reduction potential with 62% of total potential. Renewable energies account for 15%, the waste sector for 7% and LULUCF for 16% of total emission reduction potential

At the moment, Macedonia has 15 projects considered for CDM, 8 in the waste sector, 3 renewable energy projects, 3 energy efficiency and 1 afforestation project. All projects have been developed with Italy on a bilateral basis.

On CTI-Investors Forum Macedonia presented 3 projects: 1 HPP, 1 SHPP, 1 landfill gas.

## **12.3 Current International Cooperation**

Macedonia has intensive bilateral cooperation with Italy. Macedonia signed a MoU with the Ministry for Environment, Land and Sea of Republic of Italy in December 2005 to enhance the bilateral cooperation in the field of environment and sustainable development. In accordance with the MoU, the Joint Office in Skopje was opened in January 2006. It was designed to support the creation of the DNA and to build capacity on the local level for the identification and selection of CDM projects and the creating of a CDM portfolio. In December 2006 Annex I to the MoU was signed that expands the cooperation on the preparation of feasibility studies and PDDs for potential CDM projects in Macedonia.

On 9th of March 07, the Ministry of Environment and Physical Planning signed contracts with local project owners. They agreed upon the presentation of potential CDM projects by the Ministry and authorized it to find Italian or Italo-Macedonian companies that will develop feasibility studies and/or PDDs for the projects. On 3 June 2007 a workshop for capacity building was held in Skopje to inform local project owners about the CDM and the fundamentals of project development.



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## **12.4 Outlook**

The general environment for CDM investment in Macedonia is favourable. As Italy is very engaged in project development in the country it has to be checked however if further projects can be identified.

## **13. Republic of Moldova**

### **13.1 General Overview**

The Republic of Moldova ratified the United Nations Framework Convention on Climate Change in 1995 and the Kyoto Protocol in 2003. The Moldovan DNA is established within the State Hydrometeorological Service of the Ministry of Ecology and Natural Resources.

### **1.2 Potential**

CDM potential in Moldova is identified especially in the renewable energy sector.

3 CDM projects were registered in 2006. They are all developed in cooperation with the International Bank for Reconstruction and Development as the trustee of the Community Development Carbon Fund (CDCF) and the Netherlands.

On CTI-Investors Forum Moldova presented 2 projects: 1 HPP, 1 biogas.

### **13.3 Current International Cooperation**

The EU supported the development of CDM projects in the Republic of Moldova in the framework of a TACIS program. Within that program, some potential CDM projects were developed in cooperation with the State Hydrometeorological Service. One of these projects, a biogas from poultry farms- project, were presented on the CTI-Investors Forum.

Republic of Moldova has signed one MoU with Denmark so far.

### **13.4 Outlook**

CDM project potential in Moldova is limited. Further projects could be developed in the bioenergy field. The general investment climate seems to be favourable. Investors on the CTI-Investors Forum appeared to be interested in the country's projects.

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## **14. Ukraine**

### **14.1 General Overview**

On April 4, 2007 the Cabinet of Ministers of Ukraine approved the Resolution No. 612 on establishing the National Environmental Investment Agency of Ukraine (NEIA). It is designed as the central executive body guided and coordinated by the Minister of Environmental Protection under the governance of the Cabinet of Ministers. Main objective of the NEIA is to raise the level of environmental efficiency of the Ukrainian economy by creating market conditions. NEIA should realize this by developing national programs for environmental investments, voluntary obligations and an internal emission trading system.

In order to obtain the Letter of Approval from the Ukrainian government the project owner should develop the project according to the specific requirements established by the Ministry of Environment that shall include the full package of documents including PDD. The project owner should submit to the Ministry of Environmental Protection the developed project with the Determination Report of the OE. The Ministry of Environmental Protection, if necessary, will arrange an expert evaluation of the project in order to evaluate conformity of the project according to the established requirements by the Ministry of Environmental Protection. The Ministry of Environmental Protection evaluates the project and its accompanying documents submitted by the object owner within a month and in case of their positive determination issues a Letter of Approval (LoA). In case of refusal to issue LoA, the Ministry of Environmental Protection informs the object owner within a month in a written form with specification of a reason.

Regarding the general investment climate Ukraine has adopted new legislation, regulations and procedures since 2002 aimed at improving the investment climate in its economy in general and the energy sector in particular.

The efforts of the Government regarding improvement of the business environment and the investment climate in the country are beginning to bear fruit. Despite the political risks, investment grew in the first quarter of 2006 by almost 16%, 4.5 times more than during the corresponding period of 2005, and foreign direct investment was at its highest level since 1991.

### **14.2 Potential**

Ukraine has a huge potential for reducing GHG, in particular by improving energy efficiency and by utilizing renewable energies.

Ukraine's key energy policy tasks and priorities are defined in the Energy Strategy for the Period until 2030 as adopted by the Cabinet of Ministers in March 2006. The Strategy proceeds from the understanding that Ukraine has limited conventional energy resources and thus has to rely on imports, and that it also suffers from a lack of diversification of energy imports. For these reasons, the Strategy highlights the importance of rational use of energy, the promotion of domestic energy

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production, and switching to alternative energy sources. Therefore, in general the development of JI projects in order to develop this potential is very much welcome by the Ukrainian government.

The Energy strategy of Ukraine foresees the mass construction of Nuclear Power Plants which in turn are not eligible for the JI mechanism. Very little attention is paid to alternative and renewable energy sources and biomass projects in the Strategy. Mass reconstruction of outdated Thermal Power Plants and Combined Heat and Power Plants is also considered by the program. However, the Strategy does not foresee any financing and approval of programs for specific projects. Thus it can be made a conclusion that Energy Strategy is of pretentious nature and it won't limit the opportunities of JI projects realization in Ukraine.

For several potential JI-project types there are other programs and laws adopted, which could influence the additionality issue of JI projects. However, in practice, the programs so far did not provide financing for concrete projects.

On CTI-Investors Forum Ukraine presented 3 projects: 2 energy efficiency, 1 fuel switch.

#### **14.3 Current International Cooperation**

At the moment, Ukraine's JI project portfolio consists of 74 projects of which 11 got the LoA and 63 a LoE so far. Total investment costs would be 3.4 billion EUR. The projects were identified in cooperation with foreign Carbon Funds and governments e.g. Austria and Japan. A German-Ukrainian JI-Portfolio had been developed with dena as well.

#### **14.4 Outlook**

Ukraine especially needs modern technology, high professional operators and technical assistance for the elaboration of standards and the creation of an internal market. Additional foreign investment is needed to develop JI projects and to identify further project potentials.

Ukraine has a huge project potential. Nevertheless, the framework for JI projects in the country remains awkward as the general investment climate is still difficult. Ukrainian authorities regularly declare a keenness to encourage foreign investment and the broader public is well disposed to foreign investment. There are few restrictions on foreign ownership. However, both domestic and foreign investors still encounter difficulties at a practical level. These do not relate specifically to the issue of foreign ownership or investment, but rather to administrative hurdles that are arbitrarily enforced, or random delays.

The experts of the Ministry of Environmental Protection of Ukraine have expressed interest in switching to Track I by 2008. However, it will depend on how soon the national registry for GHG emissions estimation will be established. The first attempt to develop the registry failed. The new one is not working yet.

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## **15. Uzbekistan**

### **15.1 General Overview**

Uzbekistan ratified the United Nations Framework Convention on Climate Change in 1993 and the Kyoto Protocol in 1999. It has a DNA in place which is established within the Ministry of Economy.

Currently, a capacity building unit is working with the Ministry of Economy of Uzbekistan. In August 2007 UNDP published “The Outlook for Development of Renewable Energy in Uzbekistan”. The report should raise awareness of the potential of the renewable energy options for Uzbekistan within decision makers, academic circles and the general public.

### **15.2 Potential**

The Government of Uzbekistan in cooperation and with support of UNDP and World Bank recently organized a National CDM Forum that took place in Tashkent on October 29-30, 2007. The Forum brought together representatives of CDM stakeholders from Uzbekistan, Central Asia and other non-Annex I and Annex I countries and provided a platform for exchange of experience, ideas and negotiations over potential CDM projects from Uzbekistan and other Central Asian countries.

Uzbekistan has prepared more than 50 potential project ideas covering a range of sectors and technologies including energy efficiency, renewable energy and cogeneration that have been presented on the National CDM Forum in October 2007 (see below).

On CTI-Investors Forum Uzbekistan presented 2 energy efficiency projects.

### **15.3 Current International Cooperation**

Uzbekistan like Azerbaijan and Kazakhstan participated in the Caspian Basin Greenhouse Gas Emission Reduction Training Programme (CTP) funded by the Canadian Climate Change Development Fund and administered by the Canadian International Development Agency (see Azerbaijan).

Uzbekistan also receives support and funding from the Central Asia Regional Economic Cooperation (CAREC) (see Chapter 9.3).

### **15.4 Outlook**

Uzbekistan can be an interesting option for CDM investment in the future due to a relative high project potential. It is to be clarified however if the country needs further capacity building concerning the development of the identified projects.

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Generally, the Uzbek government is interested in developing long-term relationships with interested investors, rather than selling CERs only, according to an Uzbek representative on the CTI-Investors Forum.