

Allegato III: visita tecnica a Tirana ed Elbasan (ottobre 2008)



## **BiomAlba: Analysis and study of the feasibility of a biomass chain in Albania**

With the contribution of



Direzione Generale per la  
Promozione e la Cooperazione Culturale

# BiomAlba: Analysis and study of the feasibility of a biomass chain in Albania

## Technical report 2 (Tr2)

### Report of the study visit: 8-10 October 2008

| Project fiche                  |   |
|--------------------------------|---|
| <b>Project title</b>           | <b>BiomAlba: Analysis and study of the feasibility of a biomass chain in Albania</b>  |
| <b>Rationale</b>               | <p>These last years Albania has gone through several energy shocks, which have negatively affected production activities. Since 1991 the noticeably increased consumption of electricity by consumers has led to the reduction of security of supply. The reduced cost of energy fixed by the state, has encouraged a large use of electric energy in all domestic activities, thus the demand and consumption has risen even if not sustained by an increase of production. As consequence the imports are increased considerably.</p> <p>In this framework energy production is not diversified and is guaranteed for the most by oil, hydroelectric energy and natural gas.</p> <p>Despite the fact that there exist just a few experiences, the renewable energies are a strategic sector also for Albania.</p> |
| <b>General objective</b>       | The overall aim of BiomAlba ("BiomAlba: analysis and feasibility study of a biomass supply chain in Albania") is to promote, in accordance with the related EU policies, sustainable development in the Adriatic-Ionian countries with particular regard to energy issues, to environmental and health protection, and to the awareness of individuals and enterprises. Two elements of particular importance for the achievement of this objective are: a) the reduction of dependency from imported fossil energies through a better use of local resources, b) the reduction of the environmental impact of combustion processes.  |
| <b>Partners of the project</b> | <b>University of Bologna-Department of Agricultural Economics and Engineering, Italy</b><br><b>Agricultural University of Tirana, Albania</b><br><b>National Agency of Natural Resources, Albania</b><br><b>Association of Olive Oil Producers of Albania (External Observer)</b>   |
| <b>Donors</b>                  | <b>Ministry of Foreign Affairs, Italy</b><br><b>CEI – Central European Initiative</b><br><b>Ministry of Economy, Albania</b>  |

| Study visit schedule              |  |
|-----------------------------------|--|
|                                   | Activity   |
| <u>DAY 1</u><br>(Wed, October 8)  | <b>18.00</b> Arrival in Tirana<br><b>20.30 Dinner at the Restorant-Piceri Gloria</b><br>(Dr. E. Kullaj, Eng. P. Mitrushu, Eng. G. Molari, Dr R. Preka, Dr. F. Regoli, Dr M. Vittuari)  |
| <u>DAY 2</u><br>(Thur, October 9) | <b>9.00–10.00 Meeting</b> with Chiara Cattaneo (Italian Ministry of Land and Sea - Task Force for Central and Eastern Europe)<br><b>10.30 – 18.00 Visit</b> to olive oil production facilities in Peqin and Elbasan<br><b>20.30 Dinner at the City of the Students</b><br>(Dr. E. Kullaj, Eng. P. Mitrushu, Eng. G. Molari, Dr R. Preka, Dr. F. Regoli, Dr. M. Vittuari, Ms. V. Postoli, Prof. S. Sulce, Prof. V. Peculi, Dr. T. Dishnica) |
| <u>DAY 3</u><br>(Fri, October 10) | <b>8.30-12.00 Interim meeting:</b> WP review and discussion; planning of future activities; planning of the Bologna training course<br>(Dr. E. Kullaj, Eng. G. Molari, Prof. V. Peculi, Dr R. Preka, Dr. F. Regoli, Dr M. Vittuari, Ms. V. Postoli, Prof. S. Sulce)<br><b>12.30 Departure</b>  |

## **DAY 1 (October 8<sup>th</sup>)**

### ***Dinner at the Restaurant Piceri Gloria***

#### **Participants:**

Endrit Kullaj – *Agricultural University of Tirana*  
Piro Mitrushi – *National Agency of Natural Resources*  
Giovanni Molari – *University of Bologna*  
Rovena Preka – *University of Bologna*  
Francesca Regoli – *University of Bologna*  
Matteo Vittuari – *University of Bologna*

The main discussion of the dinner has been the progress of the project.

## **DAY 2 (October 9<sup>th</sup>)**

### ***9.00 – 10.30 Meeting with Chiara Cattaneo (Italian Ministry of Land and Sea - Task Force for Central and Eastern Europe)***

#### **Participants:**

Chiara Cattaneo – *Italian Ministry of Land and Sea - Task Force for Central and Eastern Europe*  
Endrit Kullaj – *Agricultural University of Tirana*  
Giovanni Molari – *University of Bologna*  
Rovena Preka – *University of Bologna*  
Francesca Regoli – *University of Bologna*  
Sulejman Sulçe – *Agricultural University of Tirana*  
Matteo Vittuari – *University of Bologna*

After the introduction of the participants, both parts have exposed their activities. The BiomAlba team has made a short presentation of the project including the objectives, the methodologies and the partners involved. Miss Cattaneo has also presented the structure and the aims of the Task Force. The main activities of the Task Force are related to the initiatives promoted to achieve the goals set by the Kyoto Protocol. Both the parts have agreed to establish a collaboration in order to inform each other regarding the promoted activities in order to identify common synergies.

### ***10.45 – 18.30 Visits to the olive oil producers***

#### **Participants:**

Endrit Kullaj – *Agricultural University of Tirana*  
Giovanni Molari – *University of Bologna*  
Rovena Preka – *University of Bologna*  
Francesca Regoli – *University of Bologna*  
Sulejman Sulçe – *Agricultural University of Tirana*  
Matteo Vittuari – *University of Bologna*

10.45 – 12.45 Visit to the olive oil producer – Rustem Bullari, Peqin

Mr. Rustem Bullari has received the BiomAlba delegation, he owns three mills with a partner, two of them are situated in the nearby municipalities which count for no more than 15 – 20 thousand inhabitants.

- Regarding the rate of production of olive oil and marc it doesn't differ significantly from the other mills visited in July in the area of Myzeqe (region of Lushnje) and in the coastal line between Vlora and Saranda.
- The boiler functions with the marc produced from the activity and it consumes not more than 5 per cent of the overall amount of marc. The remaining 95 per cent of the marc is not used for any specific purpose and it is basically wasted. Mr. Bullari told that in a production of 200tons, there is a byproduct of 120 tons: he keeps around 20 tons to have the boiler working for the period in which the mill is under production and throws away 100 tons (part of this amount is given to a relative who has a oven for cooking bread).
- The production of 2007 has been low but the previous one has been good. 2008 is expected to be a profitable one.
- A relevant problem (according to Mr Bullari) is that the olive producers do not receive subsidies or technical assistance to fight against parasites with negative effects on the whole production.
- The average production indicated by Mr. Bullari has been the following one:
  - **0** tons 2007
  - **400/500** tons in 2006
  - **200** tons in 2004
  - **400/500** tons in 2005

An interesting aspect of the mill is labour organization: Mr. Bullari and a worker load by hand the boiler for the mill; moreover the owner doesn't produce oil for himself, he just "hires" his work in the mill and is responsible only for that phase of the process of the chain. The rest is done by the owners of the olive trees. He integrates this job with his original vocation and background (agronomist). As agronomist he manages a greenhouse heated by a motor generator.

The area around Peqin is historically rich of olive trees and the recent trend for planting the trees is increasing. During Communist time there were approximately 44.000 trees while actually the number has increased due to a "return of interest" both of the inhabitants of the area (which is a disused industrial one) and of the Ministry of Environment, Forestry and Water Management. As far as species are regarded most of the planted olive trees produce in three years olives of a medium quality; other species of olive trees, which can produce a superior kind of olives in terms of quality, are planted more rarely because they need seven years to become productive.

14.00-16.00 Visit to the olive oil mill of Mr. Fatmir Skilja (Skilja enterprise), Elbasan

The mill is very well organized and every segment of the production chain is optimized. The factory is quite large, the administrator (Mr. Fatmir Skilja) is a very well informed person and gives a significant attention to the marketing aspects, a phase that is often neglected in other mills.

- Exactly as in other cases the share of the marc produced is around 70%.
- The boiler functions with the marc.
- 2007 has been characterized by a low production while this year is expected to be a good year in terms of production.
- The marc is dried naturally. There are two different qualities of marc: one more dry (composed just of the olive stones, called foot cake) and one less dry (composed by olive stones and other residues, called olive mill waste water).
- The specificity in this case is the fact that around 80% of the marc produced is:

- partially sold to a factory of bricks located nearby
- partially used to feed pigs;
- partially sold to commercial partners from Kosovo who have a business in Elbasan so that they take the marc on the way back to Kosovo realizing a scope economy;
- partially (the residual part) kept for internal use (the boiler);
- **For the whole marc Mr. Skilja gets around 500 euro per year.**
- Two years ago 500 m<sup>3</sup> of marc were produced, they worked for 60 days totally and daily they worked 120 quintal of olives (around 6 quintals per hour). In 2006 he produced 30.000 litre of oil.
- Here most of the oil produced comes from the olive trees of the families of the city of Elbasan; each one in the past used to own some trees: in the '20ies/'30ies there were around 8000 inhabitants and they had approximately 120.000 olives trees.
- The factory, apart from the olives of the 4 olive groves owned by Fatmir Skilja (each of 4.000 m<sup>2</sup>), buys the olives and the majority of the oil produced is commercialized by the enterprise.
- The Skilja enterprise has participated and won several prizes for the quality of the oil in national and international scale.
- He is one of the few and first exporters of the Albanian olive oil; he got a reimbursement of 10.000€ as export subsidies (the reimbursement of the VAT, which is around 20%). In 2000 Albania entered the WTO consequently this subsidy was taken off.

From both olive oil producers the BiomAlba delegation has got a small quantity of marc in order to do some analysis concerning the combustion process in the Cadriano Laboratory (Faculty of Agriculture in Bologna).

### 19.30 ***Dinner at the City of the Students***

Endrit Kullaj – *Agricultural University of Tirana*

Giovanni Molari – *University of Bologna*

Rovena Preka – *University of Bologna*

Francesca Regoli – *University of Bologna*

Sulejman Sulçe – *Agricultural University of Tirana*

Matteo Vittuari – *University of Bologna*

Piro Mitrushu - *National Agency of Natural Resources*

Valentina Postoli - *Head of the Association of Olive Oil Producers of Albania*

Velesin Peculi - – *Agricultural University of Tirana*

Tatjana Dishnica – *Ministry of Agriculture, Food and Protection of Consumers*

During the dinner the objectives of the project and the main activities have been discussed and illustrated to some representatives of the Agricultural University of Tirana, who has attended the dinner.

### **DAY 3 (October 10<sup>th</sup>)**

#### ***Meeting Between Partners – Hotel Brilant Antik***

##### *Participants:*

Endrit Kullaj – *Agricultural University of Tirana*

Giovanni Molari – *University of Bologna*

Valentina Postoli – *Albanian Association of Olive Oil Producers*

Rovena Preka – *University of Bologna*

Francesca Regoli – *University of Bologna*

Sulejman Sulçe – *Agricultural University of Tirana*

Matteo Vittuari – University of Bologna

The meeting begins with the discussion of the tasks that each one was in charge to carry out. So far some documents concerning the institutional, economic and energetic context in Albania have been collected. Prof. Sulce has explained the activities they are carrying on in Vlora and Korca Prefectures concerning the use of agricultural and urban residuals as biomass for producing thermic energy. In contrast with Vlora, Korca has no olive trees but has a significant share of land covered by forests. The task is to calculate the potential of these forest residuals as biomass. Several contacts have been made with the local public institutions. The report will be ready for November 20<sup>th</sup>, 2008.

Dr. Preka presents the methodology to use for part of the task 2.3 (Economic and social feasibility: logistical constraints), which is related to the use of the Geographic Information System (GIS). GIS is very useful for finding the best collocation of a plant taking into consideration all the data about production, spatial distribution of the different subjects involved (such as olive oil producers, hospitals, roads ecc).

The deadline for the presentation of those documents for internal use has been set on **November 20, 2008**.

A brainstorming has taken place among participants about the possible scenario for building the plant. The following aspects have been considered:

- Will be a private enterprise managing the whole process or will it be possible to find some public sources and support?
- Dimension and location (Agricultural University of Tirana, Durrës Hospital, Public School)
- MAP availability

Dr. Vittuari and Eng. Molari presented some aspects of the December Training Workshop (Bologna): overall structure, logistics and organization.

The Training Workshop will be organized in lectures related to biomass analysis, laboratory activities, field visits and workshop and discussion on the project outcomes and carried out activities. It has been also agreed that Albanian participants will bring around 40/50 kg of marc in Bologna in order to analyze it during the training course.

Concerning the task 3.1 related to the dissemination of the results a preliminary discussion has been focused on how to structure the final conference to be held in Tirana and on how to organize the publication of articles and an official reports.

**13.00 Departure.**