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# Final Report

Analytical Study on the use of energy efficient and  
energy consuming construction materials in the forest-  
dependent communities in Azerbaijan

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ANNEX 1:

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## ABBREVIATIONS AND ACRONYMS

EC	European Commission
MENR	Ministry of Ecology and Natural Resources
FDD	Forest Development Department under the MENR
ENPI	European Neighborhood and Partnership Instrument
EU	European Union
FRPE	Forest Rehabilitation and Protection Enterprise
FLEG	Forest Law Enforcement and Governance
WBG	World Bank Group
IO	Implementing Organization
AR	Autonomous Republic
IUCN	International Union for the Conservation of Nature
FAO	Food and Agricultural organization
NGO	Non-governmental organization
NTFP	Non-Timber Forest Products
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
PA	Protected Area
SFM	Sustainable Forest Management
WWF	World Wide Fund for Nature

## Introduction

Last two centuries are distinguished by the fast-developing industrial sector that has a negative impact on the nature and the environment. The rapid exploitation of fossil-based energy resources in the beginning of XXth century has further strengthened the ecological problems. Emission of harmful gases and waste in 1940-1950s due to the active exploitation and production of fossil-based energy resources, namely coal, oil, and gas manifested itself in serious complications. More calls to prevent the global warming and climate change as well as to widely apply sustainable development principles worldwide have been promoted by the international organizations since the end of XXth century.

The UN “Framework Convention on Climate Change” signed in 1992 in Rio de Janeiro (Rio+20) and following Kyoto Protocol signed in 1997 made it worldwide important to decrease the amount of harmful gas emissions into the atmosphere and increase the use from the alternative energy resources to fulfill the energy needs of the humanity. In order to decrease the dependence from the traditional energy sources and to prevent the follow-up negative environmental impact, and to increase the use from the alternative energy sources the European Union has adopted the special Directive covering issues of environment and energy till 2020. The Directive identifies “20-20-20” goals which means that 20% increase of energy consumption from the renewable energy sources will simultaneously increase the energy efficiency by 20%.

Thus, the international community undertakes concrete steps to decrease the share of the “traditional energy sources” in its energy use. This approach has turned the use from the renewable energy sources into the principal element of sustainable development worldwide. Carbohydrate-rich Azerbaijan does not stay aside from this process and joined the international community in its global calls. In 2004 the Government of Azerbaijan adopted the State Program on “Use from the alternative and renewable energy sources in the Republic of Azerbaijan”. The State Agency on Alternative and Renewable Energy Sources was established within the Ministry of Industry and Energy in 2009. Since 2012 the State

Agency was turned into the independent governmental body.

The policy of the Government of Azerbaijan on areas projects the establishment of more than 7650 MWatt of new electric and heating generation capacities coming from the alternative and renewable energy sources in 2013-2020. The process of establishment of new capacities will take place in three stages. The aim of the Program is the 20% increase of renewable energy share of in the production of electricity and to attain 9.7% increase in the general energy supply by 2020. The Government was able to implement this policy successfully. Among the implemented project is Samukh Agro Energy Living Complex which covers the rural lands. The project has unified the agricultural production, the use from the renewable energy sources and civil buildings (apartments), promoting in the meantime energy saving and energy efficient use. The project foresees an establishment of hybrid (combining the energy coming from renewable energy sources) type 31 MWatt electric and 48 MWatt heating generation capacities. The station will be a synchronized autonomous energy supply system which will generate the energy at the expense of 20 MWatt of solar, 3 MWatt of geothermal and 8 MWatt of biomass stations.

## 2. General information about the pilot regions

**Barda district (Nazırlı village).** Barda administrative district of Azerbaijan is part of country's Aran economic district and is the central part of Karabakh plain. It is located 87 m above the sea level. The territory is 0,957 thousand m<sup>2</sup>, population 149,5 thousand people, the density of population is 157 person/m<sup>2</sup>, number of settlements is 109. 167 municipalities are active in the district, the capital of the district Barda city is located 314 km from Baku. Due to the Armenian occupation of part of Azerbaijani territories 48 000 of IDPs (Internally Displaced Persons) and 1000 refugees of Azerbaijani origin live in the district.

The climate is hot, dry sub-tropic. Winters are dry, the average temperature in January is 1,2-1,8 C, in July 25,6-26,50C. The annual precipitation average is 250-350 mm. Terter and Khachir rivers flow through the district as well as Kura river in the north-east border. The prevalent soil types are black and gray meadow soils. The territory of the district is a wave-like plain which is covered by the man-made depressions system. There are clay, gravel and sand deposits. On the right side of Barda-Tartar car road are located two lakes. The third lake is located 23 km apart from Barda city. The natural vegetation is represented by dry steppe and semi-desert type. There are 6080 ha of Tugay forests along the Kura river. The fauna is represented by steppe rabbit, grey rabbit, fox, wolf etc. Among the birds are pheasant,

partridge, duck, goose and others. Barda sanctuary operates in the district. The total forest area of the district is 7376 ha.

**Social-economic indicators of the district.** Annual GDP is 90 mio AZN (has to be reviewed), the budget is 31 mio AZN, investment to the basic capital is 117,1 mio AZN, retail trade turnover 217,2 mio AZN, its specific share in the overall country indicator is 1.1%, monetary service to the population amounts to 61,1 mio AZN, the volume of industrial production 11,2 mio AZN, car-based cargo transportation 1423 mio AZN, average monthly salary 227 azn, housing resources 3 140 000 m<sup>2</sup>, a number of industrial enterprises 17, a number of construction companies 10, a number of hospitals/beds 10/466, a number of outpatient/clinic facilities 41, a total number of educational facilities/out of them number of school students is 75/20897, a number of libraries 57, a number of clubs 112, a number of museums 3.

The leading sector of the economy is the agrarian sector. It is represented mainly by agriculture and livestock management. The main planting areas are used for grain and cotton cultivation. During the last years areas such as vegetable cultivation are gardening have been developed. The agricultural (agrarian) sector is entirely owned by the private sector. Completion of agrarian reforms have already yielded positive results. The production of following products have been increased: grain to 54194 tons/wheat to 43748 tons; vegetables to 30367 tons; gardening to 27710 tons; fruits to 7610 tons; grapes to 2014 tons; meat to 8992 tons; milk to 57115 tons; eggs 28,1 tons. The amount of cattle is 86764 heads, out of them cows and buffalos 41185 heads, sheep and goats 136557 heads, out of them sheep 133563 heads, birds 401559 heads, bees 1291.

Electricity is provided as in the central as well as in other parts of the district. Barda city is fully supplied with the gas, coverage of the villages with gas is 70%. The villages with no gas supply use gas cylinder system and kerosene for the heating and cooking purposes.

**General information about the pilot area for the Project, Nazirli village of Barda district.**

The village of Nazirli is located 30 km from the center of the district, in the south-east along the Kura river. The village located in the administrative area of Nazirli village is part of Nazirli municipality. Currently there are 412 households with population of 1705. To establish new households 5 ha of land is projected to be allocated from the state and municipal reserve land fund. This allocation will be available primarily for the young families. All households and public facilities are provided with the electricity and gas. There is no centralized drinking water pipeline in the village. The population secures the self-water supply through the private sub-artesian wells and by pumping water from Kura River. The only car road connecting the village with the district center is in moderate condition, there is a need of renovation. Among the important public facilities there are one secondary school for 210 children, medical ambulance station, club, library, post, telephone center. For the restoration of private houses the population use limestone-based wall materials (cube-shaped stone), straw-soil (raw) brick, red brick, and imported wood materials. In some cases the population illegally cut the trees from the nearby tugay forests to use in construction works. The population is primarily involved in agriculture and cattle breeding. In 2014 business year there were produced 500 ton of grain, 20 ton of vegetables, 100 ton of cotton, 500 ton of Lucerne forage, 30 ton of meat, and 20 ton of milk.

The livestock of the village in all categories is represented by 2746 heads of big and 6180 of small cattle. There is a sufficient potential to establish new generation capacities (sun, small water electric stations, biogas facility) using renewable energy sources.

**Tovuz district (Saritala village).** As a part of Ganja-Gazakh economic district Tovuz district is located in the north-west of Azerbaijan, in Ganja-Gazakh plain. According to geographical particularities the district is divided into 4 zones: middle mountainous, low mountainous, foothills and high mountainous area. The southern part of the district is located in the mid and high areas, its central part is located in the low area and foothills and the northern part is located in the foothill plain area. The district is 330 m above the sea level. The total area of the district is 1.942 thousand km<sup>2</sup>, the population is 166.3 thousand people, and the density of population is 86 people/km<sup>2</sup>, a number of settlements 104 (including 2 cities). There are 41 municipalities operating in the district. The capital is Tovuz city which is 430 km from Baku.

The climate is warm, winter is rainy. The annual average temperature is 8-13C, 1-4C in January, 18-25C in July. The average annual relative humidity is 71%. Annual precipitation level is 400-700 mm. The average annual wind strength is 3,4 m/sec. Across the district flow Kura river, Zayamchay, Tovuzchay, Asrikchay, Akhinchay and other small mountainous rivers. The western part of Shamkir water reservoir and Tovuzchay water reservoir are located in the district. The main landscape is presented by the mountainous range, one part is plain. The alpine and sub-alpine meadows are rotating themselves in glades and in the plains. The total forestland in the district is 30609 ha. The forests and mountainous-forest areas are rich in flora and fauna. Oak, beech, hornbeam, walnut, hazel, ash, ironwood, various wild fruit bushes grow in the mountains. Eldar pine is preserved in Karayazı sanctuary. Fauna includes squirrel, coyote, fox, wolf, wild boar, deer, roe deer and other animals.

**Economic-social indicators of the district.** Annual GDP is 120 mio AZN (has to be reviewed), the budget is 35 mio AZN, investment to the basic capital is 57 mio AZN, retail trade turnover 258 mio AZN, its specific share in the overall country indicator is 1.3%, monetary service to the population amounts to 57 mio AZN, the volume of industrial production 7 mio AZN, car-based cargo transportation 524 mio AZN, average monthly salary 260 azn, housing resources 3 367 000 m<sup>2</sup>, a number of industrial enterprises 11, a number of construction companies 6, a number of hospitals/beds 10/452, a number of outpatient/clinic facilities 36, a total number of educational facilities/out of them number of school students is 86/23004, a number of libraries 72, a number of clubs 52, a number of museums 4.

14. The leading sector of the economy is the agrarian sector. It is represented mainly by viticulture, horticulture, dry sub-tropical **meyçəçilik**, gardening, grain growing and livestock management. The agrarian sector is entirely owned by the private sector. The production of following products has been increased as follow: grain to 39524 ton/, wheat to 31513 ton; vegetables to 30825 ton, potatoes to 233706 ton; gardening to 1577 tons; fruits to 7610 tons; vegetables to 14853 ton, grapes to 8288 ton; meat to 3871 ton; milk to 31421 ton; eggs 17 mio items. The amount of cattle is 43207 heads, out of them cows and buffalos 17811 heads, sheep and goats 198522 heads, out of them sheep 179160 heads, birds 434765 heads, bees 4172 items.

15. Electricity is provided as in the central as well as in other parts of the district. Tovuz city is

fully supplied with the gas, Govlar city is covered 80%, and coverage of the villages with gas is 60%. The villages with no gas supply use gas cylinder system and kerosene for the heating and cooking purposes.

***General information about the pilot area for the Project, Saritala village of Tovuz district.***

The village of Saritala bordering with Gadabay district is located 50 km from the center of the district, in the south-east part on the bank of Zayamchay river. The village located in the administrative area of Saritala village is part of Saritala municipality. The total area of nearby forestland is 1640 ha. Currently there are 633 households with population of 2320. To establish new 25 households 2 ha of land is projected to be allocated from the state and municipal reserve land fund. This allocation will be available primarily for the young families. All households and public facilities are provided with the electricity and gas. There is a need in a better gas supply. Otherwise, cases of illegal logging will continue to occur in the nearby forests. There is no centralized drinking water pipeline in the village. The population bring water using the horses from the nearby springs. The only car road connecting the village with the district center is in moderate condition, there is a need of renovation. Among the important public facilities there are one secondary school for 318 children, a hospital in a need of restoration with 15 beds, club, library, post, telephone center. For the restoration of private houses the population use limestone-based wall materials (cube-shaped stone), straw-soil (raw) brick, red brick, and imported wood materials. In some cases the population illegally cut the trees from the nearby tugay forests to use in construction works. The population is primarily involved in agriculture and cattle breeding. In 2014 business year there were produced 300 ton of grain, 100 ton of vegetables, 120 ton of potatoes, 120 ton of Lucerne forage, 10 ton of meat, and 100 ton of milk. The livestock of the village in all categories is represented by 1200 heads of big and 6500 of small cattle. There is a sufficient potential to establish new generation capacities (sun, small water electric stations, biogas facility) using renewable energy sources.

***3. Assessment of current energy saving and energy consuming methods (insulation, door, cover and etc) being in use in the civil construction business in the faraway regions***

In modern era, the energy efficiency is a main indicator of the energy sector and of the economic and social areas in general. The energy efficiency means the rational (effective) use from the energy resources. Energy efficiency is a low mode of energy usage utilized to ensure the necessary level of technological processes in maintaining of buildings and production. Unlike energy-saving concepts aimed at reducing the production of energy, the energy efficiency is about the rational (effective) energy use. For the population it means substantial decrease in communal expenses, it preserves natural resources of the country, the production area will benefit by increasing of competitiveness and productivity, the environment will enjoy limited amount of greenhouse gases emitted into the atmosphere and the energy companies will benefit by decreasing of fuel and construction expenses. Energy saving technologies are used as in illumination as well as in heating.

Since 1970s many countries of the world have launched implementation of policies and programs aimed to increase the energy efficiency. As per now, 40% of all first produced energy

resources attributed to the industrial sector. The same percentage of greenhouse gases emitted into the atmosphere are caused by industry. Today the former Soviet Republics altogether hold the 3<sup>rd</sup> place after the US and China in energy capacity of economy per unit of gross domestic product and a 1st place for energy consumption in the manufacturing industry. Bu gün keçmiş Sovetlər İttifaqının tərkibində olmuş ölkələr cəm halda ümumi daxili məhsul vahidinə düşən iqtisadiyyatın enerji tutumuna görə ABŞ və Çindən sonra 3-cü , emal sənayesi isə enerji istehlakına görə 1-ci yerdədir. The second place with 25% is residential sector. The last indicator is 33% more in the countries of the European Union. The amount of energy used for the construction and exploitation of buildings in the developed countries constitutes half of the total used energy.

Calculations show that heat losses in the buildings constructed with the panel (iron-concrete) material are 9-10 times more than established norms while the losses in buildings constructed from 40 mm bricks are 2-3 times more the mentioned standards. By insulation of outer walls, roof (ceiling) as well as by bringing the tightening of doors and windows closer to the current standards it would be able to save more than 50% of energy. More than 50% (>50%) of all consumed energy in the country is used in the residential sector (electric heating system) and service area. 15-20% of electricity used by the people in household is lost due to the negligence. The very simple example: energy used by the old electric lamp equals to energy used by 5 modern energy saving lamps.

As show the practice the breaks in the windows, doors and walls (especially in the private rural houses) contribute to the substantial losses of energy (heat) during the wintertime. The research shows that 40% of energy loss falls to the doors and windows, 15% to the glass, 15% to the walls, 7% to the ceiling and floor. During the last 10-15 years the use of non-wood plastic and package glass construction for the doors and windows as a framework in building of residential buildings and private houses in small and medium-size (regional centers) cities of Azerbaijan has been increased. However, this type of advanced doors and windows have not been in use in the private construction works in the rural areas and especially in the remote villages. Mainly the population use the low-quality wooden doors and windows.

Hence, there are vast amount of heat (energy) losses in these houses. In order to prevent these losses in building of rural houses there is a need to use the doors and windows developed according to advanced technologies; use of better quality wooden doors and windows; coverage of breaks in the private houses and apartments with carpets, rugs and other thermal artificial and natural materials. The best energy saving tool is an establishment of medium sized private (mobile) ecologically clean and efficient heating systems on a basis of renewable energy sources.

#### **4. Assessment of traditionally used energy efficient construction materials and equipment (wall, cover and other materials, heating systems)**

The main materials used in construction of individual houses and social and public facilities in rural areas are limestone-based wall materials (large cube-shaped brick), naturally shaped river stones, fabric-print rock stone, furnace-burnt red bricks, sun-dried bricks made from the clay

mixed with straw and water. These materials are used according to the financial status of the people. If used in a combined manner these wall materials can be beneficial from energy saving standpoint. The best traditional wall material having both heat and coolness saving qualities is a raw brick (made by mixing straw, clay and water). From the energy saving standpoint the construction (material) used in the remote villages in the houses as a partition is a one made from growing around forests, oxbows and other water facilities cane and reeds. This partition is plastered with the straw-soil-clay material and is light construction which keep heat and coolness.

As a roof material during the construction of individual houses in the remote villages the population use special heat and coolness keeping wooden material, reed-based laying, natural matting and rush to keep heat and coolness. This type of roofs (ceiling) perform a high-level heat/coolness insulation function. Currently, various artificial roof coverage construction/materials (plasterboard, plywood etc.) are being used during the construction works in the regions. As a roof coverage the population mainly use wave-shaped construction material made from asbestos-concrete, thin metal panels, furnace-baked clay-based small panels (tiles). In some supporting constructions plastic-based tile-shaped cover material is being used.

There are various ways of heating in the residential, public buildings and houses in the villages. In the areas with the gas supply the heating system for the houses, residential and public buildings is supported through the circulation of hot water/steam based on the gas. Often gas is used in special stoves (ovens) to heat the buildings. There is a wide usage of kerosene-based stoves for the heating purposes. There is a widespread usage from the electric heating devices, electric ovens, and water heating devices (Ariston etc.). In some houses there is a use from ovens working on firewood (breeding-waste). There is no practice of establishment of a heating water system from the renewable energy sources (with the exception of rare cases in the residential area of big cities).

The Azerbaijani government has already developed and launched implementation of plans to widen the use of the renewable energy sources in the near future. Within the framework of these plans a wider use of the solar panels is projected. Apart from the so-called kombi system working on gas and electricity and used in the houses as well as in the public and residential buildings in the villages works have been initiated over the establishment of installations (systems) based on solar panels which will heat the water for sanitary and drinking purposes. For this purpose, the State Agency on Alternative and Renewable Energy Sources is implementing the “1000 houses-1000 stations” project. In addition the State Agency has commenced the application of the “one social facility-one heating system” model which will use the energy from the renewable energy sources.

### ***5. Proposals towards the use of various alternative means which can substitute currently used for the heating purposes firewood. Possible economic and technical barriers and difficulties***

Certain amount of forestland is located in the territory of the pilot regions. The total number of

Azerbaijani forestland is 1040,3 ha (2014). The forest-covered areas constitute 1030,7 ha, which is 12,5%. The country's total wood reserve is 151 mio m<sup>3</sup>. In the pilot regions these indicators are as follow:

- State Forest Fund areas (ha) -            8418 / 135                            30609 / 2300
- Forest-covered areas (ha) –            5258 / 135                            23894 / 2300
- Share per district (%) –                    2,5                                        9,6
- Wood reserve (mio m<sup>3</sup>) -                306,2 / 4,9                            2976,3 / 223,1

All cuttings in the forests according to the Azerbaijani legislation are of sanitary and service character. The statistics on the sanitary tree cuttings across the country during the last years is as follow:

2012 – 4,0 thousand ha; 37,0 thousand m<sup>3</sup>

2013 – 3,3 thousand ha; 30,4 thousand m<sup>3</sup>

2014 3,3 thousand ha; 29,7 thousand m<sup>3</sup>

These indicators in the pilot regions are as follow:

Barda district /Nazirli village

2012-ci -	335 m <sup>3</sup>	/	71,66 m <sup>3</sup>
2013-cü -	317 m <sup>3</sup>	/	51,23 m <sup>3</sup>
2014-cü -	528 m <sup>3</sup>	/	34,5 m <sup>3</sup>

Tovuz district /Saritala village

2012 -	1219 m <sup>3</sup>	/	262 m <sup>3</sup>
2013-cü -	1138 m <sup>3</sup>	/	64 m <sup>3</sup>
2014-cü -	1042 m <sup>3</sup>	/	160 m <sup>3</sup>

**Illegal logging.** There is no official statistics on illegal logging facts. According to the insider information from the Forest Development Department (FDD) of the Ministry of Ecology and Natural Resources (MENR) the volume and number of facts of illegal logging in the country have been decreased over the last years. In 2012 the total volume of illegal logging was 32 thousand m<sup>3</sup>, in 2013 32,6 thousand m<sup>3</sup>, in 2014 219,3 thousand m<sup>3</sup>. All facts of illegal logging have got a proper legal evaluation with the further application of administrative and

civil penalties. It is noteworthy to mention that illegal logging is not widespread and does not cover large territories. Its significant decrease was possible due to the standing process of improving the gas and electricity supply in the settlements across the country. There are cases of using the firewood as a fuel in the pilot regions (districts and villages) selected for the current project. Majority of cases occur in the places where the gas supply is low, and there is an absence of centralized gas system (pipelines), or where frequently occur failures in work of gas cylinders.

The main practical source of energy which is able to replace the use of the firewood as a fuel is increasing of gas supply to the rural areas. Development of renewable energy sources is crucial and will lead to application of “green economy” and “green social environment” principles. The pace of increasing the gas supply to the regions across the country is currently high enough. During the last 10 years the total gas coverage in the regions has been increased from 40% to 90%, more than 1000 settlements have been supplied with the gas. In 2014 alone 58 settlements in 25 districts have been provided with the gas. As per 1 January 2014 country’s all big and small cities and regional centers, among them Barda and Tovuz cities have been fully provided with the gas. As per January 1 2015 the total number of gas users across the country was 1 733 000. Out of them 1 710 000 are residents and 22 300 are non-residents. According to the governmental forecasts during the next 2 years country’s all possible residential settlements in the regions, including villages in Barda and Tovuz districts will be fully provided with the gas. The research shows that supply of gas to the remote villages which are often consist of 5-1-15 houses are not efficient from technical and economic standpoint. The most suitable energy sources for these settlements are electricity and other alternative, renewable energy sources (kerosene stove, gas cylinder, bio gas system, solar panel etc.).

The wide use of firewood in the rural areas, including Barda and Tovuz districts 10-15 years ago were caused by the frequent electric shutdowns (also in the regional centers). The shutdowns had happened due to the lack of energy and old infrastructure (electric lines, transformers etc.). During the last 10 years there were a number of significant changes in

this realm, among them the construction of more than 10 new small and big electric stations and renewal of electric infrastructure. Currently the working generation power of the republic is 7 thousand MWatt. All settlements in the country including the pilot areas within the project are being continuously supplied with the electricity. The third State Program on the Development of the Regions (2014-2018) is in progress. The Program foresees further improving of electricity supply, completion of gas supply works which will simultaneously eliminate facts of illegal logging in the country.

The research in the pilot villages has shown that the delivery of electricity and heating power through the use of renewable and alternative energy sources will eventually cease the use of the firewood as an energy source. There is a water channel and the drainage water collector in the Nazirli village(Barda district). To establish small electric water stations upon them does not require a lot of efforts and finances. Considering that the main production potential in the village is cattle breeding there is a possibility to establish a biogas device using the bio waste to produce the alternative fuel.

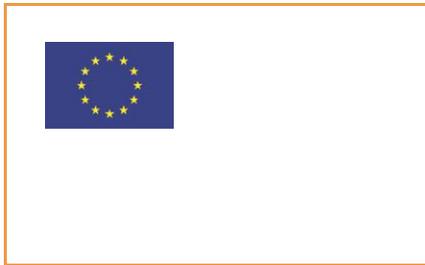
The second pilot area Saritala village in the Tovuz district is located in the mountainous part of the district (200 m height). Near the village flow small mountainous rivers. It would be reasonable to establish the small electric energy stations on these rivers. Another alternative source of energy could be biogas energy. Considering that the main production potential in the village is cattle breeding there is a possibility to establish a biogas device using the bio waste to produce the alternative fuel.

The main difficulties in development of new generation power through the use of renewable energy sources are insufficient financial capabilities, as well as technical and landscape obstacles to establish the small electric water stations on the mountainous rivers. Another problem is a shortage of knowledge and lack of public awareness work about the use from the renewable energy sources, energy efficiency and energy saving.

## About FLEG II(ENPI East) Program

The Forest Law Enforcement and Governance (FLEG) II European Neighbourhood and Partnership Instrument (ENPI) East Countries Program supports participating countries' forest governance. At the regional level, the Program aims to implement the 2005 St. Petersburg FLEG Ministerial Declaration and support countries to commit to a time-bound action plan; at the national level the Program will review or revise forest sector policies and legal and administrative structures; and improve knowledge of and support for sustainable forest management and good forest governance in the participating countries, and at the sub-national (local) level the Program will test and demonstrate best practices for sustainable forest management and the feasibility of improved forest governance practices at the field-level on a pilot basis. Participating countries include Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia, and Ukraine. The Program is funded by the European Union. <http://www.enpi-fleg.org>

## Project Partner



### EUROPEAN COMMISSION

The European Union is the world's largest donor of official development assistance. The European Commission's Directorate General for European Neighbourhood Policy and Enlargement Negotiations (DG NEAR) manages the bulk of the Union's financial and technical assistance to the neighbourhood and enlargement countries. By implementing assistance actions in Europe's eastern and southern neighbourhood, DG NEAR supports reform and democratic consolidation, and strengthens the prosperity, stability and security around Europe. DG NEAR helps to promote EU values, policies and interests in this region, and to contribute to developing the special relationship of the EU with its neighbouring countries. [http://ec.europa.eu/index\\_en.htm](http://ec.europa.eu/index_en.htm)



### WORLD BANK

The World Bank Group is one of the world's largest sources of knowledge and funding for its 188 member-countries. The organizations that make up the World Bank Group are owned by the governments of member nations, which have the ultimate decision-making power within the organizations on all matters, including policy, financial or membership issues. The World Bank Group comprises five closely associated institutions: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), which together form the World Bank; the International Finance Corporation (IFC); the Multilateral Investment Guarantee Agency (MIGA); and the International Centre for Settlement of Investment Disputes (ICSID). Each institution plays a distinct role in the World Bank Group's mission to end extreme poverty by decreasing the percentage of people living on less than \$1.25 a day to no more than 3 percent, and promote shared prosperity by fostering the income growth of the bottom 40 percent for every country. For additional information please visit: <http://www.worldbank.org>, <http://www.ifc.org>, <http://www.miga.org>



### IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN's work focuses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice. IUCN is the world's oldest and largest global environmental organisation, with more than 1,200 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 45 offices and hundreds of partners in public, NGO and private sectors around the world. [www.iucn.org](http://www.iucn.org)



### WWF

WWF is one of the world's largest and most respected independent conservation organizations, with almost 5 million supporters and a global network active in over 100 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption. [www.panda.org](http://www.panda.org)