

MOLDOVA ENERGY AND BIOMASS PROJECT

Project Phase II (EaPic top-up)

2014-2017

Annex 1: Description of the Action

Implemented by: United Nations Development Programme

X.1 Title Moldova Energy and Biomass Project II

X.2 Beneficiary Country

The Republic Moldova

X.4 Contracting Authority

The European Union represented by the Delegation of the European Union to the Republic of Moldova

X.5 Cost of the Action

Total Eligible Cost of the Action	Amount requested from the Contracting Authority	% of total eligible cost of action
Project Phase II 9,410,703.50	9,410,703.50	100%

I. BRIEF DESCRIPTION

The Moldova Energy and Biomass Project aims to contribute to a more secure, competitive and sustainable energy production in the Republic of Moldova through targeted support to the most viable and readily available local source of renewable energy, namely biomass from agricultural wastes. It consists of 4 interrelated outputs: 1: Municipal biomass heating and fuel supply/technology markets established; 2: Foundations laid for establishment of efficient biomass-based household heating and heat supply markets established and private sector demand promoted; 3: Capacity for local growth of biomass markets at regional and local levels is built; and 4: The opportunities and benefits of biomass energy for Moldova are well known locally, and visibility of project results promoted.

End 2014, after 4 years of project implementation, based on highly satisfactory project performance, lessons learned and clearly identified gaps and additional needs to support further market consolidation, the project entered a second phase until end 2017 with additional funding of 9,410,703.50 million EUR allocated by the European Union in the framework of the Eastern Partnership Integration and Cooperation (EaPIC) programme.

The second phase will focus on development of local biomass market and general market consolidation of the biomass-related business through continued support to solid biofuel producers and support to local biomass boiler production and extension of Public Private Partnerships for establishing sustainable biomass based heating services. Support to installation of biomass heating systems will be further provided and extended to small and medium-sized towns, ATU Gagauzia and Taraclia district, and Transnistria region. To provide integrated energy saving and efficiency solutions to project sites, combined technology solar/biomass in public buildings will be developed and piloted.

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Narrative summary of objectives and outputs

The Moldova Energy and Biomass Project, funded by the European Commission and implemented by UNDP aims to contribute to a more secure, competitive and sustainable energy production in the Republic of Moldova through targeted support to the most viable and readily available local source of renewable energy, namely biomass from agricultural wastes.

Brief overview of MEBP Phase I:

The project purpose was to increase the use of renewable energy technology significantly through fuel switching and energy efficiency. The project primarily focused on improving heating comfort levels in rural public sector buildings including schools and community centres by using readily available waste straw supplied from local agricultural enterprises. The phase I also stimulate local markets for improved household heating, industrial cogeneration, and biomass-based briquetting, as well as raised local capacity in the biomass sector, and promote the benefits of biomass energy and the project.

Phase I of the project consisted of four inter-related outputs (work packages) as follows:

- **Output 1: Municipal biomass heating and fuel supply markets established (work package 1)** aimed to improve municipal heating of public buildings in rural areas and establish related fuel supply markets. Under this output over 140 thermal heating systems were installed for the provision of heating for public buildings in rural communities in Moldova (indicative activity 1.1). Supporting this, market mechanisms were used to support the involvement of local fuel suppliers to prepare, store and supply the fuel needed for the installed heating plants (activity 1.2). Very focused low-cost actions on policy, regulation, and contracting to support the market environment made a third output under output 1 (activity 1.3).
- **Output 2: Foundations laid for establishment of efficient household heating, industrial cogeneration and biomass briquetting markets (work package 2)** focussed on three emerging technology options for biomass energy in Moldova, which were assessed, developed, and piloted. Activity 2.1 focused on domestic heating in rural areas, addressing the need for improved efficiency of heating and possibly cooking. Activity 2.2 supported the deployment of industrial co-generation based on feedstocks from agri-industry, and activity 2.3 piloted and demonstrated PPPs for heating service provision.
- **Output 3: Capacity for growth of biomass markets at regional and local levels is built in Moldova (work package 3)** aimed to ensure that the benefits of biomass energy demonstrated and deployed under outputs 1 and 2 are delivered in a lasting and long-term way and that local capacities for further replication is ensured. For each stakeholder type to be reached under output 3, the first step was the development of training materials, placed in the public domain. These materials, updated and improved each year, provide an accessible repository of key information, and are used either in the training to be delivered under outputs 1 & 2 or in sub-activities under output 3. The stakeholders targeted include: municipal management including mayors, civil servants, and teachers; straw-fired boiler operators; fuel suppliers; and school children.
- **Output 4: The opportunities and benefits of biomass energy for Moldova are well known locally, and visibility of project results promoted (work package 4)** facilitated widespread dissemination on the general and specific advantages and impacts of using biomass energy in Moldova. A communication and visibility plan was elaborated and agreed between the EUD and UNDP and implemented in view of promotion of the visibility of project results and positive impacts of the partnership.

Objectives and outputs of MEBP Phase II

In 2014 the project entered a second phase in the framework of the Eastern Partnership Integration and Cooperation (EaPIC) programme, based on its continued high relevance, excellent performance and the clearly identified need to further support the consolidation of the emerging biomass market in the country. The timeframe for the second phase is until end 2017 with additional EU-funding of 9,410,703.50 EUR.

The **main objective** of the project's second phase is to scale up the successful activities and extend them to so far not covered or underrepresented regions, specifically Transnistria, Gagauzia and Taraclia, and to support the further consolidation of the biomass market.

To achieve these objectives the focus of EaPIC top-up activities under the existing project outputs, will be the following:

- **Output 1. Municipal biomass heating and fuel supply markets established**

This component will aim at installing at least 80 additional biomass-based municipal heating systems in Moldova, with focus on Transnistria, ATU Gagauzia, Taraclia district and small towns. An increased focus will be on the further development of the domestic biomass fuel market in view of ensuring sustainable supply, enhanced competition between producers, application of quality standards, certification of products and end-consumer protection. Integrated renewable energy and energy efficiency solutions will be piloted to demonstrate the suitability of modern biomass-based heating systems for small towns.

- **Output 2. Foundations laid for establishment of efficient household heating, industrial cogeneration and biomass briquetting markets**

Under output 2, at least 100 households and/or small businesses will be supported to procure and install modern and efficient biomass boilers under preferential conditions. Technical and financial support will be provided for the creation of 7 new PPPs throughout the country to foster PPPs for establishing sustainable biomass-based heating services and efficient operation and maintenance of the systems.

- **Output 3. Capacity built for growth of biomass markets at regional and local levels**

The capacity development activities will continue to be a key element of the component being tailor-made and extended to cover Transnistria, Gagauzia and Taraclia district, as well as small towns and include solar energy as new element. LPAs, facility managers and boiler operators will continue to receive technical training on management of biomass heating systems. The vocational education and training (VET) sector will be addressed in view of a consolidated effort to equip the Moldovan labour force in support of the emerging markets and technologies. The school education activities on renewable energy and energy efficiency, especially the Bioenergy Summer Camps, will be extended to small towns from Moldova, Taraclia district, Gagauzia and wherever feasible in Transnistria.

- **Output 4. The opportunities and benefits of biomass energy for Moldova are well known, visibility of project results is promoted**

Wide-spread awareness raising activities on the opportunities and benefits of biomass energy will be further facilitated, with a specific focus on increasing the uptake of renewable energy technologies in ATU Gagauzia and Taraclia district, and Transnistria Region, and visibility of the partnership and impact of the action will be effectively promoted.

II. SITUATION ANALYSIS

The Republic of Moldova is highly dependent on energy imports. About 97% of Moldova's energy needs (fossil fuels and electricity) are imported, all from Russia and in addition there are large accumulated debts. Whereas petrol and coal sources have been slightly diversified in recent years (Russia, Ukraine, central Asia), natural gas, the main source for heating, is almost 100% imported from Russia. According to the National Bureau of Statistics, in 2007 the country has imported 922,000t carbon equivalent of natural gas, as compared to 122,000t of own sources fuels. Import prices are rising steadily, towards world levels, imposing a severe burden on the population and the economy. The energy sector is key to the Moldovan economy and thus is vital to the successful implementation of the national economy development programme.

Thermal Energy from biomass (agricultural wastes)

The total population as of January 2008, was around 3.5 million, of which 2.1 million (59%) lived in rural areas. There are 1,680 rural settlements in Moldova (including Transnistria region and Gagauzia), administered through 658 local administrations. Planned reforms will result in the reduction of the number of public administrations (Primaria), with devolution of fiscal responsibility to local level, with central responsibility for infrastructure and national services including health and education.

Rural settlements, villages and towns, are broadly similar in structure. Public buildings and apartment blocks (if any) are located in the town or village centre surrounded by private households. Each household usually has surrounding land / kitchen garden averaging in size around 0.21Ha. Most householders (85%) also have a land entitlement in the agricultural land surrounding a village (the former collective), on average 1.8Ha. Communal and reserve lands are held by the local authority as are public and non-privatised land, ponds and buildings.

Public buildings (kindergarten, school, town hall, health centre, library, house of culture) are mainly heated by coal or gas. Surrounding privately held houses mainly use biomass (wood as well as wastes such as maize husks accounting for up to 70% of fuel used) and coal for heating and calor gas for cooking. Households mainly use primitive and inefficient stoves.

Many villages in Moldova are connected to a natural gas main, where buildings in these areas can, at the owner's expense, be connected to a natural gas supply. Since the rapid increase in gas prices connections have slowed very significantly.

The forest and woodland coverage in Moldova is low, with less than 10% of total land area. The national arable sown area is approximately 1.5million hectares, accounting for 75% of land use. Agricultural lands surrounding villages average 1200Ha. Agricultural enterprises and individual families cultivate agricultural lands, for horticulture operations but predominantly for arable agriculture: cereals, grains and oilseeds are elements of annual arable rotations in every settlement, including winter wheat.

On average 200Ha of winter wheat per settlement is grown annually generating up to 450tons (nationally 700,000 tons) of a mainly unwanted wheat straw with an energy content of around 5,300GJ (nationally 8,200TJ, equating to about 8% of current national energy consumption). The unwanted straw is either chopped and incorporated during ploughing or, more frequently burnt in the field (contrary to regulation).

The availability of this straw biomass is the basis of the renewable energy source underlying the generation of thermal energy for public buildings. The average energy requirement for public buildings in rural villages is in the 150-500kWth range, requiring an average of 275tons of straw fuel, a quantity readily available from surrounding fields.

This is the main element of the roll-out of the Moldova energy and biomass project.

In addition there are important considerations regarding domestic and agri-industrial energy. Rural households use a considerable amount of firewood for heating. Households use wood and coal heating, mainly from radiant stoves that also provide for cooking, but do not provide hot water or central heating.

In overall terms wood use for domestic heating, nationally, is likely to be in the region of 2 million cubic metres per year (around 600,000 tonnes), a proportion of which may be illegally logged. Moldova's forest resources are limited and the problem of illegal logging is considered a priority of the forestry sector given negative environmental impacts of such logging. Efforts are currently underway to understand and address illegal logging in Moldova as part of the EC funded ENPI FLEG programme. The ENPI FLEG programme in Moldova is implemented by the World Bank and IUCN.

To address pressure on forests from the domestic use of heat, and the environmental impacts of coal use, two strategies may be followed: 1) improving the efficiency of household stoves that burn wood or coal, and 2) providing alternative fuels for household heating, such as briquettes made from straw.

The agro-industrial sector is thus the core of the Moldovan economy and this industry and holds significant potential for future added value and growth. The food industry of Moldova comprises about 280 enterprises providing employment for more than 26,000 people. Since there is a significant need for energy, and agri-processing is so important to the Moldovan economy, there should be significant potential for biomass based co-generation of heat and power based on solid fuel combustion or biogas using agri-processing wastes such as those from the wine industry, fruit processing, as well as husks, kernels, dust, shelling, bark and trimmings.

Situation Analysis – update 3.5 years after start of project phase I

In January 2013 the Government of Moldova approved the Energy Strategy until 2030, which envisages concrete steps for the development of the energy sector in Moldova. It deals with objectives, measures and activities oriented towards a more efficient, competitive and reliable national energy industry whilst ensuring the country's energy security, the upgrading of energy-related infrastructure, improved energy efficiency and use of renewable energy sources, and its integration into the European energy market.

During the last 3 years, the structure of energy consumption in Moldova has changed. The residential sector has a slightly decreasing trend, while the energy consumption in industry is registering a growing tendency. In this context, the agro-industrial sector remains the biggest economic sector which is also one of the major suppliers of raw material for biomass production.

There is consensus that agricultural residues are the Republic of Moldova's renewable energy source with the biggest short- to medium-term potential. According to experts' estimations 21,042 TJ¹ can be produced from locally available biomass. This mostly unused resource represents an available, substantial and reliable source of renewable energy. Comparing the figure of biomass potential with the domestic consumption of energy resources in Republic of Moldova, which was equal to 90,044 TJ in 2012, 23.3% of total energy resources needs can be covered by biomass fuel. This fact is essential given that Republic of Moldova is dependent on energy imports and the identified potential may cover approximately 52% of natural gas imports.

¹ Estimation of the energy potential of biomass for briquetting from agricultural crops at regional and rayon levels for 2009-2010

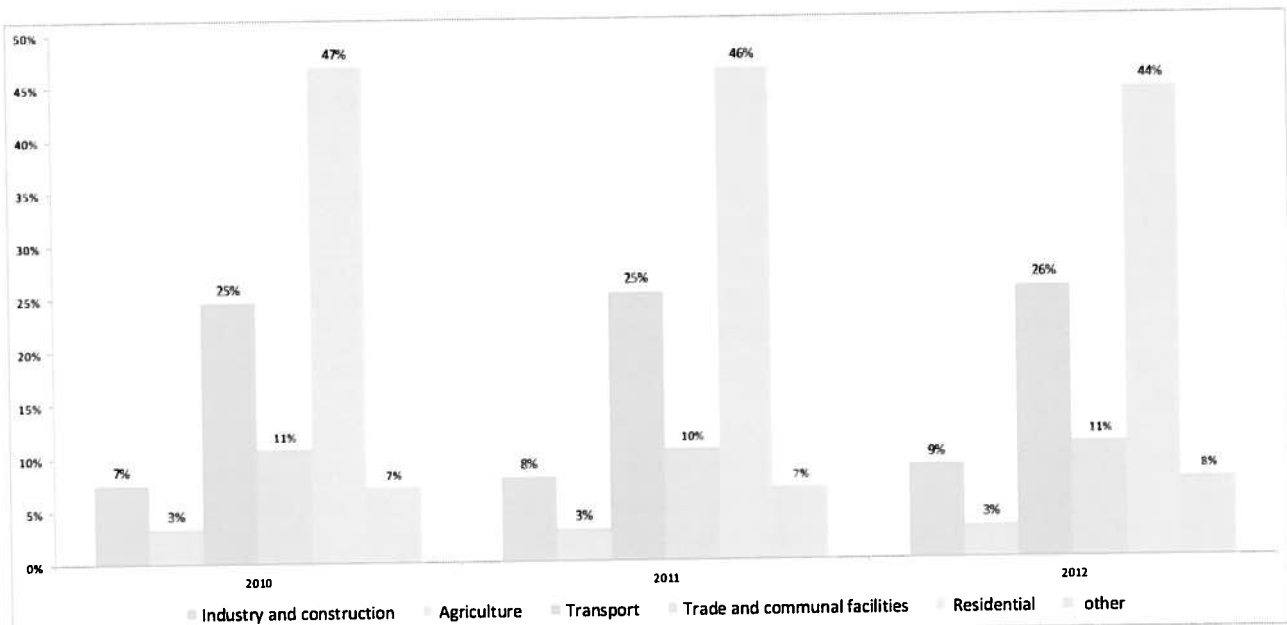


Figure 1: Structure of energy consumption by sectors of economy, 2010-2012 (Source: Energy Balance of Moldova 2010 -2012, National Bureau of Statistics, www.statistica.md)

The renewable energy, and specifically biomass-based energy market has seen a rapid development over the past years, incl. through the targeted combination of supply and demand side measures promoted by the Moldova Energy and Biomass Project.

Over the first 3.4 years of MEBP implementation (2011-2014), significant changes occurred on the local biomass market. Along with implementation of over 140 biomass heating systems at public buildings having a total installed capacity of ≈ 30 MW, the private sector reacted with a constantly increasing supply of required biomass fuel. During the last 3.5 years, the number of operational biomass businesses increased by ≈ 10 times reaching a total number of over 120 (based on project evidence). This positive dynamic was possible also due to the support of MEBP granted through a Revolving Fund established to offer local entrepreneurs advantageous conditions for launching and/or extending businesses in the field. As the market for solid biomass fuels is developing fast, this brings along an increased need for quality assurance based on standards regulating quality requirements for different types of biofuels - a crucial step for an efficient development of the Moldovan biomass fuel market. While the quantity of supply is steadily increasing, the quality of the fuel remains one of the issues of high importance being partially improved during this period.

In this sense, The Ministry of Economy in close collaboration with the National Institute for Standardisation and with MEBP support elaborated Solid Biomass Fuel Standards, transposing 37 EU standards, and a Technical Regulation, legally adopted in 2013. These legal framework changes produced the initial expected effects and started boosting the quality of supplied biomass, information requests about modes and modalities of determining the quality of procured fuel, etc. Quality however still remains an issue and further assistance is required to operationalize the technical regulation. In order to ensure enforcement and compliance with the new standards, a quality control and certification mechanism has to be put in place, requiring an authorized body skilled and equipped to test locally produced solid biofuels, as well as complementary capacity development for fuel producers.

Being the biggest energy consumer in the total country balance, the residential sector has been tested against the opportunity of switching to biomass heating systems through an incentive mechanism launched by MEBP. The registered feedback indicated a slower initial acceptance, of alternative sources of energy by local households. Combined with a targeted awareness raising effort and simplification of the offered financial incentives, the demand started to significantly increase towards the end of 2014, providing for large potential for further upscaling of the started initiative.

Starting 2012 the market was also tested for openness to a new development model, which is based on heating service provision using biomass heating systems. The service, organized as a Public Private Partnership, enables a private company to provide heating services to the public sector. Being the main recommendation of a dedicated feasibility study, the model is expected to be an example and offer a solution for increasing the sustainability of investments into modern biomass heating systems, create premises for balanced market development through quality services, reduce risks of inappropriate systems management and consequently increase the visibility and credibility of biomass as a sustainable alternative to fossil fuels. A sound interest from Local Public Administrations was registered in line with the proposed energy generation and supply services to public sector, which provides clear indication of a high replication potential of the activity. While identifying the first PPP demonstration pilot under the ongoing MEBP, already 12 Raions had submitted Expressions of Interest to establish a PPP in collaboration with a local entrepreneur. Based on this the viability of PPPs as model for increased effectiveness and sustainability will be further demonstrated, contributing to the overall biomass market development in Moldova. The pilot activity however revealed limited practical understanding of the PPP mechanism and its value added, another limitation that will be addressed by the second phase of the project. The PPP approach also responds to another identified gap, namely the limited availability of maintenance and operations support and specialised consultancy services in the Regions.

While commercial briquette production is already well established, pelleting techniques are still only scarcely applied in solid biomass production. This goes hand in hand with rapidly growing domestic demand and export potential, pointing to the need for increasing supply to ensure competition and avoid unfavourable price developments. The strategy adopted for phase II therefore focusses on creating a transparent, well-informed market – both on consumer and producer side, e.g. through the development of comprehensive web platform connecting producers with clients, systematically monitoring price developments and providing information to business on latest technologies and business opportunities. Access to structured financing for investments in fuel production equipment will continue to be provided via Revolving Fund which was established during the first project phase. While no new capital will be added to the Fund during phase II of the project, the Fund will remain operational and continue to stimulate business development in the biofuel market.

Further the market development approach will expand to stimulate demand not only from the public sector and private households, but increasingly focus on the commercial sector as consumer of solid biofuels and biomass technologies. The application of biomass will be piloted in sectors with large replication potential and economic impact in rural areas, specifically agriculture.

To ensure sustainability of all project interventions, the well-tested and comprehensive capacity development approach for municipal leaders, building managers, boiler operators and fuel supplies should continue in the newly identified towns and target regions. More emphasis has to be placed on building the managerial capacities of biofuel producers and technology providers to ensure their continued competitiveness under changing market conditions. Specific attention has to be given to the need for continuous training of boiler operators and institutionalization of a quality control framework in this regard.

In addition, based on lessons learned from the work in beneficiary communities, more emphasis should be placed on integrated solutions and Energy Efficiency measures in buildings. Currently, most of the public buildings MEBP was working in do not have provision of hot water, or if, only limited to the kitchen area (in these cases mostly based on electricity). Most of the buildings are not equipped with a dual piping system. While the biomass heating systems could be expanded with heat exchangers and accumulation tanks to provide for hot water, complementing the boilers with solar hot water systems is assessed to be the more suitable and cost efficient solution. The demand of hot water supply e.g. in an average kindergarten in Moldova (estimated at 15 litres/person/day) can be produced and covered with solar collectors. This will not only bring direct

savings to the energy budget of the institution, but will also increase the comfort, health and sanitary conditions for children and pupils in schools and kindergartens.

Based on the successful piloting of the educational initiative in over 350 schools throughout Moldova (approx. 23,000 children reached), and the high academic standards of the Manual and Teacher's guide developed within the project, starting with September 2013, the subject "Renewable Energy Sources" has been introduced in the National Curriculum for 2013-2014 as an optional subject². In such a way, in the coming years, any student from 5th to 9th grades throughout Moldova will be able to elect the respective optional course, and the teachers choosing to teach it will be doing so against pay³. Such educational initiatives as the one designed and piloted by MEBP enables children to become promoters of sustainable energy and new technologies, sharing their knowledge about how alternative energy sources can benefit the community and country they live in with their families, and friends.

A positive shift in perception towards renewables and energy efficiency can be clearly witnessed as a result of continuous and nation-wide communication and promotion activities undertaken by the project. One major highlight of the awareness raising activities is the first National Awards Competition "Moldova Eco-Energetica", organized at MEBP initiative showcasing the best achievements in the area of energy efficiency and renewable energy sources. The key national implementation partners of the respective contest are the Ministry of Economy and Energy Efficiency Agency which already assumed the ownership of the activity, thus ensuring its continuity and sustainability beyond the life of the project. This initiative succeeded to attract the donor community and private sponsors in acknowledging and promoting the outstanding developments in the respective sector.

In relation to the **geographic focus** of the intervention, the experience accumulated during the first 3.5 years of project implementation points to the need to expand activities beyond rural areas and to place specific attention to regions so far not covered or reached to a lesser extent. While the MEBP's focus to date was on rural areas and communities, the feedback received from beneficiaries and experts, revealed a high level of interest of small towns to install biomass-based heating systems within selected public buildings. Small towns are facing similar challenges related to securing affordable heat supply and technologies based on briquettes and pellets are equally suitable for urban environments, which however remains to be demonstrated in Moldova.

With a total of ~2,169 TJ, the potential for biomass energy in **ATU Gagauzia** and **Taraclia** is significant, both in regional and national comparison. A large and reliable source of raw materials in the region is further one of the biggest sunflower processing factories in Moldova, producing significant quantities of sunflower husk residues which are currently used only in small quantities for pellets production. Despite this high-potential, the MEBP saw a lower uptake of assistance as compared to other regions and increased efforts were required to reach out to communities and entrepreneurs. To exploit the full potential, further targeted awareness raising, demonstration and capacity development is required, including with involvement of Civil Society Organisations. The strategic focus will contribute to further advancing the socio-economic development of minority regions, and target women entrepreneurship.

Another objective of EaPIC project top-up is to increase the use of renewable energy technologies and facilitate the development of a local market of energy production based on locally available sources through fuel switching and energy efficiency in the **Transnistrian region**, the eastern region of Republic of Moldova situated on the left bank of the Nistru River. EU engagement with Moldova and the Transnistria issue has also grown in recent years. The EaPIC project top-up is also aiming at facilitating settlement of the Transnistrian issue through ensuring economic and

² Government decisions no. 679 as of 7 July 2013 reg. the Activity plan for primary, secondary and high-school education for the period 2013 – 2014

³ Once an optional subject from the curriculum is selected by a teacher to teach, it is remunerated as a core subject.

social development of local communities, together with technical approximation in the event of a significant rapprochement between Chisinau and Tiraspol.

Transnistria region faces numerous similar economic opportunities and challenges to those faced by the right bank of the river. The main challenges include: an underdeveloped business infrastructure; low competitiveness of products; deficit in skilled labour; poor diversification of industry; and high regional competition in attracting foreign investment. Transnistrian de-facto authorities are interested in addressing these economic challenges and supporting activities which contribute to the economic stability in the region. Although, key economic actors in the region may be the most interested stakeholders in using the opportunities to participate in EaPIC top-up activities in the region. It is therefore critical that economic sector, particularly SMEs in the Transnistria region have access to information about new opportunities and are supported by project activities which contribute to sustainable economic development. According to the data available with MEBP, there are no biomass processing enterprises in the region. However, Transnistria-based entrepreneurs expressed their interest to start biomass processing businesses with assistance from MEBP. Differences in the financial and customs systems between the two banks can pose some difficulties in the successful implementation of the activities.

The promotion of biomass-based heating in Transnistria region will need to take into account the intense gasification of the region, on one hand, and the Russia-subsidised price for the natural gas, on the other hand. Ways to stimulate the interest towards biomass need to include a targeted promotion of the project especially in the remote areas of the region not yet connected to the gas network, as well as the promotion of integrated biomass and hot water solar solutions.

Based on the information provided by the Ministry of Education of the Republic of Moldova, 8 schools from Transnistria region are under the jurisdiction of the Moldovan educational authorities. Provided some of these schools would be selected to benefit from MEBP assistance during the project's second phase, the same approach with regards to the implementation of the educational initiative on RES and EE applied during the first MEBP phase will be applied. The schools subordinated to the de-facto educational authorities from Tiraspol have a distinct curriculum and demonstrate a limited openness towards new ideas and educational approaches. The respective set-up can pose challenges in implementing educational and awareness activities in the schools similar to the ones implemented in the first MEBP phase in target communities from Moldova. A way to motivate the schools to participate will be the joint Bioenergy Summer Camps where children from both banks, including Gagauzia region, will join together to learn about the benefits of renewable energy for the communities they live and the environment as a whole.

Continuous dialogue with the Transnistrian counterparts across all project activities will be crucial for the successful deployment of any initiatives envisages for the respective region.

The transition to new biomass heating systems implies changes in attitudes and behaviours. In order to be successful in replacing fossil fuels with renewable sources in Transnistria region, there is a need to carry out a local media campaign focused on actions and messages suitable for the target audience needs and expectations. Given the fact that the media from Transnistria region are controlled by local authorities, the journalists can demonstrate a limited openness to promote the benefits of the renewable energy and the results of the project activities on the region. The project will address these risks by maintaining an open dialogue with relevant stakeholders and media, and working closely with local media.

Rationale for UNDP involvement

UNDP is well placed to implement the Moldova energy and biomass project due to several factors that give assurance that the project will be successfully implemented: over the past years of work at local levels, UNDP has gained wide expertise, resources and knowledge related to the substantive and managerial aspects as well as regarding collaboration with Local Public Authorities:

- Since 1992, through numerous projects, UNDP Moldova has reached wide presence and has developed considerable knowledge on the situation and expertise in working at the

local and regional level. Well-established partnerships are in place together with the capacity and mechanisms to efficiently deliver assistance at the local level.

- In the framework of its environment and energy programme, UNDP Moldova is supporting the country's transition to low carbon and climate resilient economies and ecosystems which involves the promotion of energy efficiency and renewable energy sources, both at the level of policies and the level of concrete interventions on the ground.
- From the project management perspective, UNDP Moldova has effective structures and procedures to ensure results-based management and delivery, including extensive experience with implementing local development, self-government and participatory projects.
- In terms of capacities, within UNDP and specifically within the Joint Integrated Local Development Programme (JILDP), the team includes well-experienced management and professional community mobilization experts and engineers. The team also brings along extensive knowledge and experience acquired through strong involvement in different stages of implementation of the first biomass pilot projects in Moldova.
- UNDP has very good working level relations with consultants and experts from throughout Moldova and experts within JILDP with experience in appraisal and implementation of biomass projects in Moldova. This also provides entry points for exchanges of experience, best practices and lessons learned from previous pilot projects.
- The UNDP country office, including its operations unit, is highly experienced with large scale procurement and recruitment at national and international level.
- Additionally, UNDP Moldova brings to this proposed project not only its own expertise and capacity, but also the expertise, knowledge and best practices from the region, made available through the Regional advisors and service centre and collaboration with other UNDP offices from Central and Eastern Europe and CIS countries.

In the 3.5 years from the start of project phase I implementation in 2011 to end 2014, UNDP proved to be very instrumental in successfully implementing the MEBP activities. All implementation mechanisms are well functioning and this made the MEBP a well-known brand in the whole country. The MEBP has very good interaction with the main national stakeholders and international donor agencies active in energy sector. Also, there is close cooperation with local and regional authorities, community based organizations, entrepreneurial circles and other community leaders, who play a crucial role in all community initiatives.

III. STRATEGY

At a corporate level, UNDP's goal is to strengthen national capacities to manage the environment in a sustainable manner while ensuring adequate protection of the poor. Specific focus is given on building local capacity to better manage the environment and deliver services, especially water and energy. Over the past 15 years, UNDP assistance in environment and energy has evolved from supporting technology demonstration projects to promoting market development for environment-friendly technologies.

Expanding access to environmental and energy services for the poor is a key target, recognizing that those are essential for poverty reduction and economic growth. UNDP's activities include institutional capacity development to scale up energy service delivery to ensure nationwide coverage. This is especially important at the local level since service delivery is increasingly decentralized to local public authorities. UNDP assists local authorities in building the capacity of local agents including communities, non-governmental organizations, micro-, small and medium-sized enterprises, financial institutions and other private sector actors to manage and stimulate business and development benefits from environmental and energy service delivery.

The project is in line with UNDP Moldova country programme which sets "Regional and Local Development" and "Energy and Environment" as key areas of UNDP-Government cooperation. The United Nations – Republic of Moldova Partnership Framework 2013-2017 (UNPF) and the associated Action Plan voice the collective determination of the United Nations to support Moldova in tackling environment, climate change and disaster risk management issues. In these fields, the work of the UN supports central and local authorities in promoting low emission economic development and sustainable consumption, specifically in using renewable energy sources and increasing energy efficiency.

In line with this, already ongoing UNDP work promotes sustainable economic and environmental development and improved living conditions at the community level aiming at reduced income poverty by promoting income, employment creation and improving the local business environment and as well as at reduced negative ecological impact by promoting energy efficiency and improving environmental conditions.

Bioenergy requires special support mechanisms that go beyond those for other renewable energies because:

- While the combustion technology presents some challenges to market development, the creation of a sustainable biomass fuel supply infrastructure is highly complex and especially challenging
- Biomass fuel supply chains are essential to sustainable biomass energy use
- Fuel supply touches on multiple sectors – forestry, agriculture, industry, public sector/services (district heating), environment, and energy – and this adds to the complexity of arranging fuel supply
- There are competing uses for raw materials that are developing parallel to those of biomass fuels.
- Small fuel supply markets are highly volatile, and this increases initial risks for investors, until the markets have matured
- Market tools, such as places where one can find and compare offers from multiple suppliers, are lacking in biomass fuel supply
- Biomass heat is a significant opportunity, and can offer substantial benefits, but most renewable energy policies have focused exclusively on electricity (with heat as a by-product, occasionally).

III.1 Project objectives

The overall objective is to contribute to a more secure, competitive and sustainable energy production in the Republic of Moldova through a targeted support to the most viable and readily available local source of renewable energy, namely biomass from agricultural wastes.

The project purpose is to significantly increase the use of renewable energy technology through fuel switching and energy efficiency. This will primarily lead to improved heating comfort levels in rural public sector buildings including schools and community centres by using readily available waste straw supplied from local agricultural enterprises.

The **second phase of the project** has the main purpose of further supporting the development of the local biomass market and emerging industry and extending activities related to improving heat comfort in public buildings, by using local readily available biomass from agricultural wastes.

The project will lead to the consolidation of the emerging biomass industry and market, including through increasing supply and ensuring reliable quality assurance mechanisms for biomass fuel.

The second phase will also increase the uptake of biomass technologies in Transnistria Region, in the Autonomous Territorial Unit (ATU) Gagauz Yeri and in Taraclia district, contributing to the socio-economic development of the regions as well as cross-river economic and expertise exchanges and thus sectorial confidence building and promotion of local entrepreneurship in Transnistria in partnership with Moldovan counterparts.

It will also demonstrate the suitability of modern biomass-based heating systems for small towns and the efficiency of integrated renewable energy and energy efficiency solutions.

However, the specific emphasis of the project phase II on supporting market development and consolidation is achieved by a comprehensive regulatory as well as supply and demand side approach, which spans over all 4 project components. To ensure the quality of solid biomass fuel, which is essential for the development of a sustainable and competitive biomass fuel market, a Quality Assurance Center will be established. The biomass-boiler database and the monitoring system to be set up will also contribute to quality assurance of the market.

Aiming at further stimulating local market for biomass boiler production/assembly, the the Revolving Funds established during the first phase of the project will remain under operation managed by the local partners, the project having a monitoring and oversight function and providing assistance in targeting the leasing scheme, contributing to further stimulation of local market for biomass boiler production/assembly. Other tools, like performance grants, could be applied, incl. for companies performing well under the current subsidy programme for household-size boilers run by the project through the EEA. Support to PPPs will be enhanced to ensure sustainable biomass-based heating services and efficient operation and maintenance of the systems.

A strong emphasis will be put on continuous training of the emerging biomass boilers operators and institutionalization of such a function which is sustained beyond the project life-cycle.

Project components: outputs and indicative activities

The Moldova Energy and Biomass Project consists of four inter-related outputs (work packages) as follows:

- Output 1: Municipal biomass heating and fuel supply markets established (work package 1)
- Output 2: Foundations laid for establishment of efficient household heating, industrial cogeneration and biomass briquetting markets (work package 2)
- Output 3: Capacity for local growth of biomass markets at regional and local levels is built (work package 3)
- Output 4: The opportunities and benefits of biomass energy for Moldova are well known locally, and visibility of project results promoted. (work package 4)

The outputs and indicative activities are described below.

Output 1: Municipal biomass heating and fuel supply/technology markets established (work package 1)

As part of the EaPIC project top-up, this component aims at installing at least 80 biomass-based municipal heating systems and establishing related fuel supply markets (together with Component 2), as such contributing to sustainable income generation and value-added chains at the local level. Specific emphasis will be placed on the target regions ATU Gagauzia and Taraclia district, Transnistria region, small towns, as well as on putting in place adequate mechanisms and services to ensure the sustainability of investments. In support of the other activities under this component, in Transnistria activity 1.3 will be focused on low-cost actions on policy, regulation, and contracting to support the market environment in the region.

During phase II of the project, this component also has an increased focus on the further development of the domestic biomass fuel market in view of ensuring sustainable supply, enhanced competition between producers, application and verification of quality standards, certification of products and end-consumer protection. The biomass-boiler database and monitoring system to be set up as part of activity 1.3 will further contribute to quality assurance of the market. Besides fuel supply the project will put specific emphasis on further stimulating the local market for biomass boiler production/assembly. A comprehensive market development and consolidation package will be implemented. The well-established Revolving Funds will continue their operation under close guidance and monitoring by the MEBP.

Indicative Activities

Activity 1.1: 80 heating systems and 20 solar hot water systems in public buildings installed

As part of up-scaling the initiative in the framework of the EaPIC top-up, specific emphasis will be placed on the target regions ATU Gagauzia and Taraclia district, Transnistria region, small towns, as well as on putting in place adequate mechanisms and services to ensure the sustainability of investments.

The aim is to install at least 80 new biomass-based municipal heating systems with a specific regional focus on Transnistria region, ATU Gagauzia and Taraclia, and emphasis on small towns. The target for Transnistria region is 15 public buildings (3 per district on average). Especially in the case of school, it is important to mention that both, schools under the Moldovan Educational Authorities and those under the de-facto Tiraspol administration will be equally entitled to receive biomass boilers. In at least 20 selected sites the biomass heating systems will be complemented with solar systems for hot water provision, raising significant synergies and demonstrating complete renewable-energy based solutions. Kindergartens and medical facilities are proposed as target sites for solar systems due to the immediate impact of the proposed installations on the health and well-being of the final beneficiaries. In addition, kindergartens (as compared to schools)

and medical facilities are operating throughout the year, as such providing the ideal demand profile and prerequisites for the proposed technical solutions.

The activity will be implemented through the well-tested participatory community mobilization approach with involvement of direct beneficiaries, representatives of local administrations, recipient institutions and other relevant stakeholders. Information and awareness raising activities will be carried out both at district level and at municipal level. As in the current MEBP phase, equal participation of men and women in all decision making processes in communities/towns associated with the implementation of biomass projects will be sought.

Expressions of interest received from interested small towns and communities from focus regions will undergo a comprehensive and participatory appraisal procedure, including: technical feasibility, energy performance assessment, community capacity assessment in view of system maintenance and ensuring sustainable fuel supply, environmental impacts, fire protection, cost and economic evaluation. Following the established practice, the rural communities will be required to contribute with 15% and towns with 20% to the overall cost of the community project. The contribution will be in cash and in-kind, and will be assessed and agreed during the appraisal stage.

During the inception phase of phase II and prior to starting the activities at the district level, a partnership mechanism with the Energy Efficiency Fund will be designed and established that would allow for a coordinated approach in investing jointly at the same sites for demonstration purposes to be further scaled-up and replicated.

The Energy Efficiency Fund (EE Fund) supports projects in the Republic of Moldova aiming at promoting energy efficiency (EE) and utilization of renewable energy sources (RES) that reduce energy consumption from conventional imported energy sources and greenhouse gas emissions. The financial support from the EE Fund is provided mainly for measures that result in direct and significant energy savings including: improvements in the building envelope; EE improvements and use of RES (including use of biomass) in public heating and hot water systems and other measures. Measures to disconnect from the District Heating system are not eligible for support.

For private sector projects, the EE Fund developed a Joint Financing Scheme (in form of MOUs) with other local financial institutions. The same approach might be adopted for a Partnership Agreement between UNDP and EE Fund. Such a partnership between UNDP and EE Fund can be made operational in a limited timeframe (2-3 months, during the inception phase) through decisions of the EE Fund Administrative Board and the MEBP Project Board and does not require any amendment to the existing regulations of both partners.

For the establishment and formalization of the partnership, the following indicative steps and procedural aspects will be followed and further developed during the Inception phase:

- 1) Formal commitment of UNDP and EE Fund management on establishing a co-financing partnership
- 2) Development of a Joint Financing Partnership Agreement (PA) between MEBP project and EE Fund by adjusting existing templates to the needs of MEBP and Public Sector projects
- 3) Approval of the JFPA by the Administrative Board of the EE Fund and by the MEBP Project Board.
- 4) The EE Fund already launched a Call for Proposals for the Public Sector for 2014 which will be operational on an on-going basis, based on a "First Come – First Served" modality.
- 5) The EE Fund will share with MEBP the list of potential projects to be approved by the EE Fund for financing. MEBP will share with the EE Fund the list of projects that are considered for implementation/approval within activity 1.1.
- 6) Upon approval of projects to be financed by the EE Fund, preference will be given to those with secured co-financing (partial or full) from MEBP or other sources for the implementation of heating systems based on biomass boilers. However, the community

co-financing requirements of both EEF and MEBP will be applied. More specifically, any contributions coming from EEF cannot be considered as local contribution/co-financing for the MEBP and vice-versa.

- 7) Upon approval of projects to be financed by MEBP, preference will be given to those that have secured co-financing (partial or full) from EE Fund or other sources for the implementation of EE measures in buildings. For such project proposals EE Fund will also share with MEBP the developed Energy Audit Reports on the evaluated buildings, which will exclude duplication of investments in organization of energy audits which will lead to more efficient use of project money.
- 8) The implementation/supervision/final acceptance processes related to jointly supported projects will be accomplished based on internal procedures of both financing partners with exchanges of relevant documentation as per the PA provisions.

During the phase II inception phase MEBP project will also continue collaboration with Regional Development Agencies (RDA) in order to ensure coordination of activities and avoid duplication of similar work in the regions. Since the beginning of the project a demand driven collaboration strategy is applied between MEBP and RDAs, in particular organization of meetings during promotional and awareness raising activities, exchange of evidence and information on the projects implemented in the different regions by both parts, common presentation to potential beneficiaries at the regional workshops, technical meetings, etc.

For the design and installation of the additional 80 biomass heating systems, including about 15 systems in Transnistria region, the Design-Bid-Build procurement approach is proposed to be applied. This will involve the following steps:

- a. During the project phase II inception phase one or more experienced design company(ies) will be contracted based on a Long Term Agreement (LTA). The company(ies) will develop the technical designs (drawings and technical specifications for construction/installation and putting the heating systems into operation), estimation of costs and bill of quantities, forming the basis for subsequently tendering the implementation and construction works.
- b. In parallel to the selection of the design company(ies), the PMT with support of international expertise will develop the tender documentation and criteria for selecting the companies for the construction of the heating systems. In addition the international consultant(s) will check the Bill of Quantities (BOQs) elaborated by the design company and perform overall quality control of the winning bids.

Note: Different procurement approaches (Design-Build vs. Design-Bid-Build) have different advantages and disadvantages. The Design-Build procurement approach was applied in the first phase of the project because of the tight schedule of activities, early defined costs, and having a Single Point of Responsibility. For the new phase of the Project, the Design-Bid-Build procurement approach is proposed. Although this approach requires more time for implementation as compared to Design-Build (approximately 12 months vs. 8 months), the costs are generally lower, it gives better control over the final cost of works and additional leverage in controlling the costs already at the design stage. These factors are of significant importance considering the reduced budget per project site (please see also Annex B).

For selection of kindergartens where both biomass and solar hot water systems will be installed the following indicative selection criteria will be used:

1. Local authority and community demonstrate strong motivation and willingness to implement combined solar and biomass-based technologies for heating and hot water provision;
2. Community has sufficient institutional capacity to mobilize local human and financial resources, to cover 15% of the overall heating and solar hot water project cost;
3. Existence of a suitable facility that meets the technical requirements for switching to both biomass heating and solar hot water systems;
4. Number of children attending the kindergarten; preference here will be given to villages and small towns with kindergartens with a larger number of attending children;
5. Existence of a functional and suitable hot water distribution network (or co-financing secured for its installation);

6. Possibility to install the required equipment (hot water distribution node or nodes) within an optimal radius;
7. Existence of a continuous water supply source (connection of the kindergarten to central water supply networks);

For the combined biomass heating and solar hot water systems, the well-tested community mobilization approach will be applied. Information and awareness raising activities will be carried out by Project Management Team (PMT) at both district and municipal level. As result of awareness raising activities target communities will submit Expressions of Interest (Eoi) to district authority, which subsequently will be transferred to MEBP Office or can be also submitted directly to MEBP Office. In case communities would like to install in kindergartens or healthcare facilities both biomass and solar systems, they will have to express their interest for both and after the pre-selection procedure submit a project proposal for combined systems.

Sub-Activity: Monitoring of biomass heating systems implemented during the first phase of MEBP

Monitoring and post implementation supervision of 141 biomass heating systems installed in public buildings will continue during EaPIC top-up phase, in order to ensure sustainability of biomass heating projects in rural communities implemented during the first phase of the project.

These activities mainly aim at organization of unannounced visits to implemented projects sites in communities with the purpose to: (a) supervise how communities fulfil their commitments for ensuring sustainability of implemented projects and (b) provide necessary technical assistance to beneficiaries, when seen needed. In particular, during these visits project consultants will carry out the following activities: communicate with project beneficiaries and representatives of local public authorities and get information on the practical operation and performance of biomass heating systems during the last heating season; verify and monitor how biomass heating systems were served, maintained and prepared for the new heating season; how boiler operators are ready to operate with the systems; how the systems are supplied with biofuel, type, cost and quality of purchased biofuel and other issues related to sustainability of installed biomass heating systems. During monitoring and supervision visits administrators of public buildings and biomass boiler operators will also get technical assistance regarding typical measures for preparation of heating systems for the new heating season, regular measures for technical maintenance of boiler plants during the year, options for training of boiler operators and procurement of quality biofuel, and other topics.

Such visits will be carried out at the beginning of new heating season and/or by the end of each heating season to collect performance indicators. District local authorities, rayon energy managers and other relevant departments, by case, will be also invited to participate at the meetings organized in communities. The findings of the visits will further inform the capacity development and awareness raising activities undertaken by the project, as such allowing the project to immediately build in the lessons learned and disseminating them to the new generation of project beneficiaries. Each project site will be visited at least once per year of phase II of the project.

Activity 1.2: Fuel cycle facilitated through leasing/hire-purchase mechanism for local fuel suppliers

During Phase I of the project, Activity 1.2 aimed to support the development of a private sector market for contractors wishing to act as fuel suppliers to the heating plants installed under Activity 1.1. The Revolving Funds put in place for this purpose during the first phase of the project will remain operational during the second phase, managed by the national partners in line with the Responsible Party Agreements signed between them and the Ministry of Economy.

The project will not allocate further seed capital to the Fund but will remain responsible for monitoring the Revolving Fund operation and in parallel work with all partners on an exit strategy to be implemented by the end of the EaPIC second phase. As such the Revolving Fund successfully established under the ongoing project will remain and asset further stimulating the private sector market for biofuel production with focus on pelleting, ensuring a sustainable fuel supply to the heating plants installed within the project framework and beyond. MEBP will ensure that the Revolving Fund instrument will continue to respond to emerging needs and technologies

of the fuel production sector, leasing equipment required for the production of high quality solid biomass fuel (including efficiency improvements at all stages of biofuel production, most importantly drying) and potentially for biomass technology providers, incl. boiler manufacturers or producers of biomass processing equipment. MEBP together with the Energy Efficiency Agency and relevant authorities will also explore the possibilities for entrepreneurs from the Transnistria region to access the leasing instruments under the two Revolving Funds and facilitate this process. This will involve an assessment of potential legal/customs barriers, financial risks, political risks and absorption capacity of the private sector on the left bank.

Sub-Activity: Monitoring of the Revolving Funds and design of the final exit strategy

During the second phase of the project a thorough monitoring mechanism of the Revolving Funds will be set up to offer sufficient evidence that the allocated resources are used according to initially signed agreements and for the overall benefit of the local biomass market. The tools used to ensure the successful monitoring of the Funds used to lease the biomass processing equipment to local producers will include, but will not be limited to:

- quarterly narrative and financial reporting,
- regular spot checks undertaken by project staff (at least 12 per responsible party during 36 months, meaning 24 in total),
- field visits (at least 2 per year and party, meaning 12 in total)
- annual third party audits (3 in total per responsible party, meaning 6 in total, commissioned by MEBP and conducted by an independent audit company))

Based on the experience of the first phase of MEBP implementation, the EEA and 2KR will provide quarterly financial and narrative reports, accompanied by banking documents providing detailed financial information on the accounts' balance and on the purpose of the funds usage.

MEBP will provide aggregated reports to EUD about the progress of the Revolving Funds, results of the spot checks, in-the field verifications and audits as part of the regular narrative monitoring to the EUD. In addition, if needed, detailed separate reports will be made available at request.

In parallel, during the second phase the project will work with all stakeholders, most importantly Ministry of Economy, Ministry of Agriculture and Food Industry and the EUD to Moldova, on a clear and jointly agreed exit strategy, determining the further use of recollected funds and/or continuous management of the Revolving Fund after the closure of MEBP's second phase. The target is to elaborate a Government Decision, in combination with a detailed spending programme in case the Revolving Fund operation is discontinued after project closure, outlining all legal, administrative and technical aspects of continued Revolving Fund operation or use of accumulated funds. As such assurance is given that the seed capital initially invested in the Revolving Fund during the first phase of the project will ultimately be invested in the further development of the local biomass market. The draft Government Decision, and if applicable the spending programme, will be elaborated in a timely manner and presented for consultation and approval by the Project Board at least 12 months prior to project closure.

Activity 1.3: Market environment enhanced to support quality, efficiency and effectiveness and further market consolidation supported

Ongoing engagement by the PMT with national authorities will be pursued so as to address policy, legislation and bylaw development to facilitate the local biomass markets. This engagement will include regular meetings with relevant government stakeholders to address key factors and adopt best EU practice, and small studies as required to identify best practice for other factors. The studies and recommendations / stakeholder dialogue will aim to target very specific issues related to this project's success, and will thus avoid overlap with the significant budget support provided by the EC and other donors in the Moldovan energy sector.

During project phase II, Activity 1.3 will follow a comprehensive strategy in support of further biomass market development and consolidation. The project's interventions will target supply of both biomass fuel and technologies, improved quality, improved market transparency and access to information for evidence-based policy and decision making, and continue to support the creation of an enabling market environment.

In summary, the following sub-activities are foreseen:

- Establishment of a biomass-boiler database and monitoring system
- Quality assurance of solid biofuels in view of enhancing the market environment
- Stimulating biomass market development through access to information
- Systematic assessment of biomass potential
- Designing a support mechanism for biomass market development
- Trade missions and study tours
- Demand-driven expert facility

Based on the lessons learned from the first phase, this approach will allow for a certain degree of flexibility in responding to emerging needs and challenges and as such for the project to remain highly relevant throughout implementation.

Sub-Activity: Establishment of a biomass-boiler database and monitoring system

As part of project phase II an additional sub-activity will support the Energy Efficiency Agency in exercising its monitoring and control function by supporting the set-up of a database on installed biomass boilers and piloting a comprehensive monitoring system based on sensors for remote data collection.

For testing purposes, 14 sensor systems were installed with MEBP support on existing biomass boilers and are ready to provide the required information. The full system functionality is however only ensured by the existence of a remote hardware server ready to process collected data. Additionally a desktop access point may be required to access data by users as well as software for data storing and processing. The project will support regulatory changes to facilitate the mandatory registration of all biomass boilers under this system with subsequent installation of sensor equipment. This activity is planned as pilot in establishing a one-source database for all boilers operating in Moldova.

The development of such a system will:

- Provide systematic and reliable information on heat production and fuel consumption;
- Thermal comfort in buildings, CO₂ and other relevant emissions, operation indicators and security parameters.

The evidence and real-time information collected and integrated in a comprehensive database maintained by the Energy Efficiency Agency will allow for fast corrective actions, improvement of the overall sector performance and contribute to sustainability of investments.

Field supervision of completed projects will be continuously organized by MEBP and EEA apart from biomass-boiler database and monitoring system. As outlined under activity 1.1 it is planned that EEA and MEBP representatives will conduct regular joint (unannounced) visits among all the completed biomass project sites, exercising supervision and control of the quality of functioning of biomass heating systems, as well as, identifying any emerging issues and providing necessary technical assistance to beneficiaries.

Sub-Activity: Quality assurance of solid biofuels in view of enhancing the market environment

The issue of assuring the quality of biomass fuel is critical in the current stage of market development in Moldova. While a few years ago only several demonstration production sites were in place, currently more than 120 companies are operational and produce biomass fuel in Moldova. However the quality of their end-products is not uniform and in many cases does not meet fuel quality standards and expectations. This situation has serious implications for the continuing positive development of the market which has been voiced by authorities, practitioners and end-consumers the like.

Against this background, the Ministry of Economy together with the relevant bodies and MEBP support has already undertaken decisive steps towards putting in place the required regulatory framework. In 2012, 37 fuel quality standards were adopted and a technical regulation was approved by the Government in 2013. The provisions of the technical regulation are mandatory for all local producers, incl. minimum physical and chemical characteristics of the products to be labeled as pellets and briquettes. The currently missing decisive building block in enforcing both

the standards and the technical regulation is a certified body equipped with the necessary laboratory equipment⁴ to test and certify the products placed on the Moldovan market.

As part of the project phase II this activity will support, eventually co-finance, the establishment for an authorized laboratory (Quality Assurance Center) for verifying and certifying the quality of solid biomass fuel, essential for the development of a high-quality biomass fuel market and ensuring fair competition between producers and protecting the final consumer. In close collaboration with the National Institute for Standardization, the Agency for Energy Efficiency and the Ministry of Economy, the project will facilitate through targeted capacity assessments and a competitive process the identification of the most suitable host for the Quality Assurance Center exercising the functions introduced by national legislation. The laboratory's capacity will be strengthened with technical trainings and laboratory equipment for fuel quality testing.

In case additional standards will be required for the sector, MEBP will participate together with the relevant authorities in the elaboration of these standards.

Sub-Activity: Stimulating biomass market development through access to information

As outlined under the Situation Analysis the local biomass fuel market developed rapidly over the last 4 years. Some positive signals can be easily spotted on the market, incl. the increasing number of entrepreneurs, the steadily growing number of consumers ready to switch to biomass for household heating, the growing number of institutions ready to adopt other sources of energy for heating, etc. Nevertheless, a major bottleneck remains the access to reliable information on both consumer and producer side. If not addressed, the risk of slowing down the positive dynamics of sector development is high.

As part of the EaPIC top-up the project therefore intends to focus on increasing access to information by developing an integrated (Business-to-Business B2B and Business-to-Consumers B2C) electronic platform ready to deliver reliable, multidimensional information about biomass as fuel. Being the first dedicated resource of this type, it is expected that the platform will have a central role in facilitating sales of biomass fuel, biomass boilers and equipment. It will provide support for those undecided in taking the decision of switching from fossil fuels to a valid and locally available alternative. The platform will provide information for

- 1) Matchmaking between biofuel consumers and producers. This will include a producer registration providing detailed information about products and prices to facilitate matchmaking between suppliers of biomass fuel and potential buyers.
- 2) Households/businesses interested in installing boilers, providing information on available technologies, their characteristics and performance, and producers and retailers available on the market. This is complemented by information on available incentive schemes (e.g. subsidy and grant schemes or preferential loan products from commercial banks, etc.).
- 3) Information for fuel producers, boiler assemblers/producers and equipment producers, including information on latest technologies and inventions, international market development and trends, including through connections with international and regional knowledge and trading platforms in the sector.
- 4) Policy and decision makers and market stakeholders in form of market analysis. This will include data on biofuel prices, quality, and quantity and their development, based on a systematic and regular market monitoring. Market trends for boilers and fuel production equipment will be another important part.

Technically, a web portal deployed to respond to the needs of different stakeholders will be created with the project's technical and financial support. More specifically,

- A modular approach will be followed, ensuring that each of the modules described above responds to the needs of the target group and that post-project ownership and

⁴ This includes testing the fuel against its physical (diameter, length, bulk density, fines, moisture content, ash content, net calorific value) and chemical (sulfur, nitrogen, chlorine, arsenic, cadmium, chromium, copper, mercury, lead, zinc, nickel, and additives content) specifications set in the regulation.

maintenance is ensured. The platform and its modules will be developed with project support and will be gradually transferred to a national partner. A number of local institutions having a market development mandate have already expressed interest in continuing this effort. The selection of the partner(s) hosting the platform or selected modules will be done in close consultation with all market stakeholders.

- Based on a needs and feasibility assessment, interactive tools for producers to sell and for consumers to buy biomass fuel, boilers, auxiliary equipment, etc. may be introduced as part of the portal.

Sub-Activity: Systematic assessment of biomass potential

The decision of an entrepreneur whether to become active in the biofuel or biomass technologies sector critically depends on reliable and readily available information on the availability of the raw material, incl. estimations of current and future biomass potential. The projections have to be broken down by type of raw material and region.

In the first phase of the project, a study estimating the potential of biomass for business was carried out. While assessments like this have to be updated periodically, there remain underlying bottlenecks which also have to be addressed, namely

- Currently no national methodology is in place for estimating biomass potential, nor official statistical data. This leads to large discrepancies in the figures being published, ultimately creating uncertainty for entrepreneurs and impacting investment decisions.
- Lack of statistical evidence and systematic data collection for agricultural and wooden biomass, not allowing for coherent, regular and sufficiently disaggregated estimations and forecasts of biomass potential.

To remove this critical market development barrier the project will simultaneously provide support on methodology, indicators and data collection and updating biomass potential estimates. More specifically, the following steps are envisaged:

- a) Undertake a review of studies on biomass potential developed until now, to aggregate and validate presented data and identify the biggest discrepancies and inaccuracies. This will provide a clear picture on the weaknesses of data collection per type of biomass and will set the baseline for the work on improving data collection and assessment methodology.
- b) Support the elaboration of a methodology for estimating the biomass potential in close collaboration with the Ministry of Economy, National Bureau of Statistics, Ministry of Agriculture and Food Industry, and Energy Efficiency Agency. It is expected that the adoption of the methodology will provide for coherent data as basis for decision and policy making.
- c) Support the improvement of primary data collection and creation of official statistical evidence on agricultural and wooden biomass in line with the elaborated methodology. It is expected that this will be based on EU experience in the field of statistical evidence of biomass residues and fuels and require a subsequent transposition of normative acts to the national legislation. The role of the project will be limited to increasing awareness of the problem as well as collaboration, in the limit of the project's mandate, with local and international partners working to support National Bureau of Statistics in aligning local statistics to EU practices.
- d) Update the study on biomass potential in line with the new methodology and, as much as possible, improved primary data.

Sub-Activity: Designing a support mechanism for biomass market development

While the biomass market was developing well over the last few years, there remains a need for continued support in view of consolidating the market and helping it adapt to a changing market environment, incl. changing quality requirements. At the same time the market of biofuels and biomass burning and processing technologies is of strategic importance to the country and public spending programmes, e.g. via the Energy Efficiency Fund, are being put in place. Private sector support mechanisms, be they publicly or donor funded, have to be carefully designed in order to avoid any market distortion, comply with state aid legislation and principles, while providing the right incentives to private sector agents.

Against this background the project will undertake a study aiming at identifying all potential financial, fiscal, economic, legislative instruments for market stimulation and review their feasibility

and suitability, and recommend options for the most promising package of interventions. The study, undertaken with support of international expertise, will

- Start from a review of assessments undertaken in this domain, e.g. a recent study on promoting eco-technology uptake
- Design instruments in close collaboration with the partners foreseen to adopt and implement them subsequently, most importantly Ministry of Economy, Ministry of Finance, and Energy Efficiency Fund.
- Be based on lessons learned of successfully applied market development models in the sector in other European countries
- Provide clear and practical guidelines for each of the instruments or set of instruments proposed, describe in detail the level of effort needed and steps in implementation such as, responsible institution, expected timeframe, necessary additional resources, expected impact, etc.

Based on the recommendations of the study, the project will provide limited targeted support to operationalize those instruments selected by national partners for immediate implementation. This technical assistance can for example involve drafting of legislation or spending programmes.

Sub-Activity: Supporting local biomass market consolidation through trade missions, study tours

In view of the need to support further market consolidation, in parallel to the market development activities outlined above, during its second phase the project will continue to directly work with entrepreneurs in the sector focusing both on local fuel production and boiler production/assembly. Compared to the biomass fuel market, the biomass boiler production/assembly segment is considerably more underdeveloped and needs additional stimulation. While the demand side measures in the first phase of the project have already contributed to kick-starting national production, further support is required to increase domestic supply of bioenergy technologies. The support can also be extended to domestic production of biomass processing and solid biofuel production equipment. The private sector development and consolidation approach adopted by the project ultimately will support the sector to rapidly adapt and remain competitive internally and externally despite changing market conditions caused by new quality requirements and increasing trade liberalization specifically with the EU and Turkey.

The specific objectives are to:

- Build the capacity of Moldovan companies along the whole chain of solid biofuel production, marketing and trading. This objective is also pursued by Activity 3.3.
- Facilitate knowledge and information exchange, promoting state-of-the-art technologies and the assimilation of external experience and best-in-class examples. This objective is also pursued by the web-platform described above.
- Facilitate business relationships with foreign companies.

The market development intervention package will include the following activities:

a) One study tour for entrepreneurs with participation of selected policy makers with the purpose of providing examples of state-of-the-art production technologies, practical solutions to different issues alongside the value chain of biomass fuel, logistics, marketing and trading tools – following the principle of “learning from the experience of the best-in-class”. The target countries to be visited will be selected based on their similarity with local production conditions.

b) One trade mission for biomass boiler assemblers and/or producers and one trade missions for biofuel producers with the objective of establishing business relationships with foreign companies in view of local production under foreign licences and procurement of equipment and providing opportunity to explore new efficient technologies. Participants will be selected on a competitive basis among the most active local boiler producers/assemblers. The missions will cover selected EU countries and where feasible will be combined with participation at relevant specialised international exhibitions/trade-fairs.

For all study tours and trade missions, the project will make an effort to include people and entrepreneurs from both banks of the Nistru, as a particular step for building confidence as well as sharing good experience. The project is aiming at supporting the development of cooperation that remains after the end of the project.

Sub-Activity: Demand-driven expert facility

Targeted European expertise in form individual experts or consulting services will be made available to actors of the local biomass market, providing access to specialized knowledge in production and consumption of biomass, latest technologies and inventions, international market development and trends, policy and regulatory frameworks, support mechanisms and incentive schemes.

Based on the demand identified by the project team or project stakeholders from the public and private sector, international experts will be contracted for specialized assignments responding to emerging needs and critical issues and barriers identified as part of project implementation. The technical assistance can range from training provision, workshops for practitioners, inputs for policy and regulatory framework development, methodological guidance, etc. The experts' work will also be used to populate the web-platform with latest information.

Other low-cost activities will address emerging policy, legislation and bylaw development issues for further enhancement of the local biomass markets. This will include round-tables, workshops and discussions on topics relevant to production, quality, trade, marketing, etc., with participation of international and national experts as required.

In Transnistria region, based on the ongoing engagement of the Project Management Team with the de-facto regional authorities, low-cost activities will be proposed to be implemented to address policy and regulatory gaps identified during project implementation on the left bank of Nistru in order to ensure the applicability of the technologies and the functioning of local biomass markets. This engagement will include regular meetings with relevant local administration stakeholders and beneficiaries to address key factors and adopt best practices, also building on the lessons learned during the implementation of the Moldova Energy and Biomass project on the right bank.

Output 2: Foundations laid for establishment of efficient household heating and heat supply markets established and private sector demand promoted (work-package 2)

As part of the activities under the EaPIC top-up, this component will up-scale Activity 2.1, promoting biomass technologies at the level of individual households and small businesses. Based on the results and lessons learnt from the previous period, at least 300 households and small businesses will be supported to procure modern and efficient biomass boilers under preferential conditions.

For fostering PPPs for establishing sustainable biomass-based heating services and efficient operation and maintenance of the systems supported under Activity 1.1, the project will provide technical and financial support to up-scale Activity 2.2 with creation of 7 new PPPs throughout the country. It is expected that successful PPP models will be further replicated, triggering private sector investment in biomass-based technologies.

By piloting the use of biomass in selected economic sectors with high replication potential, Activity 1.4 will both stimulate private sector demand for domestic biofuels and potentially biomass burning technologies as well as demonstrate the efficiency and cost-effectiveness of biomass technologies in production processes. The pilots will be undertaken in collaboration with Agricultural Colleges and Professional Schools with production process with high replication potential. Further, at the so far untapped potential of household wastes and residues as raw material for biofuel production will be demonstrated in the framework of an inter-municipal cooperation pilot project.

Indicative Activities

Activity 2.1: Market solutions for high efficiency affordable rural biomass household heating identified and piloted

This project activity will aim to stimulate the market for high efficiency biomass-based domestic heating systems. It follows a classic commercial market creation / market barrier model consisting of four key interrelated components: a) information, knowledge and outreach, b) strategic partnerships and alliances, c) infrastructure support, d) market stimulation.

As part of the EaPIC top-up, this activity will give additional stimulus to the market for high-efficiency household-size biomass heating systems suitable for rural areas and small towns.

Prior to continuing the incentive scheme during phase II, a study will be commissioned to analyse the existing subsidy mechanism, aiming at a better targeted and differentiated approach, both in the residential sector and for micro-enterprises. It is expected that this will result in an adjusted level of the subsidy, further broken down by type of technology and boiler performance, household income, type and size of business and fuel used. Additional selection criteria will be proposed and introduced after Project Board approval, aiming to improve the effectiveness of the incentive scheme local households and businesses.

At least 250 additional heating systems will be installed in private houses with the financial incentive provided by the project in partnership with the Energy Efficiency Agency, incl. up to 20 units in Transnistria region. Under this sub-activity, women -led households and women homeowners will be given preference when applying for the subsidized household boiler program. A selection criterion in this regard will be developed, discussed with the Project Board and introduced in the regulation. In the second phase, more emphasis will be placed on promoting the scheme among micro-enterprises, specifically in rural areas, via a targeted communication and information campaign in close collaboration with relevant partners like the Energy Efficiency Agency or Chamber of Commerce. At least 50 businesses will have efficient stoves installed by the end of the project.

All boilers eligible for participation in the programme will use biomass briquettes and/or pellets as fuel and will be partially or fully assembled / manufactured in Moldova.

Activity 2.2: Market solutions for biomass-based heat supply services in public buildings developed

As part of project phase II, this activity will upscale the pilot activity on establishment of PPPs for provision of sustainable heating services based on solid biomass fuel to all regions of Moldova, contributing to the overall biomass market development. Partnering of public and private sectors for providing heating service to public buildings will:

- Increase the heat comfort by providing professional contracted heating service to target buildings
- Transfer the responsibility for boiler operation to the private partner (fuel type, quantity and quality, hiring and training operators, maintenance of boiler room, daily operation, etc.)
- Add value to the overall service quality by involving professionals in the process
- Increase the sustainability of the overall existing investment through use of high quality fuel, provision of professional operational and maintenance service, as well as expansion of the network of biomass boilers through commercially viable investment projects.

Up to 7 PPPs will be established in all Regions of Moldova, with at least 1 PPP in ATU Gagauzia, Taraclia and/or Basarabasca districts respectively. The selection of PPPs will be based on a competitive process, collecting Expressions of Interest from District/Local Authorities and subsequent competitive tendering by the Local/Regional Public Authorities for the identification of the private sector partners.

The establishment of the PPPs will be coordinated with and guided by the Agency for Public Property, which is the relevant state authority in the field. The project will make sure that synergies are created with the current Twinning Project targeting the Agency for Public Property and that any potential overlaps are excluded.

The MEBP support will cover the cost of the PPP feasibility studies as well as provide a grant incentive for the investments envisaged under the PPP.

Activity 2.3: Efficient and sustainable biomass burning technologies for production processes piloted and the potential of household level residues explored

During its first phase, the project successfully stimulated demand for solid biofuels from the public and private residential sector. In support of a sustainable solid biofuel market and technology providers market it is however also necessary to create demand from the commercial sector and sectors with so far unrealized potential, as municipal services. The project will therefore as part of the second phase support piloting the use of biomass for selected sectors and production processes with high replication potential and direct availability of relevant residues. The project will have an integrated approach towards contributing to achieving the overall goal of demonstrating the sustainability of using biomass in economic sectors and generating private sector demand.

Switching to biomass fuel is advantageous due to cost and price considerations. Energy as an important element of production cost influences the price of end-products and as such the competitiveness of the private sector. Therefore the incentives are high to invest in changing production technologies, energy efficiency and alternative energy resources in production processes. Further price predictability is higher compared to fossil fuels where price formation is not transparent and dependent, incl. on external geo-political factors. And closed cycle systems, e.g. where an enterprises uses its own residues for energy generation, bring efficiency gains. At the regional level, inter-municipal cooperation (IMC) is being piloted in Moldova as a promising model of efficient and sustainable service delivery at the local level. At the same time the estimated potential of household residues as raw material for biomass fuel production is high, specifically in rural areas and smaller towns.

Indicative sub-activities include:

- Identification of economic sectors with high replication potential of using biomass in production processes: This assessment is potentially undertaken as part of the analysis on support mechanism and biomass potential carried out as part of activity 1.3. A prospective priority sector is agriculture and agro-processing as one of the major sectors of Moldovan economy, with for example the fruit/grain drying having a high estimated potential of using biomass for energy. Introduction of state-of-the-art technologies in the field of biomass burning has the potential to decrease energy costs of the sub-sectors. Such models, when identified, piloted and tested, have a significant replication potential.
- Piloting the use of biomass for heat generation for production processes in the framework of Agricultural Colleagues and Professional Schools: As a starting point, an analysis of all colleges and schools will be undertaken, identifying available raw materials, production processes, heat energy demand and heat load, and potentials for integrating biomass technologies. Based on the results, two institutions will be selected for the realisation of pilot projects with the aim of demonstrating the application of biomass technologies in production processes. Preference will be given to institutions with own available raw materials (to demonstrate a closed cycle system) and production processes which have high replication potential in the private sector. The scope of the pilots encompasses both the production of biomass fuel, i.e. for example establishment of a briquetting line, and installation of a biomass boiler for heat provision. Based on the pilots, replication guidelines will be produced and further replication promoted, incl. in partnership with MoSEFF or other partners offering financing and assistance for the realisation of such projects. Close synergies will be established with the VET activities under component 3 (Activity 3.5), either having the VET partner institution selected as pilot site and/or by linking the VET activities with the pilot schools and colleges for hands-on exposure for training purposes.
- Piloting IMC for biofuel production and supply: Currently IMC models in form of municipal or private enterprises providing services to a group of municipalities are being piloted throughout the country. The services cover for examples water supply, solid waste management, street lightening and others. Among the 10 pilot IMCs currently working, 5 focus among other things on waste collection. A considerable share of household wastes, if collected separately, can be further used as raw material for solid biofuel production. The project will conduct a feasibility study and an analysis among all relevant IMCs and localities with the aim of identifying one pilot site. The pilot project will focus on establishing a system of separate collection of household wastes of organic origin, which will subsequently be processed and briquetted by the enterprise. The produced briquettes will be delivered back to the households based on a well-defined supply scheme. The pilot

project will co-finance the investment cost related to installing a briquette production line and a biomass boiler for the premises of the enterprise, and will cover the costs related to an awareness raising and education campaign among the households benefiting from the services. In addition, small scale equipment or low cost collection bins, as initial incentive for households, will be provided on a cost-sharing basis.

- Promotion and replication: In order to stimulate initial replication, the successful pilots will be widely promoted and lessons learned will be codified in brief case studies and replication guides. The project will closely collaborate with institutions and programmes providing financing or support for replication, including MoSEFF and Energy Efficiency Fund. Based on the study on appropriate market support mechanisms and instruments undertaken as part of Activity 1.3, the project will promote the adoption of relevant instruments for further replication. As a result of project implementation it is expected that the private sector will increasingly uptake biomass technologies, creating internal demand while ultimately reducing production cost and prices for end-products.

Output 3: Capacity built for growth of biomass markets at regional and local levels (work package 3)

Output 3 aims to ensure that the benefits of biomass energy demonstrated and deployed under outputs 1 and 2 are delivered in a lasting and long-term way and that local capacity for further replication is ensured. For each stakeholder type to be reached under output 3, the first step will be the development of training materials, to be placed in the public domain. These materials, to be updated and improved each year, will provide an accessible repository of key information, and will be used either in the training to be delivered under outputs 1 & 2 or in sub-activities under output 3. The stakeholders to be targeted include: municipal management including mayors, civil servants, and teachers; straw-fired boiler operators; fuel suppliers; and school children as detailed below. Given the significant budget support and cooperation between the EC (and other donors), and the national authorities in the energy sector, including in policy and legislation for renewable energy, this project will not seek to address renewable energy policy and related capacities directly, apart from the very specific and targeted activities that have been described under Activity 1.3 above.

As part of the EaPIC project phase II, this component aims at adapting and/or updating of training materials, as required, and tailor-made trainings for each stakeholder type to be reached by the project. The main target groups include: representatives of local public administrations, civil servants, managers of public institutions, teachers, biomass-fired boiler operators, agri-businesses and entrepreneurs intending to produce biomass fuel, current biomass fuel suppliers, school children and women entrepreneurs from ATU Gagauzia region as detailed below.

Local Public authorities and building managers from the target regions will receive technical training regarding the effective management of combined solar and biomass-based installations provided with MEBP support (Activity 3.1.). The operators ensuring the functionality and maintenance of biomass-based and combined biomass and solar installations will receive technical hands-on training from the installers/providers of respective equipment, and will participate in national study visits to successfully operated sites. In parallel, in order to ensure the continuity of biomass boiler operators (existing and newly hired) training beyond the life-cycle of MEBP, the institutionalisation of the training function for biomass boiler operators will be pursued during the second phase of MEBP (Activity 3.2.). Private entrepreneurs will be trained to produce, store and supply solid biofuels in full compliance with the newly introduced standards and technical regulations. A comprehensive training module on improving their managerial skills and knowledge regarding production of high quality solid biofuels using modern technologies will be provided. Following the establishment of the biomass fuel-testing laboratory, a handbook on "Solid Biofuels Quality Assurance" will be developed and provided to biomass fuel suppliers on a self-study/reference basis (Activity 3.3). The school education activities on renewable energy and energy efficiency, especially the Bioenergy Summer Camps, will be extended to small towns from Moldova, Taraclia district, Gagauzia and wherever feasible in Transnistria. Educational materials will be updated, translated into Russian and provided to all schools from sites selected during MEBP phase II. Teachers will receive training and on-going mentoring for the organisation of education and awareness activities in schools (Activity 3.4). As part of MEBP top-up, the joint

efforts to equip the Moldovan labour force with skills that best address the needs of the emerging markets and technologies, will be addressed through the vocational education and training (VET) sector (Activity 3.5).

Indicative Activities

Activity 3.1 Capacity of municipal leaders to manage biomass systems enhanced

Municipal leaders including mayors, local councilors, and civil servants such as teachers need information in how to manage the operation of biomass-burning boilers in their local authorities. Topics to be included in the training will include general principles of operation, necessary maintenance routines, optimum building heating system operation (including such issues as overheating and underheating of various floors of the building), regular and sustained performance monitoring (including standard forms and reports), and sound management of fuel suppliers (including competitive tendering (standard tender formats), contracting (standard contracts), quality control (checking quality and condition of supplied fuel), and storage).

During project phase II the activities on capacity development for Local Public Authorities and social facility managers will be continued. Training materials will be adapted to address the specifics of small towns and Transnistria region, and translated into Russian for audiences in Transnistria, ATU Gagauzia and Taraclia district. Additional training materials related to the operation and maintenance of combined biomass and solar systems will be developed and incorporated as part of the training package provided for the respective target group. Training workshops will address both theoretical and practical aspects related to diversification of energy sources and production of energy from local renewable energy sources, specifically biomass.

In addition to the technical training provided, the LPAs at community and town level where biomass-burning boilers will be installed, will be provided with the '8-Steps Roadmap for Effective Biomass Heating' (available in Ro, Ru) developed under the current MEBP phase that outlines graphically the critical steps (purchase of qualitative fuel, preparatory works in the boiler plant, putting it into operation, ensuring a proper functioning of the heating system, boiler plant conservation, boiler plant servicing, current repair works and training of operators) to be taken by local authorities throughout the calendar year in order to ensure a smooth operation and functionality of the biomass heating systems installed with MEBP support. A similar roadmap illustrating the key steps in the operation of solar collectors will be developed for display at project locations.

Specific activities for this target group will include:

- Regional Technical Training Workshops on Effective Management of Biomass Heating Systems in Public Buildings and Energy Efficiency Measures (at least one each in Gagauzia, Transnistria region, Taraclia, and two for target sites from small towns in Moldova). For local leaders and facility managers receiving integrated biomass and solar systems as part of MEBP top-up, the training will address the operation and maintenance of such installations. As far as the Transnistria region is concerned, depending on the nature of the project sites supported during MEBP phase II, the trainings will be focused on improving the energy efficiency and energy performance of existing public buildings (possibly supported within other projects, including EU-funded ones).
- Study Visits for municipal and central authorities from ATU Gagauzia, Transnistria region, Taraclia and selected small towns from Moldova to already functional biomass heating systems and fuel production sites established with MEBP support, to raise awareness, showcase best practices and deliver hands-on experience on operation and maintenance of biomass heating systems.
- Following the successful practice from the first MEBP phase, a group of LPAs from the regions targeted during MEBP phase II, will be selected to participate in an international study visit to an European country where the use of RES-derived energy, especially from biomass and implementation of integrated solutions for clean energy production have

demonstrated their effectiveness over time as a viable and environmentally- friendly alternative to fossil fuels.

Activity 3.2: Capacity for sound operation of biomass-burning boilers developed

Under activity 3.2 training materials are developed which will supplement the training to be given by contracted firms (as mentioned in Activity 1.1 above), and provide a permanent, generic resource on the operation and maintenance of biomass-fired boilers for use by municipal leaders when hiring new operators in future years.

During MEBP phase II, the capacity building and on-the-job training activities targeting boiler operators will be based on the knowledge and best practices accumulated during the first phase of MEBP. The training materials, especially the Guide for Boiler Operators developed in both Romanian and Russian languages, will be provided to boiler operators from the new project sites on a self-study basis (prior to biomass-burning boiler installation). These will be provided prior to the hands-on training provided by biomass boilers and equipment providers. The Induction Training Programme for boiler operators implemented during the first MEBP phase, will be replaced with on the site “learning & practice days” at biomass heating project sites supported by MEBP during the present project phase for boiler operators from new target regions. For the operators at sites receiving integrated systems (biomass and solar), tailor-made training materials addressing the specifics of such installations will be developed by the providers of the respective technologies under the guidance of MEBP staff, and hands-on training will be provided on-site following the approach applied during first MEBP phase.

Specific activities for this target group as part of the second phase envisage:

- Monitoring of the standard 48-hours on-the-job training for biomass boiler operators and building management staff offered by boiler and equipment providers/installers. Continued assistance will be provided to the respective contractors in the development of tailor-made training modules specific to the type of boiler and adjacent equipment installed on each of the project sites. In the case of combined systems, additional training materials related to the operation and maintenance of integrated biomass and solar systems will be developed and incorporated as part of the training package.
- Facilitating the exchange of experience and learning between operators from new and operational MEBP-supported biomass-heating project sites. During the “learning and practice days” held on the premises of existing biomass heating project sites, the operators from the target regions part of the second phase, will learn first-hand about the functionality and specifics of biomass-burning boilers and adjacent equipment from their peers and authorised technical specialists representing the design-build contractors which provided and installed the respective systems.

Sub-activity: Institutionalisation of capacity development for sound operation of biomass-burning boilers

All boiler operators working at MEBP locations went through an Induction Training covering basic principles of biomass boiler functionality and safety in operation, as well as a hands-on, boiler-specific training, provided by the companies that installed the boilers. The training of new boiler operators from MEBP-supported sites as part of the second phase will continue following the mechanism described above.

In parallel, in order to ensure the continuity of biomass boiler operators (existing and newly hired ones) training beyond the life-cycle of MEBP, stakeholders clearly identified the need for a mandatory periodic training and/or testing of boiler operators to ensure safety and efficiency of operation (following the model of the yearly mandatory testing of gas boiler operators/technicians). To put this mechanism in place, a set of joint actions from Government and MEBP is required to address both the required regulatory changes together with institutional capacity building.

In a first step, the appropriate regulatory measures have to be identified, introducing e.g. yearly mandatory trainings for operators or a scheme of mandatory testing/certification of operators,

periodically and/or at the time of contracting. In parallel one or more relevant institutions/organisations have to be designated and prepared to provide the respective training and testing/certification. At this stage, MEBP will provide technical assistance for undertaking the assessments and preparing the regulatory changes, based on a strong commitment from the Government regarding their further promotion.

In line with the regulatory framework put in place, MEBP will support the operationalization of the mechanism by capacitating the appointed/or established institution(s) by:

- Developing a curriculum for continuous training of biomass boiler operators;
- Producing training modules/manuals on the operation and safety of all types of biomass boilers installations (building on the existing resources already developed within MEBP and lessons from their application);
- Training of Trainers and coaching sessions for the specialists of the future training provider;
- Conducting a pilot training with a sample group of boiler operators from MEBP sites and beyond to test effectiveness and collect perceptions and lessons learned;
- Updating if needed the curriculum, approach and training materials based on feed-back from the pilot course participants;

The benefits of establishing a legally enforced mechanism to periodically train biomass boiler operators will extend to the entire sector.

Activity 3.3: Comprehensive training modules for commercial fuel suppliers provided

Training material, and a business plan template will be developed, aiming at enhancing the knowledge and capacity of commercial fuel suppliers. The training materials will be made available on a self-study basis through the implementing partner in delivery of activity 1.2, and UNDP project staff in their interactions with potential private sector fuel suppliers. The targeted capacity development will continue as part of project phase II as critical component of ensuring a sustainable supply of high-quality biomass fuel.

A comprehensive set of activities will be targeting commercial fuel suppliers in order to ensure their continued competitiveness on the market. Trainings will be provided to expand and enhance their managerial and marketing skills, next to continuing to improve their knowledge about modern biomass technologies and quality assurance of the biomass products. The biomass fuel suppliers, both current and potential, will be trained on the practical aspects of setting up and running a biomass fuel production operation, with strong emphasis on ensuring fuel quality in line with the technical regulations and norms passed by the Government in 2013. With the establishment of the biomass fuel quality laboratory, Workshops with the participation of laboratory representatives, solid biomass producers, representatives of the Consumer Protection Agency and relevant stakeholders from line ministries and Energy Efficiency Agency will be organized. The training materials will be updated and adapted to include the requirements introduced by the new legislation in view of fuel quality testing and certification.

Specific sub-activities for this target group will include:

- Regional Technical Training Workshops (at least one each in Gagauzia, Transnistria region, Taraclia, and two for target sites from small towns in Moldova) for potential fuel producers on 'Biomass Fuel Production, Business Development and Fuel Quality Assurance';
- Follow-up Workshops with commercial biomass fuel producers will focus on the relevant institutions and mechanisms for solid biomass fuel certification and quality control, as well as marketing and consumer awareness.
- Following the establishment of the laboratory, a "Solid Biofuels Quality Assurance Handbook" containing, among other aspects, the key quality parameters of various biomass fuels, as well as steps to be undertaken for biofuels' certification will be developed and provided to biomass fuel suppliers on a self-study/reference basis.

- Specific attention will be put on enhancing the efficiency along the solid biofuel production chain, specifically related to the drying stage, as such contributing to better quality and price
- Demonstrational visits to the laboratories (Quality Assurance Center) for hands-on testing of the biomass fuel.
- In Transnistria region, training materials developed during the first phase of MEBP (some available in Russian already) will be made available on a self-study basis and through project staff in their interactions with potential private sector fuel suppliers, aiming at enhancing the knowledge and capacity of commercial fuel suppliers.
- A needs assessment determining options for forming an Association of (solid) biomass fuel producers will be conducted.
- Women's civic and economic empowerment will be promoted in the field of renewable energy production and consumption in partnership with selected CSOs from Gagauzia.

More specifically, the set of training activities envisioned under this component is threefold. The **first** set of activities will range from trainings on quality assurance of the producers of biomass fuel to the on-spot visits to the authorized laboratories (Quality Assurance Center) for verifying and certifying the quality of solid biomass fuel. A national and or international expert with experience and in the domain of Solid Biomass Fuel Standards and Technical Regulations will be involved in the trainings.

A dedicated set of activities (consultation, round tables, and trainings) will strengthen the capacity of the Consumer Protection Agency to support the enforcement of fuel quality standards and to become an active agent in market development. Representatives from the Consumer Protection Agency will be invited to attend the trainings on Fuel Standards and Technical Regulations to explain the role and mandate of the agency in ensuring the rights of biofuel consumers. Moreover, The **second** set of activities will be dedicated to modern biomass fuel production technologies. A set of training activities will be offered to private businesses to expand their knowledge, skills and capacities in adopting best existing technologies in the field of solid biomass fuel production. The trainings will be delivered with the support of international experts. Additionally, the participants of the training module will be invited to join trade missions envisaged under activity 1.3.

The **third** set of training activities will aim to enhance a wide range of business development skills, such as management, marketing, planning, trading, financing skills of the biomass producers. The holistic approach of the trainings module aims to develop and improve the whole set of skills, knowledge and capacities of the commercial fuel suppliers that will help them increase their competitiveness on the market and answer the needs of consumers and national regulations in the field.

To ensure the sustainability of the capacity development actions and national ownership of the process, all training activities will be implemented in close collaboration with or direct implementation through national partners (e.g. Chamber of Commerce (CoC), Energy Efficiency Agency).

An important criterion in selecting a national partner will be the mandate of the institution to work and build the capacity of the private sector, country-wide network of representatives, reputation, awareness on business opportunities in the field etc. Such long-term partnership will contribute to increasing capacities of local stakeholders and help building national expertise in the field of biomass for energy.

In addition, to meet the developing needs of the expanding number of biomass producers in absence of a body to represent their interests, a needs assessment will be conducted to evaluate the advantages, disadvantages and legal framework for the possibility of forming an Association of biomass fuel producers. In close cooperation with sector representatives, the study will evaluate all forms of association that might suit the interests of the sector, leading to an enhanced market position. The assessment will be developed following the best EU practices in the field and with the strong support from international consultants. Based on the the assessment short-term

technical assistance will be provided to the solid biomass producers' community and relevant stakeholders in implementing the conclusions and recommendations.

In an effort to support the UNDP and EU mandate with regards to fostering the equal participation of women and men in development activities, stronger women's participation will be sought during MEBP's second phase. One *sub-activity* will focus on strengthening selected CSOs from Gagauzia working on women's civic and economic empowerment issues. Selected organizations will be capacitated with business development and management skills, specifically in the area of renewable energy production and consumption. Key activities will include workshops, round table discussions with successful business women, facilitating networks and exchange of experience and knowledge between women organizations, and thematic training sessions. Transnistria-based CSOs relevant to this activity will be invited to join the events and capacity building activities envisaged under this line of work part of MEBP phase II.

Activity 3.4 Community understanding and acceptance of biomass energy enhanced through school educational programme

In order to bring about a change in the attitudes towards biomass and renewable energy in general, information on modern biomass energy is needed at the most fundamental levels of society. An effective approach, which has been shown by UNDP to have the potential for long-term sustainability is through educational programmes in schools. This can be achieved at a relatively low cost by building on existing international best practice.

Under this project sub-activity, co-operation will be sought with a local partner specialised in this area. High-quality educational and methodical materials with practical tasks will be created / adapted to support the introduction of biomass-fired boilers, and made available as a resource to teachers in Moldova.

In the framework of MEBP phase II, the educational programme for school children will be continued with a specific focus on the target regions (Gagauzia, Transnistria), as well as Taraclia district to bring about a change in attitudes on renewable energy at the most fundamental levels of society. The successfully piloted Educational Brochure and Teachers' Guide on Renewable Energy and Energy Efficiency – both endorsed and recommended by the Ministry of Education – will be updated and translated into Russian language.

Specific activities for this target group will include:

- Implementation of educational and awareness activities on RES and EE in target schools from ATU Gagauzia region following the well-tested mechanism during the original MEBP project-cycle. In Transnistria region, the education materials and teachers' manual will be made available to participating schools. The educational programme will include a Bioenergy Summer Camp with participation of school children from both banks of the Nistru.
- Organization of Joint Summer Camps with the participation of children from right and left banks, Gagauzia and small towns will be organized for the most active promoters of eco-energy messages in the participating schools. The activity will be carried out in partnership with NGO Gutta-Club, which has extensive experience in environmental education of teachers and children throughout Moldova and well-trained Russian speaking educational specialists focused on renewable energy and energy efficiency.

Activity 3.5: VET for renewable energy sector professionals introduced

In view of a consolidated effort to equip the Moldovan labour force in support of the emerging markets and technologies, also the vocational education and training (VET) sector has to be addressed. The need to further assess the possibilities for integrating the topics of renewable energy and energy efficiency topics in the relevant educational programmes offered by VET institutions (covering e.g. professions in the energy, construction, engineering field) is being voiced by different partners and stakeholders. This is also in line with the on-going reform of VET system in Moldova undertaken in the framework of the EU-funded VET Sector Budget Support

Programme. Next to the consultations with the above mentioned programme, all initiatives and activities pertaining to the respective sector will be consulted and coordinated with the Ministry of Education's designated VET Department.

The school education programme on RES & EE implemented by MEBP in the on-going project phase has demonstrated that cooperation and support from the Ministry of Education, as well as a reliable implementation partner(s) are essential ingredients for the success of any educational initiative. Therefore, following a more in-depth consultation with all relevant national stakeholders (as part of project preparation), MEBP activities can be envisaged along the following lines:

- Identify relevant professions currently covered by the VET system and entry points in the existing curricula for additional subjects related to renewable energy, and assess the existing institutional and human capacity and needs to cover them;
- Based on the findings of the initial assessment, the following indicative steps can be undertaken, focussing on at least one partner institution (maximum 3):
 - Develop curricula integrating renewable energy (and potentially energy efficiency) education (differentiated for the relevant professions)
 - Develop educational materials/manuals for students and teachers;
 - Design and implement a training of trainers programme for teachers;
 - Pilot a part of the course(s) with a VET institution and address the feed-back from students and teachers;
 - The selected VET institution(s) will be equipped with a basic set of relevant equipment and tools for training purposes (e.g. a multi-fuel biomass boiler)
 - After successful piloting, support the Ministry of Education with the integration of the RE courses in the existing VET curricula (of the most relevant professions)

Due to limited capacity in Moldova, international expertise on VET curricula development will be sought from countries with advanced experience in implementing VET programmes in areas of renewables and energy efficiency (for e.g. Sweden, Denmark, Austria, Greece). In addition, a documentation and exchange visit to one (or two countries) with experience in VET implementation will be organised for representatives of selected VET institutions from Moldova in order to establish partnerships with peer institutions, and learn first-hand about the systems, practices and educational materials and approaches used.

Output 4: The opportunities and benefits of biomass energy for Moldova are well known, visibility of project results is promoted (work package 4)

The output will facilitate widespread dissemination on the general and specific advantages and impacts of using biomass energy in Moldova and promote the visibility of the partnership and impact of the action. Very specific awareness raising for beneficiaries of biomass-burning boilers will be delivered under activity 1.1. For this, use will be made of materials developed as part of activity 3.1 and activity 4.1.

As part of the EaPIC project top-up, in support of component I – III, wide-spread awareness raising on the opportunities and benefits of biomass energy will be facilitated, with a specific focus on increasing the uptake of renewable energy technologies in ATU Gagauzia and Taraclia district, and Transnistria Region. The visibility of the partnership and impact of the action will be effectively promoted.

During the second phase of the project, this component will have an increased focus on market development for biofuel production and biomass based technologies topics. As communication channels, a special focus will be on mass media (TV, Radio, Newspapers, web portals), opinion leaders at the national and local levels and civil society representatives with reputation and credibility among the target groups which will promote the social, economic and environmental benefits of the biomass based energy.

Indicative Activities

Activity 4.1: Media campaign

A media campaign will be developed to provide information quickly and efficiently to national and local press, TV, radio and other relevant information sources, with a focus on raising awareness on benefits and best practices related to the use of renewable energy. Wherever possible this will be carried out through the existing UNDP and EC channels. Indicative sub-activities include:

- a. Media and awareness raising strategy development: In co-ordination with media specialists within the UNDP country office and the EU Delegation, a media strategy will be developed. This will include contact management, development of a professional media package on renewable energy promotion and best practices, and approaches for the regular development of press releases, media monitoring (for positive and negative media exposure), and management.
- b. Delivery of media strategy; including regular preparation and dissemination of press releases.
- c. Monitoring of media strategy: impacts will be assessed through a media log, including a log of enquiries in response to media events.

During the project's second phase, the successful integrated communication approach including both outreach communication actions (video/audio spots, TV/Radio materials, press articles, posters, brochures) and interpersonal communication through direct contact with the target groups and mobilization of communities, will be continued. All relevant communication materials (video, audio, print materials) developed in previous project phased will be adapted according to target group needs as applicable and translated/developed in Russian language.

The webpage www.biomasa.aee.md, established as unified knowledge platform in the area of biomass energy, will be translated and maintained in Russian language (next to Romanian and English).

For Transnistria region and Gagauzia a specific communication strategy and media campaign will be developed in order to create a positive attitude for the biomass based energy, to increase the number of supporters for the use of renewable energy and to increase the involvement level of the community, fuel and technical equipment suppliers in switching to the biomass based technologies.

To ensure the success of the communication activities in Transnistria region a local communication consultant will be hired. The consultant will work closely with the Moldova Energy and Biomass Project media and communication officer, and will prepare and oversee the implementation of a communication and visibility campaign in Transnistria in line with EU/ visibility guidelines, covering activities in the framework of the project.

For the new mentioned above regions, local media institutions and NGOs will be the key promoters of the pro-biomass energy messages through various awareness raising campaigns, community mobilization initiatives. These actions will tackle different target groups and will be organized in different forms: social campaigns, flash-mobs, competitions, club of discussions etc.

In order to strengthen their actions and messages, further, a targeted training on Renewables and Energy Efficiency for journalists and NGO's will be developed. Journalists and representatives from the civil society from the new focus regions, incl. Transnistria, will be trained on topics related to biomass based energy and energy efficiency, in view of improving substantive quality and impact of the communication coverage related to sustainable energy.

Based on the powerful impact of the study visit for journalists carried out during the first project phase, it is recommended to organize a similar study visit to an EU country advanced in using

biomass energy technologies for the journalists, NGO's and local authorities from the Gagauzia and Transnistria regions. The purpose of the study visit will be to increase the knowledge and understanding of the role of renewables and energy efficiency on the country's economic and social development, as well as environment; to motivate/encourage to be reliable promoters of the biomass energy.

Activity 4.2: Annual national awards

With Moldova Eco-Energetica having been successfully instigated as highly visible largest national contest for awarding the most successful initiatives in the area of Renewables and Energy Efficiency, and ownership fully assumed by the Ministry of Economy and Agency for Energy Efficiency, during the project phase II, the project's involvement in the annual Moldova Eco-Energetica competition and award ceremony will be reduced to facilitation of partnerships and outreach to successful projects from the regions, in particular from ATU Gagauz Yeri and Transnistria Region, encouraging participation of successful initiatives in Moldova Eco-Energetica.

In order to ensure a graduate and smooth transition of responsibilities to national partners, and to provide support in increasing the capacity of EEA communication staff in organization of the event, during the phase II a short term consultant and a group of evaluation experts will be contracted each year, gradually phasing out towards the end of the project, to assist the Energy Efficiency Agency in organization and transparent evaluation of the competition and annual award ceremony.

Activity 4.3: Communication and visibility of project results

Special emphasis will be put on continuously communicating and giving publicity to the outputs and impacts of the joint action, all communication and visibility activities will be carried out in close cooperation with the EU Delegation to Moldova. The EU funding will be highlighted in all materials according to the Joint Visibility Guidelines for EC-UN Actions in the field.

- a. During the inception phase, a communication and visibility plan will be elaborated/unupdated and agreed between the EUD and UNDP in promotion of the visibility of project results and positive impacts of the partnership.
- b. Delivery of concrete visibility promotion activities; including regular preparation and dissemination of visibility items, press releases on project impact and results and preparation of communication packages including project background, outputs and the impact of the action's results.
- c. Monitoring of the communication and visibility plan: impacts will be assessed through a media log and appropriate feedback mechanisms identified for the tools specified in the plan.

Special emphasis will be put on continuously communicating and promoting the project results, specifically those in ATU Gagauz Yeri, and the impact of the joint action on national, regional and local partners. Under this activity, media field trips to promote the best practices related to biomass projects will be continually organized, news/press releases disseminated and all necessary communication actions to ensure the visibility of project results and partners' joint actions delivered.

Apart from the public events organized by the project, the project will have active participation in other larger public events, including Sustainable Energy weeks, where the project best practices and results will be promoted according to the event format and to the needs of the respective target group.

Next to communicating the key achievements of the project, a particular focus will be placed on showcasing the results and success stories that involve women whose livelihoods have been improved as result of project assistance. These may refer to, but not limited to, women who are the direct beneficiaries of affordable biomass-based heating, women who received biomass

processing equipment through the leasing mechanism (through the Revolving Fund continuing from the first phase), as well as those who received subsidized household boilers.

In order to reach directly the beneficiaries and partners, during the project's second phase the bi-monthly project newsletter will be issued in 3 languages (RO, RU, ENG) and widely disseminated on the project and partners web pages, as well on social networks.

Stakeholder analysis

As well as the Ministries of Economy, Environment and Agriculture and Food Industry, several major donors are interested in the potential use of biomass for energy. There are also university departments, research institutes and NGOs that are directly involved in research and implementation of biomass related projects. In all these organizations there is enthusiasm and experience associated with the possible uses of this resource and there is a general willingness to cooperate with the project. A detailed stakeholder analysis has been carried out in the preparation for this project. The current project strategy reflects this analysis and discussions with stakeholders.

The target beneficiaries under output 1 will be the rural municipalities that manage the public buildings in the villages. The improved comfort conditions, especially in the schools, have been very much appreciated in the villages and rural communities generally. The capacity of the local municipality representatives to organize the operation of the heating plants varies significantly and there will be a need for capacity building and training for the project to be successful (output 3). Output 1 further addresses local entrepreneurs (in many cases farmers), for the creation of the fuel supply chain. Finally output 1 facilitates analysis and cooperation with national authorities to address and prioritise actions on policy, legislation and standards.

Output 2 targets entrepreneurs who plan to address needs for domestic heating and briquette production. In addition, an activity will address the agro-industrial sector with demonstration and awareness activities in biomass co-generation.

Output 4 targets national level awareness and visibility of the project. Clearly this addresses beneficiaries with direct involvement in the project activities such as municipal and community leaders, as well as the wider population.

Several new target groups appear to be relevant for project EaPIC top-up activities as well as stakeholders and target beneficiaries identified for the ongoing project.

Output 2 also targets local public authorities and managers of public institutions and private sector which plan to establish biomass based heat providing services. Also, private companies providing heating generation services will be targeted. The Consumer Protection Agency will become an increasingly important partner in promoting biomass fuel quality. The Chamber of Commerce will be explored as an important partner in promoting and implementing project initiatives targeting the private sector and in establishing business contacts with the left bank of the Nistru.

The implementation of a VET programme on RES and EE under Output 3, will involve a set of new stakeholders such as: the vocational training institutions that will be selected as being relevant for piloting and up-taking the specialized VET program, teachers and students. Similar to the first project phase, the Ministry of Education will remain the key national partner in undertaking the respective initiative.

All new formal cooperation agreements planned to be established in the framework of the project will be shared with the EU Delegation already at the concept level stage to get no objection, prior to them being presented to the Project Board for approval.

Timeframe and project phases

The phase II of the project will start with an inception phase of 3-6 months – partially in parallel with the continuing initial Action, during which the project will:

1. Recruit additional project personnel/local consultants
2. Elaborate selection criteria to be applied in case of small towns, combined biomass heating and solar hot water systems implemented under activity 1.1 for approval by the Project Board

3. If the need arise, several projects from Taraclia district and Gagauzia will be selected for preparation and implementation
4. Together with EEA and other relevant authorities elaborate a detailed mechanism for granting access to entrepreneurs from the left bank aiming to produce local biofuel for installed biomass heating systems within the project (referring to the Revolving Fund established during the first phase, and remaining under operation managed by national partners).
5. Set up the partnership mechanism between MEBP and EEF to be approved by the Project Board
6. Update project operational formats and templates to be used by subcontractors and beneficiaries
- c. Contract one or more experienced design company(ies) to develop the technical designs, estimation of costs and bill of quantities, forming the basis for subsequently tendering the implementation and construction works.
7. Contract an experienced International Consultant / Advisor for development of tender documentation and criteria for selecting the companies for the construction of heating systems
8. Elaborate project communication mechanism, visibility and media engagement for the activities to be implemented in Transnistria
9. Make an evaluation of the VET system in Moldova in order to identify the most relevant institutions to be targeted (at least 1, maximum 3 institutions), and identify the implementation mechanism in cooperation with the Ministry of Education
10. Identify the implementation mechanism for the institutionalization of the boiler operators training with a national partner
11. Elaborate and approve the EaPIC Project Phase II Overall Implementation Framework.
12. Elaborate and approve detailed Work Plan for the first year of EaPIC implementation

The time frame for the second phase of the project is 36 months, part of which may be implemented in parallel to the ongoing action (which is scheduled to end by end 2014).

IV. RESULTS AND RESOURCES FRAMEWORK

INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS OF PROJECT PHASE II) ⁵	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
<p>Output 1: Municipal biomass heating and fuel supply/technology markets established</p> <p>Baseline: 140 biomass heating systems installed.</p> <p>140 leased fuel supply chains established</p> <p>More than 100 briquettes and pellets producers on the market</p> <p>37 standards and 1 technical regulation on biomass fuel quality adopted</p> <p>350 new jobs created in the sector with project support in 2011-2014</p> <p>Indicators:</p> <ul style="list-style-type: none"> * Number of installed heating systems * MWth installed capacity * Number of installed solar hot water systems * Jobs created * Existence of a quality assurance centre (QAC) 	<p>Targets (year 1)</p> <p>Heating systems: 15 Incl. UTAG-5;</p> <p>Solar hot water systems: 5 Incl. UTAG-2;</p> <p>Heat provided: 30 TJ</p> <p>Jobs created: 30</p> <p>QAC host institution selected</p> <p>Targets (year 2)</p> <p>Heating systems: 65 Incl. UTAG-10; TN-5;</p> <p>Solar hot water systems: 15 Incl. UTAG-4; TN-2;</p> <p>Heat provided: 140 TJ</p> <p>Jobs created: 108</p> <p>QAC operational</p> <p>Targets (year 3)</p> <p>Heating systems: 80 Incl. UTAG-15; TN-15;</p> <p>Solar hot water systems: 20 Incl. UTAG-6; TN-4;</p> <p>Heat provided: 180 TJ</p> <p>Jobs created: 144</p>	<p>1. 80 additional heating systems in public buildings and 20 solar hot water systems installed (1.1)</p> <p>2. Fuel cycle facilitated through leasing/hire-purchase mechanism for local fuel suppliers (1.2)</p> <p>3. Market environment enhanced to support quality, efficiency and effectiveness and further market consolidation supported (1.3)</p>	<p>UNDP</p> <p>Host of QAC (grant recipient) (to be confirmed during project implementation)</p>	<p>Heating Systems and equipment €4.640 million</p> <p>Solar hot water systems and equipment €0.300 million</p> <p>Quality Laboratory € 0.100 million</p> <p>Technical assistance (national/international) € 0.357 million</p>

⁵ For numerical indicators the annual targets are expressed cumulatively.

<p>Output 2: Foundations laid for establishment of efficient household heating and heat supply markets established and private sector demand promoted</p> <p>Baseline: No improved heating systems locally produced, 29 assemblers of biomass boilers 600 household heating systems installed through the incentive mechanism implemented by MEBP</p> <p>1 active PPP established to provide heating and maintenance services</p> <p>Limited number of examples of biomass use in private sector/production processes for heat production, no examples of systematic use of household residues</p> <p>Indicators:</p> <ul style="list-style-type: none"> * Annual increase of 50% in requests for information * Number of domestic / microenterprise heating systems installed through subsidy scheme * Number of PPPs established to provide biomass-based heating services to public institutions * Number of pilot projects * Jobs created 	<p>Targets (year 1)</p> <p>Information requests: baseline Domestic/microenterprise systems: 250 PPPs established: 2 Pilot projects: 3 pilot sites identified Jobs created: 10</p> <p>Targets (year 2)</p> <p>Information requests: +50% Domestic/microenterprise systems: 300 PPPs established: 4 Incl. UTAG-1 Pilot projects: 3 initiated Jobs created: 20</p> <p>Targets (year 3)</p> <p>Information requests: +50% PPPs established: 7 Incl. UTAG 2; Pilot projects: 3 finalized Jobs created: 30</p>	<p>1. Market solutions for high efficiency affordable rural biomass household heating identified and piloted (2.1)</p> <p>2. Market solutions for biomass-based heat supply services in public buildings developed (2.2)</p> <p>3. Efficient and sustainable biomass burning technologies for production processes and the potential of household level residues explored (2.3)</p>	<p>UNDP</p> <p>Responsible Party for Activity 2.1: Energy Efficiency Agency (to be confirmed during project implementation)</p> <p>Local Public Authorities (grant recipients)</p> <p>Agricultural Colleges, Professional Schools, Municipal Enterprises (to be confirmed during project implementation)</p>	<p>Market assessment / studies</p> <p>€0.058 million</p> <p>Financial assistance PPP € 0.780 million</p> <p>Technical assistance € 0.230 million</p> <p>Private business heating systems €0.350 million</p> <p>Household heating €0.403 million</p>
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<p>Output 3: Capacity built for growth of biomass markets at regional and local levels</p> <p>Baseline: Training and education materials and approaches developed and applied during first MEBP phase</p> <p>Indicators: * Number of municipal leaders trained * Number of fuel suppliers trained * Number of children participating in awareness activities * Number of specialized Vocational Education Training Programmes on Renewable Energy Sources and Energy Efficiency</p>	<p>Targets (year 1) Municipal leaders: 15 Fuel suppliers: 5 Children: 50 VET Programme piloted: 0</p> <p>Targets (year 2) Municipal leaders: 30 Fuel suppliers: 15 Children: 100 VET Programme piloted: 0</p> <p>Targets (year 3) Municipal leaders: 80 Fuel suppliers: 30 Children: 200 VET Programme piloted: 1</p>	<p>1. Capacity of municipal leaders to manage biomass systems enhanced (3.1)</p> <p>2. Capacity for sound operation of biomass-burning boilers developed (3.2)</p> <p>3. Comprehensive training modules for commercial fuel suppliers provided (3.3)</p> <p>4. Community understanding and acceptance of biomass energy enhanced through school educational program (3.4)</p> <p>5. VET for renewable energy sector professionals introduced (3.5)</p>	<p>UNDP</p> <p>Selected VET institutions (grant recipients) (to be confirmed during project implementation)</p>	<p>Technical assistance €0.245 million</p> <p>Training equipment €0.035 million</p>
<p>Output 4: Opportunities and benefits of biomass energy for Moldova are well known, visibility of project results is promoted</p> <p>Baseline: 300 media materials about the benefits and advantages of biomass energy for Moldova and project results/activities</p> <p>300 requests of information about project activities during 2014</p> <p>Moldova Eco-Energetica is 90% high & very high appreciated</p> <p>Indicator: * Increase of positive media</p>	<p>Targets (year 1) Enquiries to PMT: baseline Media references: baseline Surveys: awards are valued and indicate positive intention to take actions (90% score rating of high or very high based on surveys)</p> <p>Targets (year 2) Enquiries to PMT: +20% Media references: +20% Surveys: awards are valued and indicate positive</p>	<p>1. Media campaign (4.1)</p> <p>2.2 Annual national awards (4.2)</p> <p>33. Communication and visibility of project results (4.3)</p>	<p>UNDP</p>	<p>Technical assistance €0.298 million</p>

<p>references to project</p> <ul style="list-style-type: none"> * Enquiries to the PMT * Outcome of evaluation surveys 	<p>intention to take actions (90%score rating of high or very high based on surveys)</p> <p>Targets (year 3)</p> <p>Enquiries to PMT: +20%</p> <p>Media references: +20%</p> <p>Surveys: awards are valued and indicate positive intention to take actions (90%score rating of high or very high based on surveys)</p>		
<p>Effective management and implementation of the project</p>	<p>Overall targets:</p> <ol style="list-style-type: none"> 1. Ensure 100% delivery rate; 2. Timely implementation of planned activities; 3. Timely development and submission of work plans and progress reports; 4. Compliance with UNDP rules and regulations. 	<p>1. Implementation of inception phase</p> <ol style="list-style-type: none"> 2. Launch the project 3. Implement project activities 4. Involvement of local and regional stakeholders and beneficiary communities in the decision-making processes 5. Community mobilization and support 6. Assurance of quality of works, transparency and efficient use of funds 7. Annual monitoring and evaluation of project progress 8. Communication 	<p>UNDP</p>
		<p>Technical assistance €0.775 million Equipment and supplies €0.225 million Adm. fees €0.616 million</p>	

V. ANNUAL WORK PLAN

EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Budget Description	Amount
<p>Output 1: Municipal biomass heating and fuel supply markets established</p> <p>Baseline: 140 biomass heating systems installed. 140 leased fuel supply chains established. More than 100 briquettes and pellets producers on the market. 37 standards and 1 technical regulation on biomass fuel quality adopted. About 350 new jobs created in the sector with project support in 2011-2014</p> <p>Indicators: * Number of installed heating systems * MWth installed capacity * Number of installed solar hot water systems * Jobs created * Existence of a quality assurance centre (QAC) Targets (year 1) Heating systems: 15 incl. UTAG-5; Solar hot water systems: 5 incl. UTAG-2; Heat provided: 30 TJ Jobs created: 30</p>	<p>1.80 additional heating systems in public buildings and 20 solar hot water systems installed (1.1)</p>	X	X	X	X	UNDP	Heating and Hot water Systems	€0.945 million
	<p>2. Fuel cycle facilitated through leasing/hire-purchase mechanism for local fuel suppliers (1.2)</p>	X	X	X	X	UNDP	Technical assistance	€0.027 million
	<p>3. Market environment enhanced to support quality, efficiency and effectiveness and further market consolidation supported (1.3)</p>	X	X	X	X	UNDP Host of QCA (tbc)	Equipment Technical assistance	€0.050 million €0.006 million

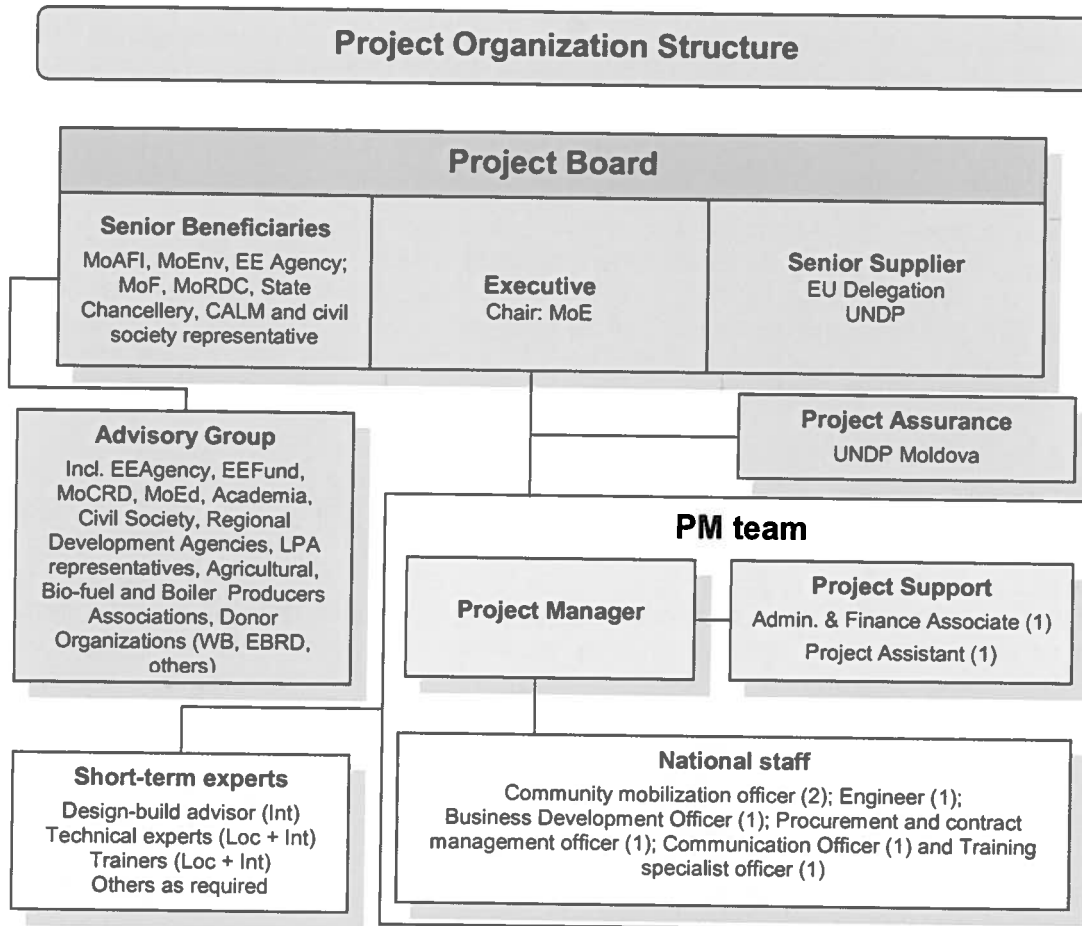
EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Budget Description	Amount
QAC host institution selected								
<p>Output 2: Foundations laid for establishment of efficient household heating, and biomass briquetting markets</p> <p>Baseline: No improved heating systems locally produced, 29 assemblers of biomass boilers 600 household heating systems installed through the incentive mechanism implemented by MEBP 1 active PPP established to provide heating and maintenance services Limited number of examples of biomass use in private sector/production processes for heat production, no examples of systematic use of household residues</p> <p>Indicators: * Annual increase of 50% in requests for information * Number of domestic heating systems installed through subsidy scheme * Number of PPPs established to provide biomass-based heating services to public</p>	<p>1. Market solutions for high efficiency affordable rural biomass household heating identified and piloted (2.1)</p>	X	X	X	X	UNDP Responsible Party for Activity 2.1: Energy Efficiency Agency (tbc)	<p>Technical assistance Equipment</p> <p>€0.057million €0.336million</p>	
	<p>2. Market solutions for developing biomass-based heat supply service in public buildings (2.2)</p>	X	X	X	X	UNDP Local Public Authorities (tbc)	<p>Equipment Technical assistance</p> <p>€0.200million €0.031million</p>	
	<p>3. Efficient and sustainable technologies for production processes piloted and potential of household residues explored (2.3)</p>	X	X	X	X	UNDP Agricultural Colleges/ Professional Schools/ IMC enterprises (tbc)	<p>Equipment Technical assistance</p> <p>€0.100million €0.049million</p>	

EXPECTED OUTPUTS And baseline, indicators including annual targets	PLANNED ACTIVITIES List activity results and associated actions	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Budget Description	Amount
institutions *Number of pilot projects *Jobs created Targets (year 1) Information requests: baseline Domestic/micro-enterprise systems: 250 PPPs established: 2 Pilot projects: 3 pilot sites identified Jobs created: 10								
Output 3: Capacity built for growth of biomass markets at regional and local levels Baseline: Training and education materials and approaches developed and applied during first MEBP phase Indicators: * Number of municipal leaders trained * Number of fuel suppliers trained * Number of children participating in awareness activities * Number of specialized Vocational Education Training Programmes on Renewable Energy Sources and Energy Efficiency Targets (year 1) Municipal leaders: 15	1. Capacity of municipal leaders to manage biomass systems enhanced (3.1)	X	X	X	X	UNDP	Technical assistance	€0.022million
	2. Capacity for sound operation of biomass-burning boilers developed (3.2)	X	X	X	X	UNDP	Technical assistance	€0.006million
	3. Comprehensive training modules for commercial fuel suppliers provided (3.3)	X	X	X	X	UNDP	Technical assistance	€0.030million
	4. Community understanding and acceptance of biomass energy enhanced through school educational program (3.4)	X	X	X	X	UNDP	Technical assistance	€0.008million
	5. VET for renewable energy sector professionals introduced (3.5)	X	X	X	X	UNDP selected VET	Technical	€0.010million

EXPECTED OUTPUTS And baseline, indicators including annual targets	PLANNED ACTIVITIES List activity results and associated actions	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Budget Description	Amount
Fuel suppliers: 5 Children: 50 VET Program piloted: 0						institution (tbc)	assistance	
Output 4: Opportunities and benefits of biomass energy for Moldova are well known, visibility of project results is promoted Baseline: 300 media materials about the benefits and advantages of biomass energy for Moldova and project results/activities; 300 requests of information about project activities during 2014; Moldova Eco-Energetica is 90% high & very high appreciated Indicator: * Increase of positive media references to project * Enquiries to the PMT * Outcome of evaluation surveys Targets (year 1) Enquiries to PMT: baseline Media references: baseline Surveys: 90% high & v. high	1. Media campaign (4.1)	X	X	X	X	UNDP	Technical assistance	€0.011million
	2. Annual national awards (4.2)	X	X	X	X	UNDP	Technical assistance	€0.010million
	3. Communication and visibility (4.3)	X	X	X	X	UNDP	Technical assistance	€0.088million
Project management		X	X	X	X	UNDP	Technical assistance Equipment/ supplies	€0.421million €0.060million
TOTAL								€2.477million

VI. MANAGEMENT ARRANGEMENTS

Project management arrangements are shown in the diagram below:



A *Project Board* (PB) will manage the Project at the highest level. The project Board will have 117 members, made up of one representative of each of the following ministries: Ministry of Economy (Senior Executive and chairing the PB), Ministry of Agriculture and Food Industry; Ministry of Regional Development, Ministry of Finance, one representative of Energy Efficiency Agency, one representative of State Chancellery, one representative from UNDP, one representative on behalf of the primary donor (the EU Delegation to Moldova), one representative of Congress of Local Authorities of Moldova (CALM) and one representative of civil society (actively engaged in energy efficiency initiatives and/or environment protection in Moldova).⁶ The Project Board will meet regularly, on a quarterly basis, during the course of the Project.

The Project Board is the group responsible for making management decisions for a project when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance to standards that shall ensure best value to money, fairness, integrity transparency and effective international competition. Project reviews by

⁶ In order to avoid any conflict of interest, the civil society representatives on the Project Board will be ineligible to serve also as sub-contractors in any aspect of Project implementation.

this group are made at designated decision points during the running of a project or as necessary when raised by the Project Manager. This group is consulted by the Project Manager for decisions when PM tolerances (normally in terms of time and budget) have been exceeded.

Based on the approved annual work plan (AWP), the Project Board may review and approve project quarterly plans when required and authorizes any major deviation from these agreed quarterly plans. It is the authority that signs off the completion of each quarterly plan as well as authorizes the start of the next quarterly plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems between the project and external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Formal minutes shall be prepared and adopted for each meeting of the Board, detailing any proposals made and decisions taken.

UNDP Moldova will support the Ministry of Economy with implementation support services according to the Agreement between the Government of Moldova and UNDP for the provision of support services of 27 May 2003, including identification and recruitment of project personnel, identification of training activities and assistance in carrying them out, procurement of goods and services, financial monitoring and reporting, processing of direct payments, supervision of project implementation, monitoring and assistance in project assessment.

The project is implemented under the National Implementation Mechanism (NIM). Thereunder selected activities will be implemented in line with the "Harmonised Approach to Cash Transfer" (HACT). HACT is a common operational framework of cash transfers to government and non-government institutions and is the UN system's response to strengthening national capacities for management and accountability with a view to gradually shifting to utilizing national systems in the context of Government's increasing interest towards expanding the role of public agencies in implementation of external assistance projects. More specifically it contributes to increasing national capacities to plan, manage, implement, monitor and account for results of programmes and policies as well as to enhance public financial management and procurement systems.

Responsible parties act on behalf of the Ministry of Economy based on written agreements. UNDP will commission scheduled independent financial audits in line with UNDP policies and procedures, covering the funds transferred by UNDP to responsible parties. Next to audits a set of assurance activities will be put in place. These activities can include spot-checks, special audits, regular programmatic monitoring of activities and results. The transfers to Responsible Parties are done in line with work plans approved by the Project Board.

A *Project Management Team* (PMT) will be established, and staffed with a project manager, a team of project officers in the fields of finance, procurement and contract management, community mobilization, business development, engineering, and media and training. The PMT will ensure results-based project management and successful implementation of the project within 36 months for the second phase of the project, close monitoring and evaluation of project progress, observance of procedures, transparency and efficient use of funds, quality of works, and involvement of local and regional stakeholders and beneficiary communities in the decision-making processes. The project manager should have an engineering background, and have a successful track record of implementing local community development projects, preferably with experience in biomass energy in Moldova. Consultants will be hired as needed for specialist short-term assignments from local and international sources including neighbouring countries such as Ukraine and Romania.

An *Advisory Group* will be established to facilitate effective and quality implementation and coordination of the project. It will be made up of the UNDP, the EC delegation, technical specialists representing the other project board members, representatives of the Ministry of Education and Ministry of Construction and Regional Development, Energy Efficiency Agency, Energy Efficiency Fund, Academia, civil society, agricultural producers associations, Regional Development

Agencies and representatives of district councils and Local Public Authorities, representatives of donors active in the sector, and other relevant programs such as the Sustainable Energy Financing Facility of the EBRD. The advisory group composition can be amended and technical sub-groups can be established as required and will meet if required on a quarterly basis usually before the quarterly meeting of the Project Board.

Project Assurance is the responsibility of each Project Board member, however the role can be delegated. The Project Assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. On behalf of UNDP, the function is delegated to a UNDP Portfolio Manager. Specific 'Assurance' tasks are to:

- ◆ Ensure that funds are made available to the project;
- ◆ Ensure that risks and issues are properly managed and monitored, and that the logs are regularly updated;
- ◆ Ensure that Project Progress/Financial Reports are prepared and submitted on time, and according to standards in terms of format and content quality and submitted to the Project Board;



Monitoring Framework And Evaluation

In accordance with the programming policies and procedures outlined in the UNDP User Guide, the project will be monitored through the following:

Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on Quality Criteria and methods captured in the Quality Management table below.
- An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.
- Based on the initial risk analysis submitted (see annex C), a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Project Progress Reports (PPR) shall be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.
- A project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events

Annually

- **Annual Review Report.** An Annual Review Report shall be prepared by the Project Manager and shared with the Project Board. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level.
- **Annual Project Review.** Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. This review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Quality Management for Project Activity Results

The quality criteria will be reviewed and further refined if necessary by the end of the project inception phase.

OUTPUT 1:

OUTPUT 1: Municipal biomass heating and fuel supply markets established		
Activity Result 1 (Atlas Activity ID)	80 heating systems and 20 solar hot water systems in public buildings installed (1.1)	Start Date: Month 3 End Date: Month 36
Purpose	To improve municipal heating and hot water of public buildings in rural areas	
Description	80 thermal heating systems burning biomass and about 20 solar hot water systems will be installed totalling about 18 MW _{th} (average installed capacity of boilers of approx. 220 kW _{th}) for the provision of heating for public buildings in rural communities in Moldova	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Number of installed heating systems and solar hot water systems	System commissioning records	Quarterly
MW _{th} installed capacity	System commissioning records	Quarterly
Heat energy provided from straw-fired boilers for municipal heating	Annual reports from installations of heat provided, checked using random sampling of installations	Annually
Jobs created	Annual reports from installations reporting on the number of people working on supporting the boiler houses.	Annually

OUTPUT 1: Municipal biomass heating and fuel supply markets established		
Activity Result 2 (Atlas Activity ID)	Fuel cycle facilitated through leasing/hire-purchase mechanism for local fuel suppliers (1.2)	Start Date: Month 3 End Date: Month 36
Purpose	To support the development of a private sector market for contractors wishing to act as fuel suppliers to the heating plants installed under Activity 1.1	
Description	Monitoring of the Revolving Funds will be set up to offer sufficient evidence that the allocated resources are used according to initially signed agreements and for the overall benefit of the local biomass market.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Number of reports on leased fuel supply systems	Lease agreements, maintenance records	Quarterly
Report on fuel supply capacity	Lease agreements, maintenance records	Quarterly
Jobs created	Annual reporting according to lease agreements	Annually

OUTPUT 1: Municipal biomass heating and fuel supply markets established		
Activity Result 3 (Atlas Activity ID)	Market environment enhanced to support quality, efficiency and effectiveness and further market consolidation supported (1.3)	Start Date: Month 3 End Date: Month 36
Purpose	To target supply of both biomass fuel and technologies, improved quality and market transparency, access to information for evidence-based policy and decision making, and continue to support the creation of an enabling market environment.	
Description	This activity will include the creation of a biomass-boiler database and monitoring system, designing a support mechanism for biomass market development, systematic assessment of biomass potential, demand-driven expert facility provision, study tours and trade missions as well as, establishment of an authorized laboratory (Quality Assurance Center) for verifying and certifying the quality of solid biomass fuel	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Progress in addressing barriers as evaluated by the project board	The project board will assess at their quarterly meetings the value and progress from the small studies and dialogues under this activity	Quarterly
Authorized laboratory	Authorized laboratory identified, equipped and functioning	Annually

OUTPUT 2:

OUTPUT 2: Foundations laid for establishment of efficient household heating, industrial cogeneration and biomass briquetting markets		
Activity Result 5 (Atlas Activity ID)	Market solutions for high efficiency affordable rural biomass household heating identified and piloted (2.1)	Start Date: Month 3 End Date: Month 36
Purpose	To stimulate the market for high efficiency biomass heating systems suitable for rural areas with a target of 100 energy efficient domestic rural heating systems installed by the end of the project.	
Description	Following a classic commercial market creation / market barrier model consisting of four key interrelated components, this project will seek to kick-start commercial markets: a) information, knowledge and outreach, b) strategic partnerships and alliances, c) infrastructure support, d) market stimulation	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Annual increase of 20% in requests for information	Impact logs maintained at the PMT	Annually, with quarterly progress review
Deployment of at least 100 domestic systems on a semi-commercial basis	Data from market stimulation agreements and verification reports	Annually
Jobs created	Data from grant agreements	Annually

OUTPUT 2: Foundations laid for establishment of efficient household heating, industrial

cogeneration and biomass briquetting markets		
Activity Result 6 (Atlas Activity ID)	Market solutions for biomass-based heat supply services in public buildings developed (2.2)	Start Date: Month 12 End Date: Month 36
Purpose	Facilitation of Public Private Partnerships (PPPs) for establishing sustainable biomass based heating services contributing to the overall biomass market development	
Description	This activity will upscale the pilot activity on establishment of PPPs for provision of sustainable heating services based on solid biomass fuel to all Regions of Moldova,	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Successful PPPs providing biomass-based heat supply service	Grant Agreements and PPP contracts records	Annually
Jobs created	Data from grant agreements and contracts	Annually

OUTPUT 2: Foundations laid for establishment of efficient household heating, industrial cogeneration and biomass briquetting markets		
Activity Result 7 (Atlas Activity ID)	Efficient and sustainable technologies for production processes piloted and potential of household residues explored (2.3)	Start Date: Month 12 End Date: Month 36
Purpose	To stimulate of demand for solid biofuels from the public and private residential sector through piloting the use of biomass for selected sectors and production processes with high replication potential and direct availability of relevant residues.	
Description	This activity will identify economic sectors with high replication potential of using biomass in production processes and will widely promote replication of successfully piloted models	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Successful operation of pilot projects	Grant Agreement reports	Annually
Jobs created	Data from Grant Agreements reports	Annually

OUTPUT 3:

OUTPUT 3: Capacity built for growth of biomass markets at regional and local levels		
Activity Result 7 (Atlas Activity ID)	Capacity of municipal leaders to manage biomass systems enhanced (3.1)	Start Date: Month 3 End Date: Month 36
Purpose	To build the capacity of municipal leaders including mayors, local councilors, and civil servants such as teachers need information in how to manage the operation of biomass-burning boilers in their local authorities.	
Description	Training material will be developed for use within Outputs 1 and 2. The materials will be improved on annual basis.	
Quality Criteria	Quality Method	Date of Assessment

<i>how/with what indicators the quality of the activity result will be measured?</i>	<i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	<i>When will the assessment of quality be performed?</i>
Number of municipal leaders trained	Attendance forms	During each capacity building event

OUTPUT 3: Capacity built for growth of biomass markets at regional and local levels		
Activity Result 8 (Atlas Activity ID)	Capacity for sound operation of biomass-burning boilers developed (3.2)	Start Date: Month 3 End Date: Month 36
Purpose	To supplement the training by design-build firms and provide a permanent, generic resource on the operation and maintenance of biomass-fired boilers for use by municipal leaders when hiring new operators in future years.	
Description	Training material will be developed for dissemination through activities under Output 1.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Positive feedback from municipal leaders (who will use their materials to inform their dealings with operators) during training events	Feedback forms	During each capacity building event

OUTPUT 3: Capacity built for growth of biomass markets at regional and local levels		
Activity Result 9 (Atlas Activity ID)	Training materials developed for commercial fuel suppliers (3.3)	Start Date: Month 3 End Date: Month 36
Purpose	To enhance the knowledge and capacity of commercial fuel suppliers.	
Description	Training material and business plan templates will be developed and made available on a self-study basis through the implementing partner in delivery of activity 1.2, and UNDP project staff in their interactions with potential private sector fuel suppliers.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Number of fuel suppliers trained	Impact log / event records to be maintained by the implementing partner taking the form of enquiries, requests for help, and stories of change	To be recorded in day-to-day activities of the implementing partner in delivery of Activity 1.2.

OUTPUT 3: Capacity built for growth of biomass markets at regional and local levels		
Activity Result 10 (Atlas Activity ID)	Community understanding and acceptance of biomass energy enhanced through school educational program (3.4)	Start Date: Month 3 End Date: Month 36
Purpose	To bring about a change in attitudes to biomass energy in Moldova through an educational program in schools where straw-fired boilers are installed.	
Description	In co-operation with a local and/or international partner, the educational initiative on energy and environment for children aged 10-15 will be	

	continued. It will support the introduction of biomass-fired boilers and will be made available as a resource to teachers in Moldova. Teacher training and support will also be offered in schools where biomass-fired boilers will be introduced.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Number of children participating in awareness activities	School attendance figures, participants in school projects	Ongoing within the framework of teacher and pupil interactions of the partner organization

OUTPUT 3: Capacity built for growth of biomass markets at regional and local levels		
Activity Result 11 (Atlas Activity ID)	Training materials on Renewable Energy Sources and Energy Efficiency developed for selected VET entry points (3.5)	Start Date: Month 3 End Date: Month 36
Purpose	To assess possibilities for integrating the topics of renewable energy and energy efficiency topics in the relevant educational programmes offered by VET institutions	
Description	Identify relevant professions currently covered by the VET system and entry points in the existing curricula; develop curricula integrating renewable energy and potentially energy efficiency education; develop educational materials/manuals for students and teachers and pilot a part of the course(s) with a VET institution	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
VET Program on RES and EE developed and piloted	VET program coordinated and owned by national partners	During quarterly progress reviews

OUTPUT 4:

OUTPUT 4: The opportunities and benefits of biomass energy for Moldova are well known, and visibility of project results promoted		
Activity Result 12 (Atlas Activity ID)	Media campaign (4.1)	Start Date: Month 3 End Date: Month 36
Purpose	To raise awareness on the potential and benefits of renewable energy in Moldova; provide information quickly and efficiently to national and local press, TV, radio and other relevant information sources	
Description	A media strategy, in coordination with UNDP / EC media offices will be developed. Regular press releases and media briefings will be made throughout the course of the project	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Enquiries to the PMT increasing by 20% annually	Enquiries log	Log maintained continually, impacts reported quarterly

Media references to project objective in positive light increase 20% annually	Media log	Log maintained continually, impacts reported quarterly
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OUTPUT 4: The opportunities and benefits of biomass energy for Moldova are well known, and visibility of project results promoted

Activity Result 13 (Atlas Activity ID)	Annual national awards (4.2)	Start Date: Month 3 End Date: Month 36
Purpose	To act as a focal point for awareness raising activities	
Description	An award ceremony will operate for 4 years under the program (end of year 1, 2 and 3, and 4) being an ongoing renewable energy and energy efficiency award event with external sponsors, and high-level patronage.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Evaluation surveys show that the awards are valued and indicate positive intention to take actions	Event evaluation surveys (exit surveys)	During each award event
Media references to awards increase 20% annually	Media log	Log maintained continually, impacts reported quarterly

OUTPUT 4: The opportunities and benefits of biomass energy for Moldova are well known, and visibility of project results promoted

Activity Result 14 (Atlas Activity ID)	Communication and visibility of project results (4.3)	Start Date: Month 3 End Date: Month 36
Purpose	Continuous communication and promotion of visibility of project impacts and partnership results in line with the Joint Visibility Guidelines for EC-UN Actions in the Field; provide information on the project progress quickly and efficiently to national and local press, TV, radio and other relevant information sources	
Description	A communication and visibility plan will be elaborated and agreed between the EUD and UNDP in promotion of the visibility of project results and positive impacts of the partnership. Regular visibility actions will be implemented throughout the course of the project.	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Media references to project impacts in positive light increase 20% annually	Media log	Log maintained continually, impacts reported quarterly
Perception of project achievements, recognition (tbd)	Telephone survey	annually

Annex A – Draft Selection Criteria to be applied under Activity 1.1

Suggested categories for Contractors' selection:

- **Similar type of work experience:** experience should clearly demonstrate that the potential contractor has performed designs / constructions of the same type, scope and complexity as the advertised project.
- **Current workload:** indications of the current workload of the potential contractor should give an idea of whether it will be able to deliver on the project requirements.
- **Time delays on past projects:** timely completion of past projects should receive a high emphasis. Potential contractors who have demonstrated the ability to finish jobs on time when they have encountered conditions differing from those represented in the plans should be given greater consideration.
- **Experience of key personnel assigned to the project:** the experience of key personnel proposed by the potential contractors to be in charge of the day to day work on the project. This includes the key people in charge of design, construction, , inspection, and testing.
- **Safety and environmental record:** the consortium's performance in safety, fire safety, labour security during construction is to be considered, as well as their environmental record.
- **Potential contractor's organisation, resources and location:** the potential contractor should be evaluated for ability to do the job; their experience in working with local government, permit and regulatory agencies, and community groups shall be considered.
- **Project understanding:** the design and the construction teams knowledge and understanding of specific project issues and concerns.

Suggested categories for selection of target districts/small towns for community mobilization

Target small towns and villages will be selected based on criteria such as:

- Motivation and openness of local authorities and beneficiaries to install biomass energy systems
- Institutional capacity to mobilize local human and financial resources
- Potential for fuel availability
- Heat demand
- Appropriate energy efficient building
- Need and opportunity: small towns and villages from security zone will be prioritised where practicable, i.e. specifically where re-construction works are ongoing and the project can support the rehabilitation of communities etc.

However, it should be noted that at the beginning of project it is primarily important to select such beneficiary communities and facilities that will allow demonstrating success. During subsequent years more complex projects, in more vulnerable communities, could be selected.

Suggested categories for selection of communities

Community projects will be evaluated according to criteria such as:

- Community institutional capacity to mobilize local human and financial resources
- Technical feasibility of facilities proposed for switching to biomass heating
- Energy audit of the buildings to be heated to identify demand and potential low cost energy efficiency investments that would be required before installation of a biomass heating system, and condition and suitability of heat distribution system
- Community's capacity to provide necessary biomass fuel, provision for dry storage of fuel (one week reserve) in the area close to the project public facility including access for deliveries, and another (full season capacity) dry store facility near to the village, and mechanism for transferring fuel from store to boiler
- Environmental evaluation and fire security assessment by the relevant authorities;
- Preliminary project cost estimation and economical evaluation, including identification of costs works that will be carried out by the community
- Community operational capacity and sustainability, and needs for training;

However, it should be noted that at the beginning of project it is primarily important to select such beneficiary communities and facilities that will allow demonstrating success. During subsequent years more complex projects, in more vulnerable communities, could be selected.

The suggested categories for selection of districts and communities will be reviewed, refined and agreed by the Project Board during the inception phase.

Confidentiality and Conflict of Interest

Critical to the validity of the selection process for both the Design LTA holders and Construction companies, is the absolute necessity for confidentiality and avoidance of conflict of interest. Each participant in the evaluation process will be required to sign a "Confidentiality and Non-Disclosure Agreement" and a "No Conflict of Interest Statement".

Overview of evaluation processes

Selection type	Purpose	Participants	Frequency	Delivering	Responsible for evaluation
Request for Proposals (RFP)	Selection and contracting of one or several design companies based on of LTAs	Design Companies	Upon commencement of Project. Renewed upon necessity	One to three LTA holders for elaboration of technical designs	UNDP evaluation committee
Invitation to Bid (ITB)	Selection of contractors to perform the construction of heating systems	Construction Companies	As required	Contracts with a winning companies	UNDP evaluation committee
Ranking of	Select locations where	PMT	Annually, or	A ranked list	Project board

districts	community mobilization / training takes place		less frequently	of districts	
Expressions of Interest (EOI)	Identify possible locations for investment proposals	Communities in mobilized districts	As required	Screened applications; and ranking of passing EOIs	Participatory Selection committee
Project appraisal	Rank and select investments for ITB	Communities and mobilized districts	As required	Data for ITB	Communities with decision made by selection committee 2

Annex B – Calculation of biomass heating system costs

For the second phase of the project, specifically activity 1.1, the following considerations related to the average unit cost per biomass heating system are made:

Estimated average budget for a biomass heating system in rural locations	Average cost per heating system EUR
Technical Design Documentation	4,000.00
Boiler Plant Boiler plant repair works; Construction of foundations under new boilers and chimney; Boilers & auxiliary equipment; Accumulator tank; Chimney; Boiler plant equipment ; Mounting works; Connection of boiler plant to existing electrical system; Connection of boiler plant to existing water supply system; Connection of boiler plant to heat distribution nets	33,300.00
Heat Supply Point Circulation pumps; Heat metering and heat temperature control system; Electronic control unit; Electrical equipment and connections; Ventilation; Control valves; Pipes, valves, fittings; Water cleaning filters and water magnetizing equipment; Installation and connection works;	16,000.00
Heat distribution pipes (outside)	2,000.00
Fire-fighting equipment	700.00
Ash removal tool-kit.	400.00
Trainings of operators, as well as development of instruction materials for operators	300.00
Commissioning / Handover Procedures Emission measurements; Performance measurements test; Pressure tests and cleaning of the system; Put into operation of boiler plant and heating system as a whole; Biomass fuel necessary for successful start-up and testing of boiler in accordance with site requirements	1,000.00
Spare parts	300.00
Total cost	58,000.00

The proposed average cost per heating system for the second phase of the project is estimated at 58,000.00 EURO, which is about 15% lower as compared with the initial phase of the project. The main cost reduction is expected through the application of the Design – Bid – Build procurement approach which is giving better control over the final cost of heating systems.

Moreover, during the second phase of the project, the local communities will be required to contribute with their own funds of approx. 15% of the cost of heating systems for rural communities (approx. 20% for the towns) to be used for the purpose of implemented project, in particular on territory arrangement, storage houses rehabilitation/construction, small repair works, etc.

Annex C – Risk Analysis

The following initially identified risks and implementation challenges will be thoroughly addressed in the activity design and implementation approach, and closely monitored and managed throughout implementation:

Description of risk	Type and Category	Risk management actions
The high level of gasification in the focus regions may result in a lower level of interest in switching to biomass fuel	Economic / Medium	Additional efforts for awareness raising and community mobilisation will be undertaken at regional and local level
The still early development stage of biomass fuel market and observed low quality of fuels is a critical decision making factor in switching to biomass energy sources	Economic / Low	Additional opportunities to procure efficient briquetting/pelleting equipment under privileged conditions will be offered with specific focus on target region. Funds will be granted for co-financing an accredited national laboratory able to provide quality certificates according to the approved quality regulation for biomass fuel.
Reimbursement rates under the leasing of industrial equipment (briquetting/pelleting) have to be closely monitored (less developed private sector in the target regions)	Economic / Low	Additional effort will be put into monitoring the implementation of this activity. On-the spot checks will be regularly done to verify the appropriateness of equipment use and reimbursements of borrowed funds.
Insufficient purchasing power may result in a low rate of procurement of household-size boilers	Economic / Medium	More intensive promotion activities will be done to stimulate local households to switch to biomass heating. Additional incentives will be put in place to make the transition more attractive.
Recurring droughts, specifically in the South of Moldova, may impact the quantity and price of raw materials and biomass fuel and consequently on motivation to switch to biomass	Economic / Low	Project efforts to create competitive markets for fuel supply mitigate this risk
Insufficient knowledge and changing personnel in operating hi-end biomass boilers increases the risk of inappropriate use and has to be addressed by ensuring institutionalised periodical trainings for operators	Operational / Medium	Project efforts will complement those of the Energy Efficiency Agency in establishing Training Centre for ensuring continuous training of boiler operators – both existing and future ones. All expertise, knowledge and educational products developed by MEBP so far will be made available for the training and capacity building activities for the staff of the training centre will be organised.
Local authorities could have difficulties in identifying reasonably qualified operators within selected communities given low pay, aging population and migration	Operational / Medium	Local authorities will be provided with the full set of training and orientation materials required for hiring and training future boiler operators. These will help LPAs better explain the responsibilities and roles of biomass boiler operators, as well as advantages in operating biomass-burning boilers in terms of better, and healthier, working conditions as compared to for e.g. coal burning

		<p>furnaces and stoves. In the longer run, with the implementation of VET programs focused on renewable energy-based technologies, the prestige of 'clean energy' jobs (including the boiler operator's job) would increase, and thus will attract younger specialists, and provide more employment opportunities, especially at rural level.</p> <p>The issue of low-pay for biomass boiler operators as compared to gas-boiler operators (the former being more labour intensive than the latter) will be brought up at a higher level through CALM (Local Authorities Council from Moldova) and other relevant venues.</p>
Still observed resistance of the public to accept biomass fuel as an alternative energy source due to its association with something obsolete and un-modern has to be addressed	Operational / Medium	Communication and training activities need to emphasize the new technologies used for producing energy (power and heat) out of biomass. Continuous focus need to be placed on the existing potential of biomass in Moldova and its capacity to substitute fossil energy sources imports, although partially, need to be emphasized at all times.
Due to the novelty of the field, subjects related to modern biomass technologies are not always presented in a professional and comprehensive manner in the media while journalists lose interest in intensive media promotion of project results because of repetitiveness	Operational / Medium	Training for journalists and exposure to best practices, both nationally and internationally to be continued.
During the final implementation stage of the on-going project, a "decreasing-to-low" interest of the households and micro-enterprises for the existing incentives mechanism may be assessed	Operational / Medium	Re-allocation of funds to incentivising the boiler manufacture and assembling sector will be applied.

For Transnistria, in addition the following risks will have to be managed, taking into account the specific political context as well as implementation challenges in the field:

De-facto authorities from Transnistria are reluctant to the implementation of modern biomass technologies	Political/High	Permanent dialogue and extensive consultations with the de-facto authorities on the benefits of the technologies will be conducted. In case no workable mechanism can be found within the first 6 months of project phase II, MEBP will re-direct the funds to the Security Zone from the right bank, Gagauzia and Taraclia with approval of the Project Board.
Comparatively low cost of natural gas and falling coal prices	Operational / High	The price of gas, although significantly lower than on the right bank, is also growing in Transnistria at present. Further, in component 1.1 buildings will be selected which are isolated and

		currently not heated at all.
The transfer of funds to beneficiaries of household biomass boilers may not be able to get the subsidy because of collaboration problems between the two banking systems.	Operational/Medium	Existing transfer problems will be assessed and a solution to this will be identified.
Difficulty in accessing mass-media in Transnistrian region	Operational/Medium	Identify and contract a Transnistria-based communication consultant to support the project in reaching out to local media, organizing project events in Transnistria, distributing info materials, etc. Increased use of social networks, internet and non-standard media to ensure proper outreach and communication of project results.
Low visibility of the EU and UNDP due to political and security settings	Operational/Medium	The project will use best practices and lessons learned by EU-funded Confidence Building project. An open dialogue with all relevant stakeholders in order to ensure the donors visibility will be launched and maintained

Annex D – Draft Terms of Reference for Key Project Staff

Core project team

Project Manager
Procurement and Contract Management Officer
Administration and Finance Associate

Community Mobilization Officer (2)
Engineer (1)
Business Development Officer (1)
Media specialist (1)
Training and Education Expert (1)

Project/Office Assistant (1)
Driver/Clerk (2)

Detailed Terms of Reference for consultants will be finalized and published during the inception and implementation phase of the project.

COMMUNITY MOBILISATION SPECIALISTS

Education and experience

- Educated to degree level, preferably in social sciences, public administration or related disciplines
- At least ten years of experience working in community-based development projects, or energy / environmental projects involving a significant element of community engagement and capacity building in the public sector.
- Experience of working in or with international organisations
- Knowledge of energy / environment issues is an advantage
- Fluency in Romanian and preferably also Russian. Good command of English would be an advantage.
- Computer literacy
- Proven ability to work as part of a multi-disciplinary team

Duties and responsibilities

The Community Mobilisation Specialists will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. The main role of the Community Mobilisation Specialist is to ensure that appropriate communities are identified in which investments in municipal biomass energy systems can be made, and that key stakeholders from these communities are committed to participating in the project.

The Community Mobilisation Specialists will be responsible for carrying out the following specific tasks:

- Develop selection criteria, in agreement with the rest of the PMT, for districts and communities wishing to participate in the project and, based on these criteria, make an initial selection of districts with which to work.
- Liaise with the District Chairman and Secretary of the District Council in each of the selected districts to organise a promotional meeting with the aim of ensuring local buy-in. These meetings should include representatives from the District Council, representatives from each of the relevant District Departments, the Mayor or Local Council Secretary from each village in the district, managers of public institutions (schools, kindergartens, community centres etc.), local agricultural / rural entrepreneurs and representatives from local NGOs. The meetings should incorporate a call for expressions of interest from municipalities to implement community-based projects.
- Undertake a preliminary appraisal of the expressions of interest received from communities, and prioritise interested communities for awareness-raising and capacity assessment. In the first round of applications, the aim is to develop approximately 5 municipal biomass heating projects, so the number of communities prioritised should reflect this aim.

- Conduct field visits to the priority communities (½ to 1 day each) to raise awareness among key stakeholders of the opportunities and risks presented by biomass energy technologies, and to assess the capacities and needs of the priority communities with regard to biomass energy project implementation. The field visits should result in each priority community forming a 5-7 person Project Committee, who should receive the necessary paperwork to allow them to make a formal application for support for their investment project.
- Work with the PMT Engineers to provide technical assistance to the targeted communities in completing the application forms, and to rank the received applications for detailed evaluation.
- Liaise with the PMT Training and Education Specialist to develop appropriately targeted training materials to match the capacities and needs identified during the community field visits.
- Work with the PMT Engineers to undertake a participatory appraisal of the applications received. This appraisal should closely involve the Mayor's Office and the community Project Committee, and should take account of: (i) the institutional capacity of the community to mobilise the necessary resources to successfully implement the project; (ii) the technical feasibility of the project, including the current condition of the heat distribution system and the opportunities for low-cost energy efficiency improvements; (iii) the availability of a regular and reliable supply of fuel, including a suitable fuel storage capacity and the necessary fuel transport and handling arrangements; (iv) the financial feasibility of the project, demonstrated in a detailed financial appraisal; (v) the existence of satisfactory environmental, health and safety assessments.
- Based on the capacities of communities to mobilise the necessary resources to successfully implement their respective project, provide input to the PMT's prioritisation of projects for investment.
- During the period that the initial round of projects are at the RFP stage, solicit further applications by continuing with the above activities on an on-going basis.
- Work in collaboration with the other members of the PMT to develop a strategy for the Annual National Awards component of the project, and to select winning projects.

PROJECT MANAGER

Education and experience

- University/Master Degree in Engineering or other closely related areas
- At least 10 years of progressively responsible experience is required at the national or international level in the areas of community-based development and project management in the energy and environment field involving a significant element of community engagement and capacity building in the public sector
- Previous experience in development assistance or related work for a donor organization, governmental institutions, NGO or private sector / consulting firm is a very strong advantage.
- Strong analytical, drafting and communication skills.
- Experience in the usage of computers and office software packages (MS Word, Excel, etc) and advance knowledge of spreadsheet and database packages, experience in handling of web based management systems.
- Strong leadership skills and proven experience in managing interdisciplinary teams
- Fluency in Romanian, Russian and English is required.

Duties and responsibilities

The Project Manager will have the responsibility to plan, oversee and ensure that the Project is producing the expected outputs at the right time, to the right standards of quality and within the allotted budget.

- Plan the activities of the project and monitor progress against the initial quality criteria;
- Mobilize goods and services to initiative activities, including drafting TORs and work specifications;
- Build, motivate and lead a high performing team consisting of project personnel, expert consultants, translators, etc. Undertake personnel performance appraisals and career development coaching at project level;
- Monitor events as determined in the Project Monitoring Schedule Plan, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments;
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Responsible for preparing and submitting financial reports to UNDP on a quarterly basis;

- Manage and monitor the project risks initially identified, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Be responsible for managing issues and requests for change by maintaining an Issues Log;
- Prepare the Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance;
- Prepare the Annual review Report, and submit the report to the Project Board;
- Prepare the AWP for the following year, as well as Quarterly Plans if required;
- Ensure wide dissemination and visibility of project achievements. Establish and manage mechanisms for exchange of information, experience and lessons learned at the local and national levels
- Maintain close coordination with project partners, ensure synergies, avoid overlaps in project implementation, collaborate with other donors working in the same area, provide information relevant to the project.

ADMINISTRATION AND FINANCE ASSOCIATE

Education and experience

- University Degree in economics, finance, accounting, law, public administration or other related field.
- At least five years of experience in administrative work, accounting/finance, economics, or other substantive area is required.
- At least three years of previous experience in development assistance or related work for a donor organization, consulting company, or NGO is compulsory. Previous experience with EC/UNDP is a very strong advantage.
- Experience in the usage of computers and office software packages (MS Word, Excel, etc) and advance knowledge of spreadsheet and database packages, experience in handling web-based management systems.
- Fluency in Romanian, Russian and English is required.

Duties and responsibilities

Administrative management

- Pro-actively contribute to day-to-day project implementation and ensure conformity to expected results and project work-plans;
- Provide support to international/national consultants in the implementation of their tasks for the achievement of project results (communication, contracts, agenda, visas, hotel reservations, etc);
- Maintain records on all project personnel/national consultants and their respective status (contracts, ToRs, time and attendance – if appropriate, etc.) in accordance with accepted policies and procedures;
- Prepare and issue contracts;
- Make pertinent logistical arrangements for the prompt and effective implementation of the programme activities;
- Draft minutes of relevant project related meetings;
- Assume overall responsibility for administrative matters of a more general nature, such as registry and maintenance of project files and records;
- Arrange external and internal meetings

Financial management

- Prepare requests for advance of funds and/or direct payments;
- Monitor budget expenditures and maintain a proper record of approved project budgets and their revisions;
- Prepare proposals for budget revisions;
- Prepare and submit expenditure and programme budget status reports;
- Respond to queries from UNDP with respect to financial aspects of the programme, liaise with UNDP appointed and external auditors wherever required;
- Prepare recurring reports as scheduled and special reports as required for budget preparations and audit;

- Advise and assist international advisors and national consultants on all aspects of allowances, travel claims and other financial matters and calculate payments due for claims and services;
- Draft minutes/evidences on evaluations related with public acquisitions at community level, financed by UNDP/EC and ensure full compliance with UNDP financial terms and conditions.
- If necessary, travel for control and auditing purposes to field projects and report on expended funds or incurred irregularities
- Undertake other financial and administrative tasks on an ad hoc basis.

PROJECT ASSISTANT

Education and experience

- Degree in economics, finance, accounting, law, public administration or other related field.
- At least four years of experience in administrative work, accounting/finance, economics, or other substantive area is required.
- At least two years of previous experience in development assistance or related work for a donor organization, consulting company, or NGO is a very strong advantage.
- Experience in the usage of computers and office software packages (MS Word, Excel, etc) and advance knowledge of spreadsheet and database packages, experience in handling web-based management systems.
- Fluency in Romanian, Russian and English is required.

Duties and responsibilities

- Provide all types of support to the PMT and national/international consultants in the implementation of their tasks for the achievement of project results (communication, contracts, agenda, visas, hotel reservations, etc);
- Make pertinent logistical arrangements for the prompt and effective implementation of the programme activities;
- Assume overall responsibility for administrative matters of a more general nature, such as registry and maintenance of project files and records;
- Arrange external and internal meetings (including the meetings of the Project Board, Technical level, as well as other relevant meetings etc.).
- Collect project related information data
- Update plans
- Assist the Communications Officer in maintaining and updating the calendar of events and public inquiries log;
- Regularly update the project's map of interventions
- Administer the quality review process
- Administer project revision control
- Establish document control procedures
- Compile, copy and distribute all project reports

ENGINEER

Education and experience

- Educated to degree level in an engineering or applied science discipline
- At least five years experience in designing / specifying / installing heating systems for public and / or commercial buildings. Experience of working with biomass energy systems would be a definite advantage.
- Experience of conducting energy audits of buildings
- Experience of working in / with international organisations would be an advantage
- Proven ability to work as part of a multi-disciplinary team
- Fluency in Romanian / Moldovan and preferably also Russian. A good working knowledge of English would be an advantage.
- Detailed knowledge of the Moldovan energy sector
- Computer literacy

Duties and responsibilities

The Engineers will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. They will also be expected to work closely with the short-term experts

The main roles of the Engineers are to provide technical input and support to all activities of the PMT, and to work alongside the District and Community technical experts in supervising the design and construction of the municipal biomass heating projects that are implemented under this project.

The Engineers are responsible for carrying out the following specific tasks:

Municipal biomass heating and fuel-supply projects

- Provide assistance to the PMT Procurement Specialist on the technical / engineering content of the Request for Letters of Interest (LOI) and the Prequalification Requests (PQRs), issued to solicit responses from prospective Design-Build contractors. Assist the PMT Procurement Specialist in evaluating the technical / engineering aspects of the Statements of Qualification (SOQs) received.
- Work alongside the PMT Community Mobilisation Specialists in conducting participatory appraisals of project applications received from participating communities. These appraisals should closely involve the Mayor's Office and the community Project Committee, and should take account of: (i) the institutional capacity of the community to mobilise the necessary resources to successfully implement the project; (ii) the technical feasibility of the project, including the current condition of the heat distribution system and the opportunities for low-cost energy efficiency improvements; (iii) the availability of a regular and reliable supply of fuel, including a suitable fuel storage capacity and the necessary fuel transport and handling arrangements; (iv) the financial feasibility of the project,

demonstrated in a detailed financial appraisal; (v) the existence of satisfactory environmental, health and safety assessments.

- Work with the other members of the PMT to select which project applications should be prioritised for investment.
- Provide assistance to the PMT Procurement Specialist and the International Design-Build Advisor on the technical / engineering aspects of: (i) developing and issuing requests for proposals (RFPs) to implement the projects that have been selected for investment; (ii) evaluating the proposals received; (iii) drawing up the Design-Build contracts with the successful contractors.
- Co-operate with the District and Community technical experts in supervising the technical design and construction work of the projects that have been selected.
- Based on regular reviews of the RFPs received, draw up a set of technical specifications that prospective biomass fuel supply contractors will need to meet. It is expected that a specialist technology provider will be used to provide prospective biomass fuel suppliers with a complete package consisting of the necessary equipment, finance, training, maintenance and repair services. The technical specifications drawn up by the PMT Engineers will be agreed upon by the technology provider to ensure that the equipment and associated financing package that they provide is optimally matched to the needs of individual projects.
- Work alongside the PMT Enterprise Development Specialist and Procurement Specialist in providing the necessary technical support to municipal authorities and potential fuel suppliers, with respect to quality control of fuel supplies and the formulation of fuel supply contracts.
- Work with other members of the PMT to engage with relevant national authorities on addressing the policy, legislation and regulation issues surrounding the development of biomass energy markets. The contribution of the PMT Engineers to this component of the project should include identification of best-practice with regard to the emissions standards of biomass boilers, performance and construction standards for biomass heating systems, technical standards for system components, waste management.

Market development for biomass industrial co-generation and biomass briquetting

- Work with other members of the PMT to facilitate the implementation of at least one agri-industrial cogeneration plant using own-produced biomass waste. This will involve: (i) conducting a detailed survey of available technologies and their technical characteristics; (ii) identifying potential users of biomass industrial cogeneration who generate a suitable biomass waste stream; (iii) prioritising the most promising sites for a demonstration project, based on technical criteria; (iv) providing the PMT with the necessary technical data on potential demonstration projects to allow a detailed financial appraisals to be carried out.
- Work with other members of the PMT to develop and implement a deployment strategy for pilot biomass briquetting plant. This will involve: (i) reviewing existing and past biomass briquetting initiatives in Moldova; (ii) surveying available briquetting technologies; (iii) identifying suitable sources of raw materials; (iv) providing the PMT with the necessary technical data to assess the viability of commercial biomass briquetting and to develop a business plan.

Training, education, media and outreach

- Review the technical content of training materials on biomass energy systems targeted at municipal leaders, at design-build firms and at commercial biomass fuel suppliers. Advise the PMT Training and Education Specialist as necessary.
- Review the technical rigour and accuracy of media packages, press releases, pieces for radio and TV and all other public communications relating to the project. Advise the PMT Media Specialist as necessary.
- Work in collaboration with the other members of the PMT to develop a strategy for the Annual National Awards component of the project, and to select winning projects.

BUSINESS DEVELOPMENT SPECIALIST

Education and experience

- Educated to degree level in business administration, management, business enterprise development or related disciplines
- At least ten years of relevant experience, which should include a significant element of building the capabilities of entrepreneurs and / or providing technical assistance to support the development of new enterprises. Experience of working with the public sector would be advantageous.
- Knowledge of energy / environment issues would be an advantage, particularly where this is relevant to Moldova
- Experience of working in / with international organisations would be an advantage
- Proven ability to work as part of a multi-disciplinary team
- Fluency in Romanian, Russian and English is required.
- Computer literacy

Duties and responsibilities

The Enterprise Development Specialist will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. The main roles of the PMT Enterprise Development Specialist are to provide such technical support as necessary to the municipalities and contractors participating in the project, to strengthen the capacity of municipalities and private contractors to implement biomass heating projects and to undertake market studies relating to biomass energy supplies.

The Enterprise Development Specialist will be responsible for carrying out the following specific tasks:

Municipal biomass heating and fuel-supply projects

1. Work alongside the PMT Procurement Specialist and Engineers in outlining a design for a financing facility (most likely leasing / hire-purchase) under which a technology provider will provide biomass fuel suppliers will necessary equipment and associated services. Detailed design of the financing facility will be developed in agreement with the technology provider(s) and prospective biomass fuel suppliers.
2. Monitor the success of the technology provider's financing facility, and recommend actions to improve its effectiveness
3. Work with the PMT Engineers and Procurement Specialist to provide technical support to municipal authorities and potential fuel suppliers in the areas of supplier management and quality control of fuel supplies.

4. Co-operate with the PMT Training and Education Specialist in strengthening the capacity of the biomass domestic heating industry to supply, deliver and service efficient biomass heating equipment, including assisting with the development and delivery of training.

Market development for biomass industrial co-generation and biomass briquetting

5. Work alongside the other members of the PMT to ensure that the activities of this project relating to the development of biomass industrial cogeneration are co-ordinated with the activities of other significant players such as the EBRD, the World Bank, GEF and the National Agency for Energy Regulation.
6. Undertake a study of the market barriers to, and opportunities for, the development of industrial cogeneration based on biomass. The study should conclude with an investment strategy which will be implemented
7. Undertake a market study on the viability of commercial production of biomass briquettes, leading to the development of a business plan and a deployment strategy. Work with other members of the PMT to implement the deployment strategy.

Training, education, media and outreach

8. Work with the PMT Training and Education Specialist to develop training materials targeting commercial fuel suppliers. This material should highlight the business opportunities and risks, and should include a generic business plan that could be used by entrepreneurs seeking to understand the market and the steps needed to enter it.
9. Work in collaboration with the other members of the PMT to develop a strategy for the Annual National Awards component of the project, and to select winning projects.

PROCUREMENT AND CONTRACT MANAGEMENT SPECIALIST

Education and experience

- Educated to degree level in a discipline that involves a significant element of procurement, supply chain management or purchasing
- At least ten years experience in procurement, a significant proportion of which should be in the public sector
- Experience of working in / with international organisations would be an advantage
- Experience of working with energy supply project or familiarity with energy technologies would be an advantage
- Fluency in Romanian and preferably also Russian. A good command of English is an advantage
- Computer literacy
- Proven ability to work as part of a multi-disciplinary team

Duties and responsibilities

The Procurement Specialist will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. The main role of the PMT Procurement Specialist is to take a lead in all matters relating procurement, including the selection of contractors and the drawing up of contracts. In particular, the Procurement Specialist will be expected to work closely with the International Design-Build Advisor during the early part of the project, developing the experience and expertise necessary to manage the Design-Build procurement process independently.

The Procurement Specialist will be responsible for carrying out the following specific tasks:

1. With input from other members of the PMT and assistance from the International Design-Build Advisor, draw up and issue the Request for Letters of Interest (LOI) and the Prequalification Requests (PQRs) aimed at soliciting responses from suitably qualified contractors for the implementation of municipal biomass heating projects.
2. Using criteria and procedures agreed with the other members of the PMT, evaluate and prioritise the Statements of Qualification (SOQs) received.
3. With guidance and training from the International Design-Build Advisor: (i) take the lead role in developing and issuing Requests for Proposals (RFPs) to the contractors that have submitted satisfactory SOQs; (ii) evaluate the proposals received, according to criteria agreed with the other members of the PMT; (iii) draw up contracts with the successful design-build contractors. These steps should be repeated as necessary for each municipal biomass heating project (or bundle of projects) for which support is requested. It is expected that the International Design-Build Advisor will be retained only for the first tranche of projects (expected to be approximately five projects). It is therefore important that the PMT Procurement Specialist uses this contact time to acquire sufficient knowledge and expertise on Design-Build Procurement to be able to manage the process independently once the contracts for the first tranche of projects have been finalised.

4. Work with the PMT Enterprise Development Specialist and Engineers to: (i) develop an outline design for a financing facility (most likely leasing or hire-purchase) under which one or more technology providers will supply a package of equipment and services to prospective biomass fuel supply contractors; (ii) identify a suitably qualified technology provider and formulate a co-operation agreement with them; (iii) work with the technology provider and other members of the PMT to finalise the detailed design of the financing facility.
5. Work with the PMT Training and Education Specialist to provide on-the-job training and technical support to municipal authorities and potential fuel suppliers in parallel to the implementation of biomass heating projects, in the areas of competitive tendering, management of fuel supply, and quality control.
6. Review the procurement-related content of training material on biomass energy systems developed under the project, and advise the PMT Training and Education Specialist as necessary.

MEDIA SPECIALIST

Education and experience

- Educated to degree level
- At least ten years of experience in working with the media, a significant proportion of which should involve taking a leading role in conducting high-level media campaigns successfully targeting national press, television and radio
- A good working knowledge of energy / environmental issues
- Experience of working in / with international organisations would be an advantage
- Fluency in Romanian, Russian and English is required.
- Computer literacy
- Proven ability to work as part of a multi-disciplinary team

Duties and responsibilities

The Media Specialist will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager, but will also be expected to work closely with media specialists within the UNDP Country Office and the EU Delegation. The main role of the PMT Media Specialist is to manage all aspects of communicating the project's aims, successes and impacts to the public via the print and broadcast media and via high-profile events.

The Media Specialist will be responsible for carrying out the following specific tasks:

- Work in co-ordination with media specialists in the UNDP Country Office and the EU Delegation to develop a media strategy. This should include identifying and cultivating key contacts in both the print and the broadcast media, development of a professional media package to provide background information about the project, and establishing processes for: (i) regular communication with media contacts; (ii) regular production of press releases; (iii) advising and assisting municipalities in managing local media interest at the community level; (iv) monitoring of media exposure.
- Take the lead in implementing the media strategy, in close partnership with UNDP and EU Delegation media specialists.
- Undertake continuous monitoring of the impacts of the media strategy through both a media log and a log of enquiries arising from media exposure.
- Lead the instigation of a National Annual Awards Ceremony, initially for participants in the programme but with the aim of expanding into a more general renewable energy / energy efficiency awards ceremony after the programme finishes. This will involve identifying and developing strategic partnerships and alliances both nationally and internationally with a view to both sponsorship and raising the profile of the ceremony; working with other members of the PMT to develop a detailed plan for the awards ceremony (e.g. timing, award categories, judging criteria, prizes); ensuring high-profile coverage of the event in the print and / or broadcast media; monitoring the impacts of the event.

TRAINING AND CAPACITY BUILDING SPECIALIST

Education and experience

- Educated to degree level
- At least five years of experience in developing and delivering training to senior managers in the public and / or commercial sectors.
- Familiarity with the Moldovan educational system and curricula, and experience with developing educational material for younger audiences
- A good working knowledge of energy / environmental issues
- Experience of working in / with international organisations would be an advantage
- Fluency in Romanian, Russian and English is required.
- Computer literacy
- Proven ability to work as part of a multi-disciplinary team

Duties and responsibilities

The Training and Education Specialist will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. The main roles of the PMT Training and Education Specialist are to take the lead in developing and delivering all training materials required under the project, and to liaise with external educational initiatives to enhance community understanding and acceptance of biomass energy.

The Training and Education Specialist will be responsible for carrying out the following specific tasks:

1. Develop a comprehensive training package on biomass energy systems and their management, aimed at municipal leaders, local council staff and building managers. The training material should cover: general principles of operation; maintenance routines; optimising building heating system operation; regular and sustained performance monitoring; sound management of fuel supplies and suppliers. The material should include examples of international best-practice, which should be regularly reviewed to ensure the material remains current.
2. Deliver training to municipal authorities using appropriate sections of the material developed under Task 1. above. Training should be delivered at an appropriate level at a number of key stages within the project, including: (i) at District-level promotional meetings aimed at raising awareness of the project among District officials; (ii) during information and awareness-raising field visits to priority communities; (iii) at 1-2 day training sessions directed at the Project Committees of communities where biomass heating system projects are being implemented; (iv) during 'on-the-job' training on competitive tendering and the management of fuel supplies and suppliers, directed at municipal authorities operating biomass heating systems.

3. Monitor the impacts of all training sessions using intake and exit surveys of participants along with feedback forms. Training material should be reviewed and revised as necessary according to the results of this monitoring.
4. Work with the PMT Enterprise Development Specialist to develop training materials aimed at commercial biomass fuel suppliers. This material should highlight the business opportunities and risks presented by the biomass fuel market, and should include a generic business plan that could be used by entrepreneurs seeking to understand the market and the steps needed to enter it. The material should be produced in a form that enables prospective fuel suppliers to engage in self-study, and be made available through the technology provider that operates the financing facility for biomass fuel supply systems, and directly through UNDP.
5. Monitor the impacts of the self-study material developed under Task 4. through a log of enquiries and requests for help, maintained by the technology provider, and follow-up contacts with recipients of the material.
6. Liaise with an appropriate local and / or international educational initiative to develop educational material for use in schools, targeting the 10-15 age group. This will involve: entering into dialogue with an appropriate partner organisation (for example, SPARE); formulating a co-operation agreement with the partner organisation for common activities relating to the development of teaching modules on biomass energy and the use of straw for heating; co-operate with the partner organisation in conducting teacher awareness-raising and training in schools where biomass heating systems have been installed; work with the partner organisation in conducting other educational events such as exhibitions and roundtables; monitor the impact of educational activities using a participatory approach agreed with the partner organisation (for example, the Most Significant Change approach).
7. Work in collaboration with the other members of the PMT to develop a strategy for the Annual National Awards component of the project, and to select winning projects.

COMMUNITY ENGAGEMENT AND OUTREACH OFFICER

Education and Experience

- Educated to degree level in Social Sciences, Public Administration, Economics, Civil Engineering, or other related areas;
- At least 5 years of progressively responsible experience at the national or international level of working in community based development projects or local energy infrastructure/environmental projects
- At least 5 years of experience in technical assistance, including training and capacity building of the community public sector or related work for a donor organization, NGO or private sector / consulting firm is a very strong advantage.
- Previous experience in implementing community development projects in close collaboration with regional and local authorities in the targeted regions, within external assistance programs, is required.
- Basic technical understanding and practical experience in implementing decentralized energy supply or solar energy infrastructure projects will be an advantage.
- Computer literacy
- Fluency in Romanian and also Russian. A good command of English is an advantage.
- Proven ability to work as part of a multi-disciplinary team

Duties and responsibilities

The Project Officer for Community Engagement and Outreach will be part of the Project Management Team (PMT), under the overall supervision of the Project Manager. The main role of the Project Officer is to ensure that appropriate communities in the Transnistria region, ATU of Gagauzia and Taraclia district are identified, in which investments in municipal biomass energy systems can be made, key stakeholders from these communities are committed to the project and that development services and products of highest quality and standards are provided to national counterparts. Further the Project Officer will act as the main contact person and adviser for all other project activities in Transnistria region.

The Community Engagement and Outreach Officer will be responsible for carrying out the following specific tasks:

- Play a key role in the development of people mobilization mechanisms, selection criteria, in agreement with the rest of the PMT, for districts and communities from the above specified areas wishing to participate in the project and, based on these criteria, lead the process of selecting communities with which to work annually.
- Liaise with the regional and district authorities to organise meetings with all relevant stakeholders including mayors, managers of public institutions, and local agricultural / rural entrepreneurs with the aim of ensuring local buy-in.
- Assist local authorities and beneficiaries in formulating and submitting expressions of interest to implement community-based projects.
- Undertake a preliminary appraisal of the expressions of interest received from communities, and prioritise interested communities for awareness-raising and capacity assessment.
- Conduct field visits to the priority communities to raise awareness among key stakeholders of the opportunities and risks presented by biomass energy technologies, and to assess the capacities and needs of the priority communities with regard to biomass and/or combined biomass-solar energy project implementation.

- Actively participate in the development / adjustment of project operational forms, templates and other operational documents to be used by the project and communities/partners in compliance with project implementation procedures and local legislation.
- Together with the Project Engineers provide technical assistance to the targeted communities in completing the application forms, and rank the received applications for detailed evaluation.
- Liaise with the Project Training and Capacity Building Officer to develop appropriately targeted training materials to match the capacities and needs identified during the community field visits; ensure timely and effective delivery of materials and trainings.
- Undertake a participatory approach of appraisal of the applications received following the established and approved criteria.
- Based on the capacities of communities to mobilise the necessary resources to successfully implement their respective project, provide input to the prioritisation of projects for investment.
- Provide input for the preparation of bidding documents, procurement and contracting.
- Assist the local authorities through all stages of community project implementation and closely monitor progress and results; closely monitor the performance of communities in fulfilling their obligations, including financial and in-kind contributions.
- Facilitate exchange visits of project implementers from the Transnistria region, ATU of Gagauzia and Taraclia district to the communities with demonstrated experience in project implementation.
- Together with Project Engineers closely monitor the performance of contractors, closely liaise with the Local Technical Supervisor in monitoring quality of works, and ensure timely preparation and submission of feasibility, evaluation and progress reports, project documentation and carrying out of works.
- Participate in organizing community project hand over ceremonies and organization of community reporting meetings on project results.
- Undertake community projects impact assessments.
- During the period that the initial round of projects is at the implementation stage, solicit further applications by continuing with the above activities on an on-going basis.
- Work in collaboration with the other Project Team members to develop a strategy for promoting the participation of the new regions in the Annual National Awards Moldova EcoEnergetica , and to select winning projects. Participate in the organization of the Bioenergy summer camp in the target regions.
- Support in the elaboration and implementation of a communication and awareness raising plan on use of renewables and promotion in the Transnistria region, ATU of Gagauzia and Taraclia district.

Additional Responsibilities:

- Assist Senior Community Mobilization Officer and Project Manager in development of annual activity and procurement work plans as well as budgets based on expected year-end outputs, and assist in the close monitoring of activities and disbursements.
- Assist the Business Development Officer in reaching out to the business community and institutional stakeholders in Transnistria region, advising on implementation approaches and promoting project activities.
- Assist the Capacity Development and Training Officer and the Communication and Awareness Raising Officer with the implementation of project activities in Transnistria region, supporting the establishment of contacts with all relevant stakeholders and counterparts and advise on implementation approaches.
- Apply UNDP programming tools and policies as explained in the Results Management Guide. Keep abreast of UNDP programming practices and maintain an optimum level of knowledge by continuous learning.
- Contribute to the wide dissemination and visibility of project achievements. Support mechanisms for exchange of information, experience and lessons learned at the local and national levels.
- On a regular basis, update project and CO colleagues on the status of implemented activities and overall sector-specific situation in Transnistria and the ATU of Gagauzia.

