

**UNITED NATIONS DEVELOPMENT PROGRAMME  
GLOBAL ENVIRONMENT FACILITY**

**EXTERNAL EVALUATION OF CLIMATE CHANGE / ENERGY  
EFFICIENCY PROJECT – MID-TERM**

**Slovenia: Removing Barriers to the Increased Use of Biomass as an  
Energy Source (SVN/99/G31)**

**Final Report**

**Prepared by**

**Dr. Pat DeLaquil and Mr. Paul Claus**

**February 2004**

## TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY .....	1
2.0	THE DEVELOPMENT CONTEXT .....	3
3.0	FINDINGS AND CONCLUSIONS .....	4
3.1	Sustainability of the Financial Instrument .....	4
3.2	Relevance of the Project .....	7
3.2.1	Development priorities at the national and local levels .....	7
3.2.2	Target groups .....	7
3.2.3	Direct beneficiaries .....	8
3.2.4	UNDP mission to promote sustainable development .....	8
3.3	Performance .....	8
3.4	Management arrangements focused on project implementation .....	11
3.4.1	General implementation and management .....	11
3.4.2	Management arrangements .....	11
3.4.3	Equal participation of men and women .....	11
3.5	Overall success of the project .....	11
3.5.1	Impact .....	11
3.5.2	Sustainability .....	12
3.5.3	Contribution to capacity development .....	12
3.6	Synergy with other similar projects, funded by the government or other donors .....	13
4.0	RECOMMENDATIONS .....	13
4.1	The project scope should be expanded to include micro-systems .....	13
4.2	The period for sale of Fund equity should be extended to 10 years .....	14
4.3	The PIU should continue its activities to find additional Fund capital .....	14
4.4	The project timescale should be extended .....	15
5.0	LESSONS LEARNED .....	15
6.0	ANNEXES .....	17
6.1	Consultant Terms of Reference .....	17
6.1.1	TOR for External International Consultant .....	17
6.1.2	TOR for External National Consultant .....	18
6.2	List of Interviewees .....	19
6.3	General List of Interview Questions .....	20
6.4	Documents Reviewed .....	21
6.5	Detailed Assessment of Objectives, Outputs and Activities .....	22
6.6	Revised Work Plan According To Recommendations .....	31

## LIST OF ABBREVIATIONS

AURE	Agency for Efficient Use of Energy of Slovenia
BDH	Biomass District Heating
Fund	Biomass Energy Fund
CHP	Combined Heat and Power (plant)
DH	District Heating
EC	European Commission
EBRD	European Bank for Reconstruction and Development
EcoFund	Environmental Development Fund of Slovenia
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act
ESCO	Energy Service Company
EU	European Union
FAO	UN Food and Agriculture Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Green House Gases
GIS	Slovenian Forestry Institute
IRR	Internal Rate of Return
ISPA	Instrument for Structural Policies for Pre-Accession
MAFF	Ministry of Agriculture, Forestry and Food
MEA	Ministry of Economic Affairs
MoESPE	Ministry of Environment, Spatial Planning and Energy
NEP	National Energy Plan
PBDHP	Program of Biomass District Heating Projects
PDF	Project Development Facility
PET	Project Evaluation Team(s)
Phare	European Union Phare Program
PIU	Project Implementation Unit
SIT	Slovenian Tollars

## 1.0 EXECUTIVE SUMMARY

The supply of heat and hot water for industrial, residential and public buildings currently accounts for approximately 30% of Slovenia's total final energy consumption and about 28% of its total emissions of CO<sub>2</sub>. Space heating accounts for about 70% of the total residential energy demand, and imported liquid fuels are the predominant energy source.

Wood biomass is the most abundant renewable energy resource in Slovenia, and the construction of biomass-based district heating (BDH) systems is a potential means of achieving greenhouse gas (GHG) emission reductions. This GEF project was designed to remove barriers to the increased use of biomass as an energy source, thereby reducing the fossil fuel consumption and associated greenhouse gas emissions. The project seeks to support the development of an initial set of BDH projects by covering the learning costs, reducing investor risks and demonstrating the technical and financial feasibility of the projects to the local communities and residents.

During the lifetime of the project, at least 3-5 new biomass district heating projects are expected to be financed by a Biomass Energy Fund (Fund) that would aim to recover its funds at a rotation speed of 3 to 5 years and reinvest the funds in new wood biomass energy projects in Slovenia. The maximum allowable unsecured contribution by the Fund was capped at 50% of its respective total investment in a project.

Considering the importance of climate change issues and the ambitious nature of the project as funded by the Global Environment Facility (GEF), UNDP decided to conduct a mid-term evaluation in order to contribute to effective project implementation and ensure proper documentation of lessons learned.

The effective start date of the project was delayed from March 2002 to October 2002 because the Agency for Efficient Use of Energy (AURE) was transferred from the Ministry of Economy to the Ministry of Environment, Spatial Planning and Energy (MoESPE), and a decision was made within MoESPE to assign AURE as the executing and implementing agency for the project. The EcoFund, which was originally supposed to implement the entire project, maintained its implementing role for the financial component of the project.

The project encountered a further delay in developing the guidelines, funding criteria and pro-forma agreements for operation of the Fund. The project equity controlled by the Fund (Fund equity) is actually the GEF grant to the government of Slovenia, and under Slovenian law, the sale of all state assets must be open to the public and could not be treated as a delayed equity investment by the project owners. However, in order to meet the project document requirement for a 50% maximum unsecured investment by the Fund, the project owners must guarantee to purchase the Fund equity shares at 50% of initial value if no buyer is found during the public offering.

These complexities delayed approval of the Fund documents until June 2003, and they have created several problems and delays in the negotiations with the initial BDH project proponents. Several project participants commented that stimulation of BDH projects would be much easier if the Fund made straight grants. They also commented that negotiating the Fund equity investment would be easier if the time frame for sale of the GEF equity shares was not so tightly constrained.

The conclusion of the evaluation team regarding the Fund is that its current approach is too constrained and that the Fund cannot operate sustainably at its current level of capitalization. The constraints on the operation of the Fund need to be relaxed to reduce some of the difficulties in project negotiations, and new sources of money need to be found to add capital to the Fund so that there is no gap in its ability to promote and invest in BDH projects.

The relevance of the project to Slovenia appears to be quite high. A recently developed National Energy Plan (NEP) has important goals for biomass energy systems, which are consistent with the potential of the resource to contribute to achieving the country's Kyoto targets. The Project Implementation Unit (PIU) worked closely with MoESPE officials developing the NEP to draft the biomass component of the Plan, which has been approved by the government and is expected to be approved by the Parliament in 2004.

The project is also very complimentary to AURE's other support programs for household biomass systems and industrial biomass systems, and newly formed regional development centers are increasingly supporting modern biomass technology as an effective development tool for BDH and households. In addition, the project is effectively collaborating with other agencies and programs, e.g. with the Slovenian Forestry Institute to promote a stable wood energy supply market.

The evaluation team makes the following recommendations regarding the further implementation of this project.

- The Fund should continue to operate as an equity investor with a minimum repayment level of 50%. However, the period for sale of the Fund equity should be expanded to up to 10 years. This relatively minor change in operational procedures will allow the Fund more flexibility in timing the sale of its equity, and it will provide project investors with more confidence that capital gains on the project will allow them to effectively bid for the equity at a public offering. This change is not expected to significantly reduce the CO<sub>2</sub> emission reduction potential for the project.
- It is imperative that new sources of money are found to add capital to the Fund within the next one to two years. The PIU should continue to pursue the two possibilities that it has already initiated, i.e. funds from the Slovenian CO<sub>2</sub> tax and EU structural funds for the agricultural sector.
- Considering the delayed start of the project, the current progress on project outputs and activities, and a careful analysis of the time needed for effective implementation of the remaining outputs and activities, the project timescale should be extended for six months (up to August 31, 2005). This additional time should allow the PIU to continue biomass promotional activities through further capacity building, strengthening of the biomass supply market, public awareness of the success of the initial round of projects, and development of additional capital investment for the Biomass Energy Fund.

The following are the key lessons learned identified by the evaluation team based on the implementation of this UNDP/GEF project to date.

- The initial concept of using GEF funds to create a revolving equity fund that could take risk has not developed as planned because this concept, while valid, did not fully anticipate the legal complexities for implementation in Slovenia. In addition, it does not appear that a calculation of the required amount of capitalization was performed, and as a result, the Fund is undercapitalized and needs additional investment if it is to be sustainable.
- The EU accession process for Slovenia has influenced the project and the design of the Biomass Energy Fund. As a result, the Fund is a complicated and demanding scheme and is probably causing an additional barrier to some biomass district heating projects.
- Because the wood industry in Slovenia is not able to invest in BDH projects due to problems related to its core business, the PIU has had to develop additional activities to support the involvement of small biomass resource owners (farmers) as key project development players.
- Two earlier EU-funded projects implemented poorly optimized designs with oversized capacity leading to high investments, had a low number of connections leading to poor revenues, and selected bad site locations leading to environmental complaints. Therefore, the project has supported a lot of design optimization, and a targeted approach to public relations activities.
- In order to mitigate the fears of municipalities and the public regarding the possibility of long-term price increases for district heating systems financed by private investors (e.g. large oil companies), a set of control and preventive mechanisms were developed for inclusion in the by-laws of the BDH supply companies.

## 2.0 THE DEVELOPMENT CONTEXT

The supply of heat and hot water for the industry, residential and public buildings currently accounts for approximately 30% of Slovenia's total final energy consumption and about 28% of its total emissions of CO<sub>2</sub>. Space heating accounts for about 70% of the total residential energy demand, and imported liquid fuels are the predominant energy source.

Slovenia is a signatory of the Kyoto protocol, in which it has committed to reduce the country's greenhouse gas (GHG) emissions with 8% by 2008-2012, relative to the 1986 level. Wood biomass is the most abundant renewable energy resource in Slovenia, and the construction of biomass-based district heating (BDH) systems is a potential means of achieving a portion of the needed GHG emission reduction. This GEF project was designed to support the development of the initial BDH projects by covering the learning costs, reducing investor risks and demonstrating the technical and financial feasibility of the projects to the local communities and residents.

The long term development objective of the project is to remove barriers to the increased use of biomass as an energy source, thereby reducing the fossil fuel consumption and the associated greenhouse gas emissions. The project is also envisioned to support the sustainable development of the local economies by creating new income and employment opportunities.

The project document states that the project will promote the increased use of biomass as an energy source in Slovenia by: a) removing barriers to, and reducing the implementation costs of biomass based district heating projects in local communities; b) improving the energy efficiency of the existing boilers and individual fireplaces using biomass<sup>1</sup>; and c) increasing the use of biomass for co-generation and in small individual boilers, when economically and environmentally feasible.

The project goal is expected to be achieved by:

1. Finalizing the project implementation arrangements and building the capacity of the local project personnel to conduct and supervise the project activities;
2. Finalizing the feasibility studies for and development of a pipeline of at least 20 biomass district heating and other wood biomass related energy projects to be presented for financing and addressing barriers;
3. Facilitating the implementation of the biomass district heating and other wood biomass related energy projects.; and
4. Promoting the sustainable growth of using biomass as an energy source in Slovenia.

Overall, the project is expected to remove the key barriers to the improved and increased utilization of biomass as an energy source in Slovenia, thereby facilitating its increasing share in country's energy balance. During the lifetime of the project, at least 3-5 new biomass district heating projects are expected to be started.

A preliminary diagram of the project organizational arrangements is shown in Figure 1. The Agency for Efficient Use of Energy (AURE) from the Ministry of Environment, Spatial Planning and Energy (MoESPE) was assigned as the executing and implementing agency for the project. The Slovenian Environmental Development Fund (EcoFund) was assigned to implement the project's financial component through a Biomass Energy Fund (Fund) to be created under the project. A Project Implementation Unit was established within AURE to manage the project activities, including capacity building, developing a pipeline of projects for the Fund, and promoting the sustainable use of biomass in Slovenia.

---

<sup>1</sup> This target is written down in the Project Document but activities are not designed to directly tackle it. The project team is organizing training for equipment installers and energy advisers, etc. to promote this area.

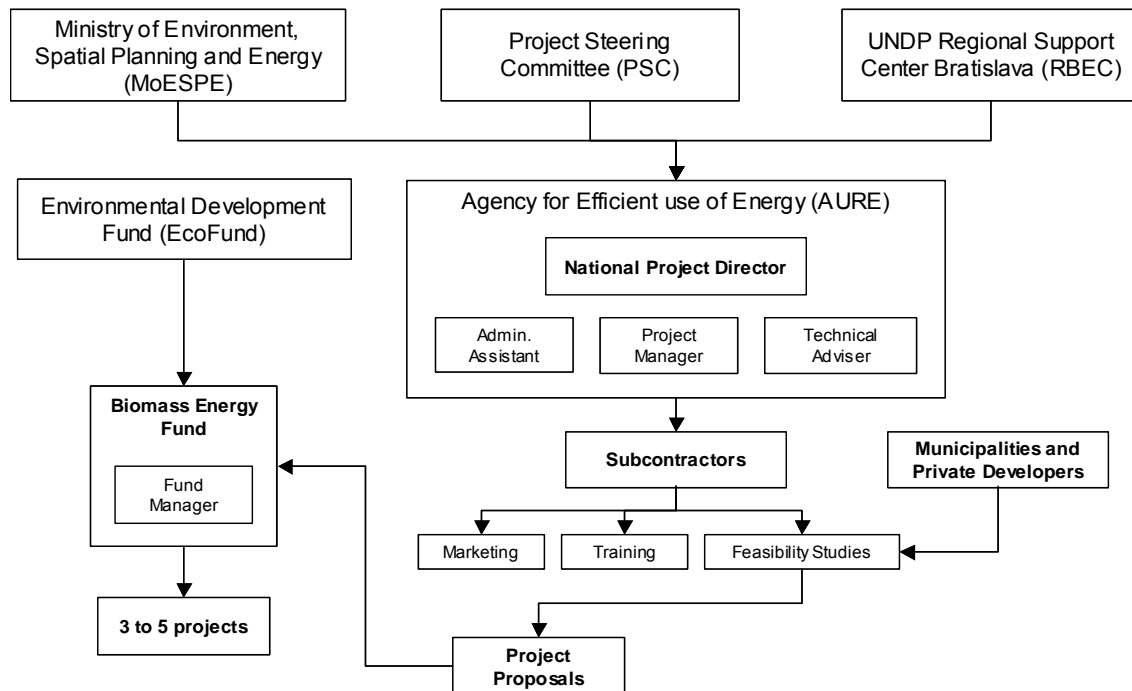


Figure 1: Project Organizational Arrangement

### 3.0 FINDINGS AND CONCLUSIONS

Considering the importance of climate change issues and the ambitious nature of the project as funded by the Global Environment Facility (GEF), UNDP decided to conduct a mid-term evaluation in order to contribute to effective project implementation and ensure proper documentation of lessons learned. In accordance with the Terms of Reference, this mid-term evaluation has focused on the following issues:

- Sustainability of the financial instrument
- Relevance of the project
- Performance of outputs and activities
- Management arrangements
- Overall success
- Synergy with other similar projects

#### 3.1 Sustainability of the Financial Instrument

The Project Document defined a Biomass Energy Fund (Fund) that during the first three years of the Fund's operation would fully invest its resources to facilitate the financing for at least 3 to 5 wood biomass energy projects. The Fund would aim to recover its funds at a rotation speed of 3 to 4 years, and by reinvesting the funds recovered it would leverage financing for as many wood biomass energy projects in Slovenia as possible within the next 10-15 years. Conceptually, the Fund was provided the flexibility to financing projects through equity, debt, and/or guarantee instruments depending on a financial assessment of the most appropriate financing instruments needed. The maximum allowable unsecured contribution by the Fund was capped at 50% of its respective total investment in a project.

One of the first activities of the PIU was to work in concert with the EcoFund, MoESPE and the Ministry of Finance to finalize the design of the Fund. A project financing approach of 25% equity using GEF funds, 25% owner equity, 25% grant (from government of Slovenia co-financing) and 25% EcoFund loan was decided to be the most appropriate to the situation in the target municipalities,

and sale of the 25% equity share of the Fund would take place 3 to 5 years after the project investment.

The project document states that the initial capital of the Fund will be transferred from the GEF to the Government of Slovenia. Therefore, the project equity controlled by the Fund (Fund equity) is actually held in trust for the government and is considered a state asset. Under Slovenian law, the sale of all state assets must be open to the public, and the original concept that the GEF investment would actually be a delayed equity investment by the project owners could not be fully achieved. However, in order to meet the project document requirement for a 50% maximum unsecured investment by the Fund, the project owner must guarantee to purchase the Fund equity shares at 50% of initial value if no buyer is found during the public offering. Because of complications related to these two requirements, final approval of the guidelines, funding criteria and pro-forma agreements for operation of the Fund were not approved until June 2003. The result was about a nine-month delay in the implementation of project activities to develop BDH project.

In negotiations with the initial project investors (both municipal and private) the Fund design has created the following problems:

- Under the current financing approach (25% Fund equity, 25% owner equity, 25% grant and 25% EcoFund loan) the Fund equity share could potentially be the majority ownership share, and potential project owners have taken steps to increase the capitalization of the project company to avoid this situation. This has added costs and delayed the implementation of the initial projects.
- The current window for sale of the Fund equity (not less than 3 and not more than 5 years) is too constrained from the perspectives of both the Fund Manager and the project investors. It does not allow enough flexibility for the Fund Manager to ensure sale of the Fund equity at an optimum time, and it does not allow enough time for the project investors to be sure that capital gains on the project will allow them to effectively bid for the equity at a public offering. This is especially troubling to the private investors, who are taking the risk to make a project successful, but could see another party that has taken no risk gain significant benefits by acquiring the Fund equity.
- Two guarantees are required: one to the EcoFund for loan repayment and one to the government for purchase of the Fund equity under the Option agreement. The second guarantee is an added cost to the project owners even though they have no guaranteed right to purchase the Fund equity.

The current Fund design has added significant complexity and delay to the initial project development activities and has discouraged some potential project owners. As an example, negotiations with Kočevje (a municipal project owner) took from June 2003 to Feb 2004 to resolve and required that they transfer ownership of the site property from the municipality to the municipal utility company in order to maintain majority ownership after the Fund investment. The legal arrangements for this added cost, required additional municipal government approvals and delay to the project. In this municipality's experience, a much larger waste water treatment project with a 50% state aid grant was much easier to implement.

Several project participants commented that stimulation of BDH projects would be much easier if the Fund made straight grants. They also commented that negotiating the Fund equity investment would be easier if the time frame for sale of the GEF equity shares was not so tightly constrained. Both of these comments are valid, but the current Fund approach of using the GEF investment as "soft" equity was established as a pilot scheme to test its viability. The evaluators believe that the approach appears to be appropriate even though the Fund has encountered unexpected obstacles during its formation.

The calculations from the feasibility studies for several of the potential projects show that the financing approach can provide an internal rate of return (IRR) of about 8%, which is sufficient for most municipal projects. Without the state grant and the GEF soft loan, the IRR is typically 3%. Therefore, the approach does help municipalities, but is unlikely to attract private investors.



The possibility of using the GEF investment to provide loan guarantees was evaluated in the development of the Project Document, and it was not considered to be an effective mechanism because most municipalities have statutory borrowing limits and find it hard to take on more debt. The evaluators observed this constraint as two of the possible municipal sites, where waste water projects were competing for funds with the BDH projects.

Discussions with several project proponents revealed that technical interactions with the PIU, acting on behalf of the Fund as an equity investor, led to several design changes that improved the project cost-effectiveness and increased the amount fuel switching and CO<sub>2</sub> reductions. On the other hand, experience with grant projects (e.g. under the EU Phare program) has not been good because units were oversized, preformed poorly and gave bad economic results. Therefore, it was seen that an important advantage of the Fund equity investment approach is that it leads to a stronger imposition of good business practices and the more scrutiny of the project development process, which results in more sustainable projects.

A major concern from most project participants regarding the Fund design is that the level of investment is insufficient to develop a true revolving fund. It would appear that the project document did not sufficiently consider this aspect of the Fund. As currently capitalized by the GEF grant, the Fund cannot operate continuously as a revolving fund. It will likely make its initial round of investments this year, and then it will have to go into hibernation for 3 to 5 years unless new capital is found to allow the Fund to continue operation. Once the Fund equity share in the initial projects is sold, new project investments can be made. However, having a 3 to 5 year gap in Fund investment activity will not promote wide adoption of BDH projects. To effectively fund 2 to 3 projects per year would have required an initial capitalization of about \$10 million, and about \$20 million would have been needed to effectively fund 3 to 5 projects per year. The latter number is the goal for BDH projects in the Slovenian National Energy Plan.

The PIU is well aware of this problem and has been working to develop new sources of money to capitalize the Fund. Two possibilities that are being pursued are funds from the Slovenian CO<sub>2</sub> tax and EU structural funds for the agricultural sector.

Starting in 2004, MoESPE expects to obtain approval to redirect a portion of the CO<sub>2</sub> tax revenues to state aid for specific CO<sub>2</sub> reduction measures not supported by other means (e.g. feed-in law). It is planned that yearly 500 million SIT (\$2.6 million) will be redirected to potentially seven categories of projects. BDH projects are a leading candidate for this money, and the Fund is the logical implementing agency. The Government of Slovenia is currently awaiting approval in Brussels for this state-aid scheme.

With Slovenian accession to the EU beginning in May 2004, structural funds for the agricultural sector will become available. The PIU has plans to begin working with the Ministry of Agriculture, Forestry and Food to develop a program to support biomass supply for energy projects that could bring additional money into the Fund.

Additional findings regarding the Fund are:

- Dollar depreciation has reduced by about 25% both the available equity (in Slovenian Tollars) from the GEF and the grant funds from the government.
- EU accession imposed new rules on state aid (and definitions of eligible costs) that had to be incorporated into all the project arrangements and requirements, and in some cases this reduced the available Fund equity investment (and state grant) to less than 25%.
- When the project owner is a municipal utility with other assets, the Fund buys into ownership and possible liability issues related to these other operations.
- The efforts needed to resolve the issues related to the Fund structure required inputs from many different government ministries and raised their awareness of the project.

The conclusion of the evaluation team regarding the Fund is that its current approach is too constrained and that the Fund cannot operate sustainably at its current level of capitalization. The

constraints on the operation of the Fund need to be relaxed to reduce some of the difficulties in project negotiations, and new sources of money need to be found to add capital to the Fund so that there is no gap in its ability to promote and invest in BDH projects.

### **3.2 Relevance of the Project**

The relevance of the project is addressed according to the following four areas:

#### **3.2.1 Development priorities at the national and local levels**

At the national level, Slovenia ratified the Kyoto Protocol in 2003, and biomass can make a significant contribution to Slovenia meeting its Kyoto targets. The recently developed National Energy Plan (NEP) has important goals for biomass energy systems, which are consistent with the potential of the resource to contribute to achieving the country's Kyoto targets. The Plan has been approved by the government and is expected to be approved by the Parliament in 2004. The PIU worked closely with MoESPE officials developing the NEP to draft the biomass component of the plan. Analysis performed by Josef Stephan Institute in support of the Operational Program for Reduction of Greenhouse Gases adopted by the government in July 2003 shows that biomass is the most important of the renewable energy technologies for Slovenia, and that biomass systems are among the most cost-effective technologies for CO<sub>2</sub> emission reductions in the heating area. Through the year 2012, biomass for heating could account for as much as 20% of all GHG emission reductions depending on the development of the market. The overall cost for Slovenia for achieving the Kyoto targets was projected to be between 13 and 20 €/ton CO<sub>2</sub> eq.

Also at the national level, the GEF project is very complimentary to AURE's other support programs for household biomass systems and industrial biomass systems. The project is also relevant to the activities of the Slovenian Forestry Institute to promote a stable wood energy market.

At the local level, several of the municipal governments interviewed stated that biomass supply would be an important means of improving income and living conditions among farmers and other potential suppliers in the local community. Biomass has also been included in the regional development plan for several regions where BDH project have been proposed. As an example, a biomass demonstration and training facility will be funded by the regional development agency as an adjunct to the Vransko BDH project.

#### **3.2.2 Target groups**

##### *Ministries*

For the AURE, under the MoESPE, this project complements their existing programs and provided important needed funds to promote demonstration projects. Others at MoESPE in charge of CO<sub>2</sub> tax and emission trading see the project as the driving force towards implementation of BDH systems.

For the Ministry of Agriculture, Forestry and Food, the GEF project is the best approach for promoting the use of biomass for district heating. They have programs for forest thinning, but no programs to promote wood biomass use, so this project fills an important void.

##### *Municipalities*

By the end of 2002, 30 municipalities had signed Letters of Interest to participate in the project, and 25 municipalities applied for the preparation of biomass district heating feasibility studies. At the same time, three municipalities with completed feasibility studies (Borovnica, Vransko, and Kočevje) presented the project with an opportunity to move forward quickly and agreed to have the project review and update their feasibility studies. While these studies revealed symptomatic deficiencies in investment preparation (overestimated heat consumption, oversized biomass boilers, high proportion of engineering costs, unrealistic financing sources, non feasible summer operation and too low heat prices), The municipalities welcomes the feedback and worked with the PIU to improves their project designs.

*Regional development groups*

Biomass is an abundant resource in Slovenia, and newly formed regional development groups are increasingly supporting modern biomass technology as an effective development tool for BDH and households.

*Private investors*

Several large companies (e.g. Petrol the largest company in Slovenia) are exploring potential business and investment opportunities in the biomass field, and this project has acted as an important vehicle to assist them in their evaluation of BDH projects and biomass supply options that they would not have done at this time if not for the GEF project.

*Farmers*

The project is creating opportunities for forest owners (many of whom are farmers) to benefit from their holdings. However, achieving this potential is a difficult challenge because of the small size of the forest holdings (the average is 3 hectare) in Slovenia.

*Forestry Service, Agricultural Advisory Service and Energy Advisory Service*

The project is reaching out to these three independent groups to create awareness of their relative activities, transfer knowledge based on their relative experiences and promote synergies between their activities that will more effectively promote biomass utilization.

*Consultants*

Project is providing web-based resources, training and feasibility study opportunities for Slovenian consultants in the biomass area, and this is strengthening their capacity to more effectively promote this field.

**3.2.3 Direct beneficiaries***Residents*

Residents of municipalities that implement BDH projects stand to benefit from clean, affordable, convenient and environmentally friendly heat. However, this is not a widely accepted prospect. The performance of two EU grant-funded projects (one 10 years old and the other 2 years old) has been poor on a technical, financial and environmental basis, and these poor results have been widely publicized. Thus, the PIU must work hard to overcome this poor perception of the technology.

*Manufacturers*

Manufacturers of biomass equipment in Slovenia saw their business drop significantly after independence. The more successful ones have regained some of their former business, and this project offers to help develop new market opportunities for their equipment in Slovenia.

**3.2.4 UNDP mission to promote sustainable development**

This project appears quite relevant to the UNDP mission to strengthen national policy frameworks to promote biomass (a clean energy resource) for sustainable development. By promoting rural biomass energy supply services to support the BDH projects, the project is promoting rural enterprise, local capacity development and economic growth.

**3.3 Performance**

This section assesses the progress that the project has been relative to achievement of its long term development objective and its immediate objectives, outputs and activities. The mid-term is too early to assess the project relative to its long term development objective of removing barriers to the increased use of biomass as an energy source. However, the project appears to have identified all the important barriers and is working cooperatively with multiple stakeholders to define and implement activities that support the project objective and support greenhouse gas reductions and sustainable development of local economies. An assessment of the project's immediate objectives and associated outputs is summarized in Table 1, and a more detailed assessment of outputs and activities is provided in Annex 6.5.

**Table 1: Assessment of Immediate Objectives, Outputs and Activities**

<b>Immediate Objective 1:</b> Finalizing the project implementation arrangements and building the capacity of the local project personnel to conduct and supervise the project activities.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
<b>1.1 Finalized project implementation arrangements</b>	Completed in June 2003	The nature of the Biomass Energy Fund as a revolving fund using state assets caused significant complications in the development of its operating procedures and pro-forma agreements.	The completion of this output was significantly delayed because of the late formation of the PIU, and complications developing the operational guidelines and pro forma contracts of the Biomass Energy Fund to be consistent with the Project Document, Slovenian law and EU requirements.	The approach of using a working group consisting of members on several ministries helped resolve the disagreement over the form of the Biomass Fund Agreements.
<b>1.2 Enhanced capacity of the local experts to implement the project</b>	The PIU attended relevant workshops, conferences and study tours.  Formats for feasibility studies and business plans were developed as part of the public tendering documents for BDH project investments.	The experience and knowledge gathered during the project will provide the basis for compiling a guidebook and training material.	Two feasibility studies and business plans were reviewed in detail, and the quality and effectiveness of the documentation appears to be quite good. The PIU has made significant improvements to the original studies and provided training to build the capacity of the local consultants.	The PIU is promoting the early collaboration of project investors, municipalities, consultants and potential biomass suppliers in the Feasibility study process.

<b>Immediate Objective 2:</b> Finalizing the feasibility studies for and development of a pipeline of at least 20 biomass district heating and other wood biomass related energy projects to be presented for financing.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
<b>2.1 Potential municipalities, industries, farmers and others are fully informed about wood biomass as an energy source</b>	Public awareness raising and training materials have been developed and to target groups.  Biomass data is expected to be developed in cooperation with an FAO project with the Slovenian Forestry Institute.  Feasibility studies for two municipalities (Vransko, Kočevje) were reviewed and updated and public hearings were organized.	The lack of a clear biomass supply market, uncertainty over biomass prices and the existence of conventional fuels for DH systems at a relatively low price pose serious challenges to enhancing the level of understanding in BDH as an attractive option.	PIU activities have achieved the following results: <ul style="list-style-type: none"> <li>• 30 municipalities signed by Letters of Interest and 25 applied for the preparation of BDH feasibility studies.</li> <li>• A project web site was established for information dissemination.</li> <li>• Negotiations with two municipalities (Vransko, Kočevje) for project investment.</li> </ul>	The PIU appears to be actively and effectively collaborating with the government ministries, municipalities, FAO and the Slovenian Forestry Institute to increase the effectiveness of the project.
<b>2.2 Detailed feasibility studies, business and financing plans.</b>	Two projects applied for financing according to the framework of the Biomass Energy Fund. Another 23 feasibility studies are due by the end of March 2004.	The financing approach contains certain requirements and constraints that are perceived as high risk by the municipalities and private investors.	PIU has provided effective technical assistance to the municipalities in support of negotiations with the EcoFund.	A strong degree of cooperation was observed between the PIU, the municipalities and the EcoFund.

<b>Immediate Objective 3:</b> Facilitating the implementation of the biomass district heating and other wood biomass related energy projects.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
<b>3.1 A national biomass energy program adopted</b>	Biomass energy goals were developed for the National Energy Plan, which is currently awaiting adoption by the Parliament.  Details of a program with relevant funding needs to be developed.	The report of the FAO project updating the biomass energy supply potential and market is needed.  Goals of the National Energy Plan require that relevant national authorities allocate the necessary resources for implementing the program.	The PIU worked effectively to implement the biomass component of the National Energy Plan, by defining targets for biomass energy programs that support achieving the national Kyoto goals. Similar effectiveness will be needed to develop the supporting National Biomass Energy Program.	The PIU actively collaborated with the MoESPE and the Josef Stefan Institute, which provided supporting analysis for the National Energy Plan. Cooperative development of the National Biomass Energy Program is planned for December 2004.
<b>3.2 Model Heat Supply Agreement</b>	Model biomass supply and heat purchase agreements were prepared to support development of the BDH investment proposals.	Negotiation of agreements between the municipalities, private investors and the EcoFund are nearing completion for the first two projects.	An improvement/ update of the initial model agreements will be performed based on the biomass market development.	NA
<b>3.3 Commissioning of 3-5 demonstration projects</b>	Two demonstration projects are selected as potential beneficiaries of financing, decision which should be taken by the end of March 2004.	Negotiations have been long due to concerns by the municipalities and private investors regarding public sale of the GEF equity shares, heat pricing, minimum rate of return and other issues.	Finalization of negotiations for the first two projects (Kočevje and Vransko) is expected to be effectively implemented at latest in March 2004.	PIU is cooperating with the Forestry Institute to prepare the ToR and launch the call for subcontracting the provision of additional training.

<b>Immediate Objective 4:</b> Promoting the sustainable growth of using biomass as an energy source in Slovenia.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
4.1 Recommendations for the long term strategy, institutional and financial framework to support biomass energy activities adopted	The Biomass Energy Fund requires additional capitalization to be able to support BDH projects once the GEF funds are temporarily bound in equity investments.	Two sources of new investment are being developed: CO <sub>2</sub> tax revenues and EU structural adjustment funds.	PIU has been effectively addressing this issue since the first quarter of 2003.	PIU is cooperating with MoESPE regarding funds from the CO <sub>2</sub> tax and plans to coordinate with MOAFF to prepare a program of biomass supports using a portion of the EU structural adjustment funds for the agricultural sector.

### **3.4 Management arrangements focused on project implementation**

#### **3.4.1 General implementation and management**

Effective implementation of the project was delayed because following the signing of the project document in February 2002, AURE was transferred from the Ministry of Economy to MoESPE and a decision was made within MoESPE to assign AURE as the executing and implementing agency for the project. The EcoFund, which was originally supposed to implement the entire project, maintained its implementing role for the financial component of the project. The project effectively started in October 2002 after this issue was resolved and the PIU was formed.

#### **3.4.2 Management arrangements**

Following formation of the PIU, the project implementation appears to have proceeded expeditiously. AURE appears to be a supportive environment for the project, and while the PIU has encountered certain difficulties and delays, it appears that project activities are being managed effectively and expedited as much as possible. In particular, regular supervision of the project developments by MoESPE, AURE, EcoFund, and close involvement of some Project Steering Committee members in crucial moments was decisive factors to overcome some institutional barriers.

The Project Steering Committee appears to be a useful and effective oversight and coordination mechanism for the project. It helped facilitate formation of a working group to solve the complexities surrounding the operational principles and contractual arrangements of the Fund.

The PIU has encountered some restrictions and delays dealing with the bureaucratic procedures in place because they operate as part of AURE within the MoESPE. While annoying, these have not been the most significant delays encountered by the project.

The evaluators found that the format and content of Project Implementation reports (quarterly and annual) does not provide a clear overview of accomplishments and progress against planned activities and accomplishments.

#### **3.4.3 Equal participation of men and women**

The evaluators found no indication of discrimination and many indications of equal opportunity for both men and women. Many of the project stakeholders interviewed were women, including State Undersecretaries, the Biomass Energy Fund Manager, Directors of municipal utilities, researchers and consultants.

### **3.5 Overall success of the project**

#### **3.5.1 Impact**

The project has had the immediate impact of stimulating 2.5 million of grant funds from the government of Slovenia that would not have otherwise been provided. Government ministries have become more aware of the potential of biomass energy. Targets for biomass energy have been specified in the National Energy Plan relative to achieving the Kyoto targets for Slovenia. Energy companies, municipalities, equipment suppliers, consultants, public relations companies, mass-media and NGOs are focusing attention of biomass energy because of this project. Agencies such as the Forestry Institute, Agricultural Advisory Service and the Energy Advisory Service are cooperating to better promote biomass energy supply, and a pipeline of BDH projects feasibility studies has been generated by the project.

There was some opinion that the decision to support only heat based production, taken during the project development phase and confirmed by the Project Steering Committee during the project implementation phase, has constrained the project's potential impact. The Project Document mentions that when undertaking and evaluating the feasibility studies for BDH projects, the different options for using biomass will be fully taken into account with the goal to optimize the BDH system size, minimize the costs and maximize the use of biomass as an energy source. The rationale for this decision is that AURE already has an existing grant program for residential and industrial systems and that the feed-in tariff is supposed to support CHP systems.

Given the limited capitalization of the Fund, the evaluators do not believe that adding biomass CHP district heating systems would be the best use of the Fund resources during the project life. However, there is a category of BDH projects called micro-systems, which can be applied to small building complexes, such as apartments and commercial outlets. These systems have the potential to be more cost-effective and might improve the level of public perception with regard to biomass district heating investments. Such systems could be sufficiently attractive to get private investors involved in both the system construction and the biomass supply.

The market for BHD consultancy services is poorly developed in Slovenia, and the PIU judged the quality of existing feasibility studies and business plans as unsatisfactory. The additional time and efforts provided by the PIU has led to revised and improved documents which appear to be of good quality and meet the standards of the EcoFund.

### 3.5.2 Sustainability

As discussed in detail in Section 3.1, the project appears unlikely to lead to sustainable development of BDH systems in its present form. The Biomass Energy Fund needs new capitalization within the next one to two years if it is to provide sustainable funding to follow-on BDH projects.

The National Energy Plan contains achievable goals for biomass energy use that would make a significant contribution to the achievement of the Kyoto targets for Slovenia. However, to achieve these goals, new policies and programs will need to be created and provided with sufficient funds. The PIU plan to develop a National Biomass Energy Program in cooperation with relevant national authorities that will be involved in funding and implementing the program elements. The program should address policies and programs that impact the viability of BDH and other biomass systems, including current rules and regulations constraining heat prices, methods to ensure a viable biomass supply market, and supports for the environmental and other benefits of biomass systems. While enactment of this program is outside the scope of this project, the PIU can increase the likelihood that the program will be implemented by ensuring that all the relevant national authorities are involved in the development of the program, and by providing information that will back-up political support by the affected municipalities, industries and consumers.

Development of a stable and reliable biomass supply market is also critical to achieving sustainable results from this project. The PIU has undertaken several activities to promote and support a stable biomass supply market for its projects. However, this market is also dependent on the activities of the wood processing industry in Slovenia and on the wood energy markets in Italy and Austria. Attempts by the PIU to cooperate with the wood processing industry have so far been unsuccessful because of the poor health of that industry. AURE has estimated a constant price for biomass in the next 4-5 years, at approximately \$11.6/m<sup>3</sup>, which is half of the biomass price in Austria. However, if the demand for biomass fuels increases dramatically, the price in Slovenia could rise to that of its neighbors. The risk to the initial BDH projects of such a price increase is small, and the sensitivity analyses performed in the feasibility studies indicates that the project returns are not highly sensitive to the biomass price. Over the longer-term, the BDH heat price may need to be adjusted in accordance with increased to the biomass price. However, as BDH systems are cost-effective in Austria, the necessary adjustments should be possible in Slovenia.

### 3.5.3 Contribution to capacity development

To achieve the proposed objectives of this project, the PIU has worked to remove barriers, in terms of capacity development, in the following ways:

- *Information dissemination.* The PIU has compiled materials on state-of-the-art biomass energy technologies, their technical and economic characteristics, etc. in Slovenian. The PIU has also developed an effective web site that contains brochures and leaflets downloadable in electronic format and a lot of more technical information on all aspects of the biomass industry in Slovenia.
- *Public Awareness.* The PIU has conducted multiple meetings with local communities and industry representatives to raise public awareness, provide information and support project

developments. In addition, training materials have been developed to support proper development of local public acceptance of BDH projects.

- *Capacity for preparing feasibility studies and “bankable” project proposals.* The biomass consultancy market in Slovenia still lacks competition. PIU has provided training to consultants, but it also intends to introduce foreign consultants to prepare feasibility studies. In addition, the PIU intends to implement a Quality Assurance Scheme designed for BDH projects, and it has initiated consultations with Switzerland, Germany and Austria. It is expected that through training a small number of experts will be able to offer quality assurance services to investors regarding the feasibility work of consultants.
- *Capacity of local communities to assess the sustainability of the wood fuel supply and to mobilize/organize the local fuel wood market.* The small size of the forest holdings in Slovenia (the average is 3 hectare) creates a special challenge to developing a biomass supply market. To tackle this issue, the PIU is working in collaboration with the Forestry Service to promote training and cooperation between the regional representatives of the Forestry Service, the Agricultural Advisory Service and the Energy Advisory Service to identify synergies that will support a biomass supply market.
- *The capacity and experience of the local communities to finalize all the other documentation needed to present projects for financing is still weak.* PIU put a lot of efforts in finalizing the documentation submitted for Kočevje and Vransko, and provided effective technical assistance to the municipalities in support of negotiations with the EcoFund.
- *Capacity of government agencies.* One of the main contribution of the project to capacity development is represented by the continuous technical assistance and inputs provided by the project team to Ministries and other public institutions for developing sound national programs and plans for introducing biomass as a sustainable energy source, but also for developing the financing schemes to support these programs and plans.

### **3.6 Synergy with other similar projects, funded by the government or other donors**

Incorporating the PIU into the structure of AURE proved to be very beneficial. On one hand, the project is providing necessary expertise to MoESPE and AURE for the preparation of strategic documents related to biomass energy, and on the other hand, the PIU provides day-by-day activities as the focal point supporting a major component of the biomass energy activities within AURE. The project team was deeply involved in the unforeseen legislative and procedural activities, to be done by AURE and required by the EU accession process. By providing this expertise, the project has facilitated measures necessary to reach the project objectives and also building the capacity of AURE.

The PIU appears to be actively and effectively collaborating with the government ministries, municipalities, FAO and the Slovenian Forestry Institute to increase the effectiveness of the project. The PIU was invited to participate on the Steering Committee for the FAO Project implemented by the Slovenian Forestry Service. The PIU collaborated with MoESPE and the Jozef Stefan Institute regarding the National Energy Plan. PIU is further collaborating with the Forestry Institute to prepare additional training regarding biomass supply. PIU is cooperating with MoESPE regarding funds from the CO<sub>2</sub> tax and plans to coordinate with MOAFF to prepare a program of biomass supports using a portion of the EU structural adjustment funds for the agricultural sector.

## **4.0 RECOMMENDATIONS**

The evaluation team makes the following recommendations regarding the further implementation of this project.

### **4.1 The project scope should be expanded to include micro-systems**

Biomass heating micro-systems, units up to 1 MW in capacity that can be applied to small building complexes, such as apartments and commercial outlets, have the potential to be more cost-effective,



gain customer support more easily, and be sufficiently attractive to get private investment should be pursued with the assistance of the Fund. Such micro-system projects could be developed by individual promoters, or possibly more effectively as a portfolio of projects with a common investor and biomass supplier. The latter approach would reduce transaction costs on the part of the Fund and make it easier to deal with issues related to guarantees and collateral. A mix of micro-systems and BDH systems could easily compliment each other regarding the promotion of a stable biomass supply system.

Regarding the possible inclusion of CHP, the evaluators believe that the decision to support only heat based production is appropriate given the current limited resources of the Fund and the status of the wood processing industry in Slovenia. Once the objectives of the project are achieved (at least 3 to 5 BDH projects over its duration of 3 years), the Fund should consider expanding its promotion to biomass CHP applications.

#### **4.2 The period for sale of Fund equity should be extended to 10 years**

The Fund should continue to operate as an equity investor with a minimum repayment level of 50%. However, the period for sale of the Fund equity should be expanded to up to 10 years. This relatively minor change in operational procedures will allow the Fund more flexibility in timing the sale of its equity, and it will provide project investors with more confidence that capital gains on the project will allow them to effectively bid for the equity at a public offering.

- For projects owned by municipalities, the Fund and the municipal government can mutually agree that sufficient capital gains have been achieved to allow the municipal government to purchase the Fund equity. A public bidding process will still be followed, but the municipal government will know that it has the assets to make an effective bid without having to take a loan, and the Fund is more likely to get full value for its equity.
- For projects owned by private investors, the Fund can decide (based on its audit of the project company books) that the project has achieved a level of profitability that warrants sale of its equity. A public bidding process will still be followed, and the private investor will need to decide what it will bid for the Fund shares, but it will be unlikely that an outside investor could purchase the Fund equity at a discount and unfairly reap the benefit of the risk that the private investor has taken. In this situation also, the Fund is more likely to get full value for its equity.

It is possible that with this change, the roll-over period for the Fund will be extended, and that the Fund will not be able to make as many future project investments. This may be true in the near-term (3 to 5 years), but it would not be true in the longer term (5 to 10 years) if the Fund receives a higher percentage of its initial investments from the equity sales. Furthermore, the Fund is currently undercapitalized and already faces a gap of 3 to 5 years in its ability to finance additional projects. The extension of the allowed sale period does not affect this fact.

#### **4.3 The PIU should continue its activities to find additional Fund capital**

The Fund cannot operate sustainably at its current level of capitalization. It currently faces a gap of 3 to 5 years in its ability to promote and invest in BDH projects. Therefore, it is imperative that new sources of money are found to add capital to the Fund within the next one to two years.

The PIU should continue to pursue the two possibilities that it has already initiated, i.e. funds from the Slovenian CO<sub>2</sub> tax and EU structural funds for the agricultural sector. (See Section 3.1) Additional sources of money might be found through EU programs for renewable energy and energy efficiency. Another possibility would be through a loan from a multilateral development bank, but this would require that the Fund seek a profit in order to repay the loan.

Additional funds to support biomass energy projects could be found through Joint Implementation with EU partners under the Kyoto Protocol and through cooperation with Slovenian regional development agencies. However, while these approaches can help individual projects, it seems unlikely that they will lead to increased capitalization for the Fund.

#### 4.4 The project timescale should be extended

As indicated in Section 3.3 of this report, the effective start of the project was delayed because of transfer of AURE from the Ministry of Economy to MoESPE and the decision to assign AURE as the executing and implementing agency for the project, with the EcoFund implementing the financial component. While the project document was signed in February 2002, the project activities were not effectively started until October 2002 after this issue was resolved and the PIU was formed.

Many of the project activities to develop BDH projects were further delayed because of the complexities in developing the legal mechanisms to implement the Biomass Energy Fund as a revolving equity fund. Compounding this delay were new rules imposed by the upcoming EU accession of Slovenia, especially those relating to limits on state investment aid (Community guidelines on State aid for environmental protection 2001/C 37/03). These issues were resolved and the Fund became operational in June 2003.

During the evaluation mission, the evaluators learned that another restructuring of the MoESPE is planned with the purpose of co-locating all the current agencies that provide funds to promote renewable energy and energy efficiency projects. The impact on the project effectiveness and completion of its activities cannot be predicted at this time.

Considering the delay in the effective start of the project, the current progress on project outputs and activities, and a careful analysis of the time needed for effective implementation of the remaining outputs and activities, the evaluation team recommends that the project timescale be extended for six months (up to August 31, 2005). This additional time should allow the PIU to continue biomass promotional activities through further capacity building, strengthening of the biomass supply market, public awareness of the success of the initial round of projects, and development of additional capital investment for the Biomass Energy Fund. This recommendation take into account the following issues identified during the evaluation mission:

- Implementation of the initial BDH projects (for Kočevje and Vransko) will probably start in March 2004, and the projects are expected to be operational by October 2004, the deadline imposed by the start of the heating season in Slovenia (October to May).
- PIU will need additional time to monitor and assess the performance of these two projects through the first heating season.
- For the projects to be selected for financing from the second round of 23 feasibility studies currently in preparation, the PIU will need additional time to support these project through financial negotiations and the start of implementation.
- Clearer results from these initial projects will allow the PIU to support a more effective public awareness campaign, as well as local and national dissemination of projects benefits and results.
- The PIU is likely to need additional time to see success from its activities to find additional capital investment for the Fund. (See Section 4.3)

#### 5.0 LESSONS LEARNED

The following lessons learned were identified by the evaluation team based on the implementation of this UNDP/GEF project to date.

- The initial concept of using GEF funds to create a revolving equity fund that could take risk (“soft” equity) has not developed as planned because this concept, while valid, did not fully anticipate the legal complexities for implementing the concept in Slovenia. In addition, it does not appear that a calculation of the required amount of capitalization was performed, and as a result, the Fund is undercapitalized and needs additional investment if it is to be sustainable.

- One of these legal complexities was due to the fact that, in accordance with the Project Document, the initial capital of the Fund was transferred from the GEF to the Government of Slovenia and is considered a state asset. Transfer of the GEF grant directly to EcoFund would not have avoided the state assets designation, as the EcoFund (while privately managed) is still owner by the state. Also, the EcoFund did not want to deal with the potential to lose up to 50% of the GEF investment. They are not set-up to accept such losses. The design of such funds for other GEF projects will need to fully consider these issues.
- The EU accession process for Slovenia, requiring the transposition and implementation of provisions in the EU Directives, has influenced the project and the design of the Biomass Development Fund. Less favorable administrative conditions were imposed, and a lower level of financing / state aid was allowed. The newly implemented legal framework imposed on the GEF equity financing model for the Fund resulted in a more complicated and demanding scheme and probably causing an additional barrier to some biomass district heating projects. In addition, limits on state aid also led the PIU to fund feasibility studies through the municipalities rather than directly to private investors.
- The project financing approach (the Biomass Energy Fund) is oriented to large scale biomass district heating projects. Unfortunately, the wood industry in Slovenia is not able to invest in BDH projects due to problems related to its core business. Thus, the PIU has had to develop additional activities to support the involvement of small biomass resource owners (farmers) as key project development players.
- The PIU encountered a problem with the public perception of BDH projects, mainly caused by two earlier EU-funded projects. The companies that were involved in these projects provide poorly optimized designs with oversized capacity leading to high investments, a low number of connections leading to poor revenues, and bad location selection leading to environmental complaints. Therefore, the project has supported a lot of design optimization, and a proper and targeted approach to public relations activities. Also, the project has developed a strong cooperation with NGOs as a necessary means to reach a national consensus that BDH is a clean and feasible technology.
- In order to mitigate the fears of municipalities and the public regarding the possibility of long-term price increases for district heating systems financed by private investors (e.g. large oil companies), a set of control and preventive mechanisms were developed, such as tariff order, concession act, technical and economic criteria for delivery of heat, etc. for inclusion in the by-laws of the BDH supply companies.

## 6.0 ANNEXES

The following Annexes are include with this Evaluation report:

- 6.1 Consultant Terms of Reference
- 6.2 Itinerary and list of persons interviewed,
- 6.3 General list of questions used,
- 6.4 List of documents reviewed
- 6.5 Detailed Assessment of Objectives, Outputs and Activities
- 6.6 Revised Work Plan According To Recommendations

### 6.1 Consultant Terms of Reference

#### 6.1.1 TOR for External International Consultant

##### *Objective of the Consultancy*

The overall objective of the consultancy consists in conducting an external evaluation of UNDP biomass project, focusing on the following issues:

- Relevance
- Performance
- Management arrangements
- Overall success
- Synergy
- Fund scheme
- Recommendations

##### *Scope of Work*

The External International Consultant will be designated by UNDP in consultation with the Project. Her/His main responsibility will be:

- To participate in the briefing meetings with UNDP (via teleconference);
- To conduct the evaluation of the project SVN/99/G31 “Removing Barriers to the Increased Use of Biomass as an Energy Source”;
- To prepare the draft Evaluation Report;
- To prepare the final Evaluation Report following debriefing with UNDP;

##### *Expected Outputs*

⇒ Evaluation Report

##### *Qualifications Required*

- University degree in business, economics or energy/environment related issues
- At least 8 years experience in managing/developing biomass/climate change projects in CEE and with developing financial schemes
- Extensive experience in the field of energy and climate change
- Experience with partnership strategies
- Conceptual thinking and analytical skills
- Experience in conducting evaluation missions would be an advantage
- Good knowledge of the Slovenian energy and energy efficiency legislation and policy would be an advantage
- Experience in managing/implementing donor supported projects will be an asset
- Knowledge of Slovenian will be an asset

- PC skills
- Fluency in English

*Additional assets are knowledge of:*

- District Heating projects
- Biomass technologies and standards

### **6.1.2 TOR for External National Consultant**

*Objective of the Consultancy*

The overall objective of the consultancy consists in conducting an external evaluation of UNDP energy efficiency project, focusing on the following issues:

- Relevance
- Performance
- Management arrangements
- Overall success
- Synergy
- Fund scheme
- Recommendations

*Scope of Work*

The External International Consultant will be designated by UNDP in consultation with the Project. Her/His main responsibility will be:

- To participate in the briefing meetings with UNDP (via teleconference)
- To conduct the evaluation of the project SVN/99/G31 “Removing Barriers to the Increased Use of Biomass as an Energy Source”;
- To prepare the draft Evaluation Report
- To support international consultant in preparing the final Evaluation Report following debriefing with UNDP;

*Expected Outputs*

⇒ Evaluation Report

*Qualifications Required*

- University degree in business, economics or energy/environment related issues
- At least 8 years experience in managing/developing biomass/climate change projects in CEE and with developing financial schemes
- Extensive experience in the field of energy and climate change
- Experience with partnership strategies
- Conceptual thinking and analytical skills
- Experience in conducting evaluation missions would be an advantage
- Good knowledge of the Slovenian energy and energy efficiency legislation and policy would be an advantage
- Experience in managing/implementing donor supported projects will be an asset
- PC skills
- Fluency in English

*Additional assets are knowledge of:*

- District Heating projects
- Biomass technologies and standards

## 6.2 List of Interviewees

1	UNDP/ GEF Liaison Officer and Regional Coordinator	Andrea Cimborova and Geordie Colville
2	Ministry of Environment, Spatial Planning and Energy	Nives Nared, State Undersecretary Hinko Solinc, Adviser to the Government Jadranko Medak, State Undersecretary, PSC Member
3	Agency for Efficient Use of Energy and Renewable Energy Sources (AURE)	Franc Beravs, Director
4	Environmental Development Fund of the Republic of Slovenia (ECOFUND)	Ljubo Zuzek, Director
5	National Project Director	Jani Turk
6	National Project Manager	Damir Staničič
7	Project Implementation Unit	
8	Ministry of Finance	Nevenka Rebrica, State Undersecretary Sonja Kelsin, Director of the Legal Depart. - Eco Fund
9	Ministry of Agriculture	Robert Rezonja, Adviser to the Gov., PSC Member
10	Biomass Energy Fund	Milojka Jerse, Fund Manager Darko Koporčič, Director of the Project Implement. Dept. Alenka Krzan, Senior Financial Advisor
11	NGO - Slovenian E-Forum	Andrej Klemenc
12	Kočevje	Janko Veber, Mayor Bernarda Poje, Director of the Communal Utility,
13	Vransko	Franc Susnik, Mayor Ivo Kreca, Director KIV Ludvik Kranjc, Director Energetika Vransko
14	Borovnica	Alojz Mocnik, Mayor Slavco Tursič, Technical Director Liko Vrhnika
15	Petrol	Saso Ugrina, Project Manager RES Matjaz Janezic, Executive Manager
16	Istrabenz Energy Systems	Andreja Urbancic, Director for Sustainable Energy Borut Del Fabbro, Project Manager
17	Institute Jozef Stefan	Stane Merse, Project Manager Dr. Milha Tomsič
18	Training consultant	Forest Institute - Nike Kranjc, Project Manager
19	Feasibility study consultants	IBE ApE ISPO Eco Consulting Ic Consulenter

### 6.3 General List of Interview Questions

1. Is the project consistent with and appropriate to the GEF Operational Program 6?
2. Is the project consistent with and appropriate to the UNDP mission, mandate and sub-program objectives?
3. Is the project consistent with and appropriate to the development and environmental objectives of the Government of Slovenia? AURE?
4. Is the project meeting the needs and expectation of the partners?
5. Is the project meeting its objectives from the perspective of each partner?
6. Is the project meeting its objectives from the perspective of the technical experts involved?
7. How effective are the institutional arrangements and administrative arrangements on the project? Provide an example one way or the other.
8. Is the financial support provided by UNDP/GEF being effectively utilized?
9. Describe the accuracy, quality and usefulness of the project's outputs, in particular: major reports, training workshops, feasibility studies, project proposals?
10. Describe the extent to which certain project activities presented difficulties in execution or were not achievable. Was the activity unrealistic or was the difficulty unforeseen? What would you recommend be done differently in the future?
11. To what extent has the project had an impact on the level of technical and institutional capacity to facilitate implementation of biomass utilization for DH in Slovenia?
12. Is the current level of stakeholder involvement and participation in project activities sufficient and appropriate?
13. What biomass supply agreements/processes are proposed?
14. What amounts of municipal and private co-financing have been committed to date?
15. Does it appear likely that it will achieve the objective of 3 to 5 projects being developed?
16. What public consultations have been held up to present, and/or dissemination activities in relation to project aim and activities? Do the local authorities receive support from the project in promoting/communicating the benefits of using the biomass for DH?
17. Have been encountered any difficulties in project development due to competitors (gas/oil companies) on the energy supply market?
18. What have been the key lessons learned (to date) during project implementation?
19. How would you improve the completion of this project relative to its objectives for biomass utilization for DH in Slovenia?

## 6.4 Documents Reviewed

Web Site: <http://www.aure.si/index.php?MenuID=114&MenuType=E&lang=SLO&navigacija=on>

Well organized, clear, nice cross reference capability, no English as of yet.

Documents reviewed:

1. Revised Project Document
2. Quarterly and Annual Implementation Reports - in English
3. Biomass Energy Fund pro forma agreements
4. Detailed Work Plan
5. Feasibility study of project for Kocevje: Summary provided in English; Rest of document reviewed with verbal translation of Slovenian text.
6. Feasibility study of project for Vranksko: Summary provided in English; Rest of document reviewed with verbal translation of Slovenian text.
7. Published report on project for Festbrennstoffe, in German
8. EU Study on Styria, Austria
9. Paper: Bioenergy Promotion in Styria, Austria
10. Data on biomass and energy costs from Styria, Austria
11. UNEP Funding Directory
12. Training materials on public participation, project development and financing
13. Feasibility study on project for Ziri, in Slovenian
14. Overview of Biomass Combustion Systems by BTG
15. Training material on Feasibility Studies by BTG
16. Sections of report by BTG in German on Biomass power plant cost, performance, organization and financing
17. BTG Biomass Combustion Technologies report
18. National Development Plan
19. National Environmental Action Program
20. Project document for FAO project: Supply and Utilization of Bioenergy to Promote Sustainable Forest Management



## 6.5 Detailed Assessment of Objectives, Outputs and Activities

<b>Immediate Objective 1:</b> Finalizing the project implementation arrangements and building the capacity of the local project personnel to conduct and supervise the project activities.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
<b>1.1 Finalized project implementation arrangements</b>				
1.1.1 Appointing the National Project Director (NPD) and establishing the Project Steering Committee (PSC)	Completed in April 2002	AURE was transferred from Ministry of Economy to MoESPE, and MoESPE decided that AURE will be the executing agency and play an active role in project implementation.  EDFS (EcoFund) as state funding agency remained responsible for implementing the financial part of the project	<i>Initial deadline: March 2002</i>  Delay in implementation due to the ministerial reorganization changes between Ministry of Economy and MoESPE.	NA
1.1.2 Establishing the Project Implementation Unit (PIU)	Staff hired in September and October 2002.  Provision of IT and other office equipment was delayed to Feb 2003.	Highly qualified candidates were selected through a formal candidate selection process.	<i>Initial deadline: March 2002</i>  Three public calls for the procurement of IT equipment for the PIU were required to comply with UNDP and Slovenian guidelines for public procurement of goods.	NA
1.1.3 Organizing the project initiation workshop	Decision was made in redefine this activity to a future workshop on training or promotion activities.	Prior organizational delays created the desire to start the project more quickly through public and individual presentations of project objectives, actions and outputs to targeted audiences.	<i>Initial deadline: June 2002</i>  Project reduced its costs by participating and presenting at appropriate events organized by other parties, including presentations to around 20 municipalities, who were known to be interested in biomass.	NA

<b>Immediate Objective 1: Finalizing the project implementation arrangements and building the capacity of the local project personnel to conduct and supervise the project activities.</b>				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
1.1.4 Establishing the Biomass Energy Fund	<p>Completed in June 2003.</p> <p>The Biomass Energy Fund was formally established by the nomination of the Fund Manager in October 2002.</p> <p>Developing the complete set of draft procedures and agreements for operation of the Fund was completed in March 2003, but a last-minute disagreement of one member of the working group delayed the final approval until June 2003.</p>	<p>Procedures for operation of the Fund required elaboration and approval of three key issues: (i) terms of state (GEF) equity investment; (ii) terms of the public sale of the state (GEF) equity investment and optional redemption by other equity investors in the case of unsuccessful public sale; and (iii) pro forma contract terms for the agreements between the project investors and the Biomass Energy Fund.</p>	<p><i>Initial deadline: June 2002</i></p> <p>Although the initial deadline was missed, the EcoFund and the other partners have successfully managed to deliver the legal basis for the Biomass Energy Fund, also according to legislative changes occurred.</p> <p>Documents prepared and approved included The Tripartite Contract between the MOESPE, AURE and EcoFund, as well as four pro forma contracts related to the Fund investment and disposition of the state (GEF) equity investments.</p>	<p>A working group consisting of members from several ministries worked on the Biomass Fund Agreements with support of legal staff.</p>
1.1.5 Finalizing the detailed work plans and implementation arrangements for the other components of the project	<p>Work plan finalized in December 2002 and presented to PSC in January 2003</p>	<p>PIU needed to be in place.</p>	<p><i>Initial deadline: June 2002</i></p> <p>Detailed work plan and milestone schedule is quite comprehensive and has been implemented effectively. Some inefficiency was noted in the initial stages of the project due to the complexities of developing the Fund operational guidelines and related documents.</p>	<p>NA</p>
<b>1.2 Enhanced capacity of the local experts to implement the project</b>				
1.2.1 Increasing the knowledge of the key project personnel on the various aspects of the developing and financing biomass energy projects	<p>Completed.</p> <p>PIU has made study tours to BDH units in Sweden and Austria; visited wood boiler manufacturers in Slovenia, Germany; attended workshops on BDH in Austria and Germany; and attended conferences on biomass and renewables in Germany and Austria.</p>	<p>The PIU focused on venues of most significant to the accomplishment of the project objectives.</p> <p>PIU should consider this activity as a permanent activity to be performed throughout the project time span.</p>	<p><i>Initial deadline: December 2002</i></p> <p>The selected workshops, conferences and study tours appear to have been timely, cost-effective and quite relevant to the situation in Slovenia and the goals of the project.</p>	<p>NA</p>

<b>Immediate Objective 1:</b> Finalizing the project implementation arrangements and building the capacity of the local project personnel to conduct and supervise the project activities.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
1.2.2 Compiling a guidebook and training material on project financing, including the preparation of feasibility studies, business plans and tender documents	<p>Partially completed.</p> <p>Formats for feasibility studies and business plans were developed in June 2003 as part of the public tendering documents for preparing such studies of BDH project investments.</p> <p>By the end of June 2004, PIU will prepare a standardized format for these studies, based on experiences gained during the preparation of the 23 feasibility studies and business plans.</p>	<p>The June 2003 call for tender requested that proposed projects be launched in February 2004.</p> <p>The experience and knowledge gathered during development of the initial round of feasibility studies and business plans will provide the basis for compiling the guidebook and training material.</p>	<p><i>Initial deadline: December 2002.</i></p> <p>The feasibility studies and business plans for two project proposals (Kočevje and Vransko) were reviewed in detail, and the quality and effectiveness of the documentation appears to be quite good. It is expected that some issues regarding the current format for these studies will be revealed the 23 feasibility studies and business plans under development.</p>	<p>The PIU is promoting the early collaboration of project investors, municipalities, consultants and potential biomass suppliers in the Feasibility study process.</p>

<b>Immediate Objective 2:</b> Finalizing the feasibility studies for and development of a pipeline of at least 20 biomass district heating and other wood biomass related energy projects to be presented for financing.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
<b>2.1 Potential municipalities, industries, farmers and others are fully informed about wood biomass as an energy source</b>			•	
2.1.1 Preparing and compiling public awareness raising and training materials on the state-of-the-art biomass energy technologies, their technical and economic characteristics, possible implementation and financing schemes as well as their potential local economic and environmental impacts.	Partially completed. Existing materials (7 brochures) have been prepared by the Implementing and Executing agency. Project web site provides a focal point for biomass information in Slovenia.	Still an ongoing activity. Regular articles are planned to be published in the Information Bulletin of AURE. Existing documents can be downloaded from the project web site, and the PIU has decided to obtain regular professional support for further improvement and updating of the web site.	<i>Initial deadline: December 2002</i> The prior delay encountered in starting implementation of project activities makes the initial date unrealistic. There are several actions which have to be further implemented, comparing to PD-revised.	The PIU and AURE have primarily contributed to this activity. Input from the MoAFF, MoESPE and active environmental NGOs has been sought. Input from the Ministry of Education and Sports should also be envisaged.
2.1.2 Reviewing and updating the biomass resource assessment studies	Not completed. Estimation of the national biomass resource is currently based on national statistics and previous studies.	The activity was delayed to facilitate cooperation with an ongoing FAO-sponsored project with the Slovenian Forestry Service to update the assessment of the biomass resources in Slovenia.	<i>Initial deadline: September 2002.</i> Planned to be finished during the 2 <sup>nd</sup> and 3 <sup>rd</sup> quarters of 2004.	Ongoing FAO project, where PIU is member of PSC for the FAO project with the Slovenian Forestry Service.
2.1.3 Analyzing the possible technologies and costs for collecting wood biomass from different sources.	Not completed. The only technologies and costs available are those included in the feasibility studies currently under development. PIU is preparing the biomass exchange portal in order to facilitate a stable biomass market.	This activity is linked to outputs of two on-going projects: the FAO Project Supply and Utilization of Bioenergy to Promote Sustainable Forest Management and the Biomass Market Development Project. Uncertainty regarding the future of the wood processing industry generates uncertainty in the biomass market.	<i>Initial deadline: December 2002.</i> In March 2003, PIU was invited to participate in the inter-institutional support unit of the FAO Project implemented by the Slovenian Forestry Service.	The PIU appears to be actively and effectively collaborating with the Slovenian Forestry Institute and within the FAO project to increase the effectiveness of both efforts.

<b>Immediate Objective 2:</b> Finalizing the feasibility studies for and development of a pipeline of at least 20 biomass district heating and other wood biomass related energy projects to be presented for financing.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
2.1.4 Disseminating information and conducting meetings with the local community and industry representatives	Completed, but additional follow-up activity should be performed as needed to develop 3 to 5 projects. <i>Initial deadline: December 2003</i> , but the PIU considers this a permanent activity to be performed throughout the project time span, contributing additionally to biomass energy programs performed by the implementing and executing agency.	Although the project implementation encountered a delay in the beginning, the various target groups seem professionally informed. Meetings and discussions have taken place with representative of municipalities, and other interested parties, private investors, farmers, owners of wood resource regional development groups and others.	PIU activities have achieved the following results: <ul style="list-style-type: none"> <li>At the end of 2002, 30 municipalities signed by Letters of Interest, and 25 municipalities applied for the preparation of BDH feasibility studies.</li> <li>The average number of hits per month on the project website is approximately 600, and more than double when a public call is announced.</li> </ul>	PIU use of on-site visits and discussions with the interested municipalities and potential investors was considered appropriate and effective. Cooperation planned with Chamber of Commerce on disseminating project information through their monthly magazine.
2.1.5 Conducting market and pre-feasibility analysis in the interested communities to increase their use of wood biomass as an energy source	Completed in March 2003. Existing feasibility studies for three municipalities were reviewed and revised in line with the GEF project format and project financing negotiations were initiated.	PIU was advised by the PR subcontractor to perform market analysis only after selection of most promising projects in terms of feasible technical solutions, economic indicators and financing sources.	<i>Initial deadline: March 2003.</i> The PIU provided training on development of public acceptance of BDH projects.	PIU subcontracted the marketing work plan to a specialized company from Maribor.
2.1.6 Disseminating and discussing the results of the pre-feasibility studies	Completed in July 2003. In two municipalities (Kočevje and Vransko), public hearings were organized.	The PR subcontractor started implementation of a marketing/communication strategy.	<i>Initial deadline: December 2003</i> Disseminated information on these projects in the media. Other marketing means included direct mailing, and development of an information point in one municipality.	Marketing/communication strategy is developed in cooperation with municipalities.
<b>2.2 Detailed feasibility studies, business and financing plans.</b>				
2.2.1 Reviewing and improving/updating, as applicable, the existing feasibility studies and business plans	Completed. The existing feasibility studies were reviewed, resulting three biomass district heating projects selected for further improvement in the first phase. In the second phase two projects out of three applied for GEF financing and additional assistance was provided in order to improve projects quality.	Initial financial model used by the consultants was not consistent the Slovenian accounting system. Because of limited capabilities of the municipality's staff, additional PIU support was provided to examine some design improvements in a timely manner.	<i>Initial deadline: December 2002.</i> In terms of effectiveness and efficiency, activities of the PIU to improve the existing feasibility studies was considered appropriate.	PIU has effectively cooperated with the Municipalities, private investors and the EcoFund.

<b>Immediate Objective 2:</b> Finalizing the feasibility studies for and development of a pipeline of at least 20 biomass district heating and other wood biomass related energy projects to be presented for financing.				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
2.2.2 Evaluating the possible financing schemes to finance the projects	Completed in May 2003. A risk sharing financing scheme was proposed with 25% GEF equity, 25% state grant, 25% EcoFund loan and 25% owner equity. Contracts were developed that require recovery of 50% of the Biomass Energy Fund (GEF) equity.	New EU Directive on state aid, transposed into the Slovenian legislation as part of the accession process affected the financing plan.	<i>Initial deadline: December 2002</i> PIU and EcoFund effectively finalized the financing approach in March 2003, but the approach was not approved until May 2003.	PIU has effectively cooperated with the MoESPE, Ministry of Finance, and the EcoFund.
2.2.3 Analyzing the possible demand side energy efficiency measures to be implemented within the buildings, parallel to the introduction of the biomass district heating systems	Not fully completed. PIU prepared a public call for the preparation of general methodology and guidebook for the elaboration of the possible demand side measures. It plans to demonstrate implementation of the methodology in two selected communities.	The PIU decided to identify feasible projects with financing potential using only demand side analysis. Demand side management measures will be analyzed only on projects selected for financing. A solid heat base load is guaranteed through heat supply contracts or existing heat consumption data.	<i>Initial deadline: September 2003.</i> Analysis to be performed by the selected subcontractor should be performed so as to not to postpone the process of evaluating and financing the early demonstration projects.	NA
2.2.4 In co-operation (also in financial terms) with the interested local communities and wood processing industry and by building on the conclusions under Activity 2.1.6, finalize the detailed feasibility studies and business plans for increasing the use of biomass as an energy source in the selected communities	Partially completed. Detailed feasibility studies are prepared for 14 municipalities, and additional 9 are due by the end of March 2004. This activity is considered as on-going.	The commitment and financial resources of the municipality and other interested parties are critical to sustaining such projects throughout their implementation. Possible subventions provided by the municipalities for families with financial difficulties.	<i>Initial deadline: June 2004</i> Since June 2003, the PIU has put a lot of effort into effective cooperation with the interested municipalities.	Additional studies are planned to be performed, including combined heat and power production and micro-systems.

<b>Immediate Objective 3: Facilitating the implementation of the biomass district heating and other wood biomass related energy projects.</b>				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
3.1 A national biomass energy program adopted				
3.1.1 Finalizing a National Biomass Energy Program to support (from the legal, regulatory and financial points of view) the increased use of biomass as an energy source in Slovenia.	Not completed. Biomass energy goals were developed for the National Energy Plan, which is currently awaiting adoption by the Parliament. Details of a program with relevant funding needs to be developed.	The report of the FAO project updating the biomass energy supply potential and market is needed.  Goals of the National Energy Plan require that relevant national authorities allocate the necessary resources for implementing the program.	<i>Initial deadline: December 2004.</i> The PIU worked effectively to implement the biomass component of the National Energy Plan, by defining targets for biomass energy programs that support achieving the national Kyoto goals. Similar effectiveness will be needed to develop the supporting National Biomass Energy Program.	The PIU actively collaborated with the MoESPE and the Josef Stefan Institute, which provided supporting analysis for the National Energy Plan.
3.2 Model Heat Supply Agreement				
3.2.1 Preparing a model for fuel supply and heat purchase agreements	Partially completed. Model biomass supply and heat purchase agreements were prepared to support development of the BDH investment proposals.	Negotiation of agreements between the municipalities, private investors and the EcoFund are nearing completion for the first two projects.	<i>Initial deadline: December 2002</i> (unrealistic for the development context of the project).  An improvement/update of the initial model agreements will be performed based on the biomass market development.	NA
3.3 Commissioning of 3-5 demonstration projects				
3.3.1 Organizing a public call for tenders to facilitate the construction of the first 3-5 demonstration projects	Partial completed. An open public call for tenders was announced in the Official Journal of Republic of Slovenia on June 6, 2003. To date, two applications have been received for financing (Kočevje and Vransko).	Approval of the operational guidelines and pro forma agreements for the Biomass Energy Fund (May 2003) delayed release of the tender request	<i>Initial deadline: December 2004.</i> Constraints imposed by the Project Document, Slovenian Law and EU accession rules have increased the risk perceived by project investors	A high level working group was established between the PIU, EcoFund, MoESPE and Ministry of Finance to complete the operational guidelines and pro forma agreements.

<b>Immediate Objective 3: Facilitating the implementation of the biomass district heating and other wood biomass related energy projects.</b>				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
3.3.2 Supporting the finalization of all the required documentation to launch the selected demonstration projects	Partially completed. The PIU and the Biomass Energy Fund Manager have been deeply involved in the finalization of the selected projects documents, supported by the national and international experts. Practically weekly meetings with investors were organized and support provided.	Negotiations have been delayed due to concerns by the municipalities and private investors regarding public sale of the GEF equity shares, heat pricing, minimum rate of return and other issues have delayed finalization of the agreements.	<i>Initial deadline: December 2004</i> The pro forma agreements are under negotiations for the two initial projects. Completion of negotiations is expected in before March 2004.	NA
3.3.3 Provision of training to the local professionals to install, maintain and operate the biomass energy installations	Partial completed. Two training seminars (2 days each) for approximately 80 consultants, design engineers and civil servants dealing with the biomass district heating projects were organized in September and November 2003.	Training to improve the cooperation of government institutes to promote a stable biomass supply market will be launched in February. Additional in depth training will be organized for project designers to improve the quality of tender applications.	<i>Initial deadline: December 2004</i> Additional training is being coordinated to support the feasibility studies and future project financing negotiations.	PIU is cooperating with the Forestry Institute to prepare the ToR and launch the call for subcontracting the provision of additional training.



<b>Immediate Objective 4: Promoting the sustainable growth of using biomass as an energy source in Slovenia.</b>				
<b>Outputs / Activities:</b>	<b>1. Status of the output/activity</b>	<b>2. Factors affecting the output/activity</b>	<b>3. Effectiveness, efficiency and timeliness</b>	<b>4. Partnership strategy</b>
4.1 Recommendations for the long term strategy, institutional and financial framework to support biomass energy activities adopted				
4.1.1 Monitoring the implementation of the project and undertaking independent mid-term and final evaluations of it, presenting the experiences and the lessons learnt as well as the recommendations for further action.	Continuous. Whenever necessary, corrective measures are taken.	The legislative framework for support of biomass energy systems. The development of the biomass supply market.	PIU performs this action in an effective way, and corrective measures are appreciate as efficient in terms of project progress. PIU intends to develop a monitoring model for GHG reductions from biomass energy projects.	PIU maintains a close and constructive cooperation with all stakeholders involved.
4.1.2 As applicable, establishing an independent national agency/focal point to support biomass energy activities	Not completed.	Currently, the Law on Environmental Protection supports substantial changes to the institutional framework, and the final act will go through the parliamentary procedure.	According to the project document, this activity is planned to be performed in the last phase of the project implementation.	NA
4.1.3 Constituting the legal and regulatory framework and long term financing mechanisms to support biomass energy activities	Not completed. The Biomass Energy Fund requires additional capitalization to be able to support BDH projects once the GEF funds are temporarily bound in equity investments. Two sources of new investment are being developed: CO <sub>2</sub> tax revenues and EU structural adjustment funds.	EU approval of the proposal to redirect a portion of the CO <sub>2</sub> tax revenues to state support for GHG reduction projects is still pending in Brussels.	<i>Initial deadline: December 2004.</i> PIU has been effectively addressing this issue since the first quarter of 2003.	PIU is cooperating with MoESPE regarding funds from the CO <sub>2</sub> tax and plans to coordinate with MOAFF to prepare a program of biomass supports using a portion of the EU structural adjustment funds for the agricultural sector.

## 6.6 Revised Work Plan According To Recommendations

OUTPUTS AND ACTIVITIES	2002 Quarter				2003 Quarter				2004 Quarter				2005 Quarter			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Output 1.1 Finalized project implementation arrangements</b>																
<u>Activities:</u>																
1.1.1 Appointing the National Project Director (NPD) and establishing the Project Steering Committee (PSC)		■														
1.1.2 Establishing the Project Implementation Unit (PIU)				■												
1.1.3 Organizing the project initiation workshop										■					■	
1.1.4 Establishing the Biomass Energy Fund				■	■											
1.1.5 Finalizing the detailed work plans and implementation arrangements for the other components of the project				■												
<b>Output 1.2 Increased capacity of the local experts to conduct and supervise the project, including a preparation of a guidebook and other training material on project preparation and financing.</b>																
<u>Activities:</u>																
1.2.1 Increasing the knowledge of the key project personnel on the various aspects of the developing and financing biomass energy projects				■	■	■	■	■	■	■						
1.2.2 Compiling a guidebook and training material on preparing and financing biomass projects						■	■	■	■	■	■					
<b>Output 2.1 Increased awareness of the local industry and communities on the possibilities to increase the use of biomass as an energy source</b>																
<u>Activities:</u>																
2.1.1 Compiling public awareness and training material					■	■	■	■	■	■	■	■	■	■	■	
2.1.2 Reviewing and updating the biomass resource assessment studies							■	■	■	■	■					
2.1.3 Analyzing the possible technologies and costs for collecting wood biomass from different sources.							■	■	■	■	■	■				
2.1.4 Disseminating information and conducting meetings with the local community and industry representatives					■	■	■	■	■	■	■	■	■	■		
2.1.5 Conducting pre-feasibility studies in the interested communities				■	■											
2.1.6 Disseminating and discussing the results of the pre-feasibility studies						■	■	■	■	■	■	■	■	■		
<b>Output 2.2 Detailed feasibility studies, business and financing plans</b>																
<u>Activities:</u>																
2.2.1 Reviewing and improving/updating, as applicable, the existing feasibility studies and business plans								■	■							

OUTPUTS AND ACTIVITIES	2002 Quarter				2003 Quarter				2004 Quarter				2005 Quarter			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
2.2.2 Evaluating the possible financing schemes to finance the projects					■								■			
2.2.3 Elaboration of the possible demand side measures								■	■	■	■	■	■	■		
2.2.4 In co-operation with the interested communities, finalizing the detailed feasibility studies and business plans						■	■		■	■	■					
<b>Output 3.1 A national biomass energy program</b>																
Activities:																
3.1.1 Finalizing the national biomass energy program				■	■	■			■	■	■	■				
<b>Output 3.2 Model fuel supply and heat purchase agreements</b>																
Activities:																
3.2.1 Preparing model fuel supply and heat purchase agreements							■	■	■							
<b>Output 3.3 The first 3-5 demonstration projects successfully under implementation</b>																
Activities:																
3.3.1 Organizing a public call for tender						■					■					
3.3.2 Supporting the finalization of all the required documentation to launch the selected demonstration projects							■					■	■			
3.3.3 Provision of training to the local professionals to install, maintain and operate the biomass energy installations							■	■	■	■						
<b>Output 4.1 A long term strategy and institutional and financial framework to support the increased use of biomass as an energy sources</b>																
Activities:																
4.1.1 Monitoring and evaluating the progress and experienced gained during the project				■	■	■	■	■	■	■	■	■	■	■	■	■
4.1.2 As applicable, establishing an independent national agency/focal point to support biomass energy activities													■	■		
4.1.3 Constituting the legal and regulatory framework and long term financing mechanisms to support biomass energy activities													■	■	■	

■ - completed

■ - to be implemented