

# GOOD PRACTICE EXAMPLE

**SC NEVAL SRL**



## 1. General Description

S.C. NEVAL S.R.L. is a local company located in Zetea (Harghita County), Centru Region Romania, which was established back in 1994. It operated, initially, in road transport business and currently it operates on the Romanian forest biomass market: timber harvesting, timber transport, wood chips production, wood pellets and briquettes production. Its main wood supplier is the Zetea Forest Association and its main customers are:

- for firewood: Explosiv Group SRL, Lemnzet SRL, Petrowood SRL, Reisan SRL, Moretti Giuseppe (Italy);
- for wood chips: Urbana SA, Romchar SRL, Vlăhița Town Mairy, RFV Center of Regional Development SRL, B.H.L. Logistic SRL;
- for wood pellets and briquettes: Print Impex SRL, Waberers Romania SRL, H-Kandallo Kft (Hungary), Energy4You Kft (Hungary), Binder Josef GMBH (Austria), Interro Handels GMBH (Austria), Gentile SRL (Italy), Silvestri & Salvati SRL (Italy), Tosato Federico (Italy), Moretti Giuseppe (Italy), Tritec GMBH (Germany) etc.

Wood chips are produced from poorer quality wood resulted from harvesting operations, while wood pellets and briquettes are produced from sawdust and shavings resulted from wood processing industry (mostly from furniture industry) as well as from own wood processing activities. The energetic biomass products result from processing the wood harvested mainly from thinnings (diameters < 5cm) and pastural areas clearing.

## 2. S.C. NEVAL S.R.L. - a Good Practice Example

S.C. NEVAL S.R.L. employs highly trained personnel for all the processes from its supply chain. It is the workplace for 37 employees which are periodically trained in what concerns the work safety (company has a special employee for this activity) and operating new technologies and equipments (periodical trainings in the countries which supply equipments). Young people are employed periodically as the company extends its business domain. Also, the company is involved in social and regional development projects:



communal heating project from Zetea, biomass co-generation plants from Odorheiu Secuiesc and Miercurea Ciuc. Because the company covers most of the processes of biomass production, it can afford to provide reduced prices for the local fire wood consumers. Thus, the firewood is sold at prices with up to 50% smaller than those practiced in the region. Relevant ITC technologies are included in the majority of processes starting with cost monitoring and optimization, wood tracking and suppliers and customers tracking. The company is preoccupied by its supply chain optimization, fact which led SC NEVAL SRL on the innovation pathway starting from 2006. Today, the company is pursuing the improvement of a energy input for a pelletizing line. All the equipment and logistics for timber harvesting, transport and quality monitoring systems for intermediary an final products have been improved in the last period (acquisition of state-of-art technologies and equipments for timber harvesting and transport etc.). Initially, the company invested in promotion activities, which has been abandoned lately due to the increased demand of products. Currently, the promotion of forest biomass as an alternative to fossil energy is one of the main preoccupations of SC NEVAL SRL. It should be mentioned that the company made all the arrangements for ISO certification on the whole supply chain, the receipt of certification being only a matter of time.

## 3. Actors Involved in the Supply Chain

The required biomass raw resources are procured from local forests, ones of the main actors in the supply chain being Zetea-Liban Private Forest District, as well as the forest owners associations from the area. Wood chips are sold mainly to the local consumer facilities, while the wood pellets and briquettes are sold both, to the local and European markets. By comparison, the fire wood is sold locally where it covers the energetic needs of the local population: individual households, schools, local administration, private business etc. SC NEVAL SRL is a member of ASFOR. It is also the subject of periodical controls regarding the harvesting, transport and processing of wood, according to the current legislation. These controls are performed by Regional Forest Inspectorate.

## 4. Technology

### Timber Harvesting

Timber harvesting is done mainly by the inclusion of fully mechanized equipment. Substantial investments were made for this process:

- harvester Silvatec (Danish made)..... 50000 euro;
- feller-buncher Silvatec (Danish made)..... 50000 euro;
- forwarder Timberjack (John Deere)..... 45000 euro;
- farming tractor adapted for forest operations (U 651) .....5000 euro;
- chainsaw .....400 euro;
- wood chipper (Mortbarc)..... 25000 euro;
- mobile wood chipper Silvatec (Danish made). .... 150000 euro;

### Wood Transporting

Wood transportation is assured by several equipments which were acquired in order to provide the means for logs and wood chips transportation. SC NEVAL SRL has invested also in equipments required in logging infrastructure development. The following equipments have been procured:

- 4 container trucks for transportation of biomass products or biomass related raw resources (MAN, DAF, Mercedes and VOLVO) . . . . . 100000 euro;
- 20 containers (35-40 cubic meters capacity) . . . . . 80000 euro;
- 1 crane truck train (MAN) . . . . . 30000 euro;
- 1 buldo-excavator FITALIS . . . . . 20000 euro;
- 2 excavators (ATLAS, LIEBHER) . . . . . 30000 euro;

### Wood Processing

Wood processing represents one of the main activities of SC NEVAL SRL. Several investments were made in order to convert the raw material into biomass products:

- repairing and maintenance workshop for forest equipments including the building for offices . . . . . 50000 euro;
- production plant for pellets and briquettes (building and accessories) . . . . . 60000 euro;
- industrial platform (concrete platform, storage areas, loading platform) . . . . . 10000 euro;
- wood pelletizing line . . . . . 37000 euro;
- wood briquetting line . . . . . 50000 euro;
- wood sawdust dryer . . . . . 35000 euro;
- wood pellets and briquettes packing line. . . . . 15000 euro;

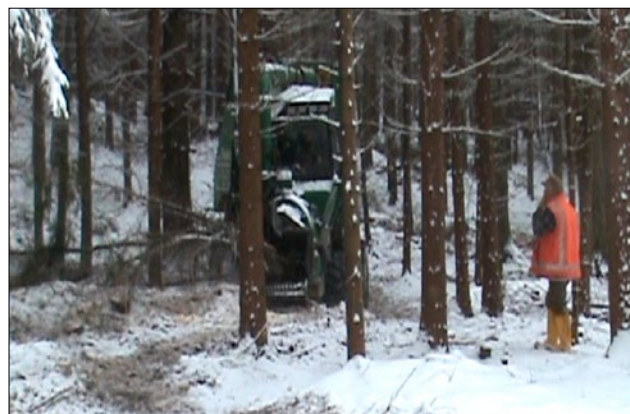
## 5. Practiced Prices for Biomass Products

SC NEVAL SRL practices the following prices for biomass and biomass related products:

- wood chips: . . . . . 12 euro/ cubic meter;
- raw biomass: . . . . . 10 euro/ cubic meter;
- shavings produced pellets: . . . . . 190 euro/ ton;
- sawdust produced pellets: . . . . . 170 euro/ton;
- industrial pellets (produced from wood processing residues): . . . . . 150 euro/ton;
- wood briquettes: . . . . . 100 euro/ton + packing costs;

## 6. Legislation

SC NEVAL SRL has the necessary authorisations according to activity nomenclature from Romania (CAEN): 4941 for road transportation, 1629 for pellets and briquettes production and 0220 for timber harvesting. It possesses also certificates and authorizations from the following regulatory institutions: Environment Protection Agency (Environment Authorization), Commission for Certification of Economic Operators in Timber Harvesting Activity (Certificate of Attestation/Reattestation), National Authority for Regulation of Public Utility Community Services (License).



## 7. Environment Protection

All the energy requirements for sawdust drying (pelletizing and briquetting technological lines) are covered only by the utilization of wood residues and poor quality wood which cannot be used for other purposes. No fossil fuel is required for processing activities.

## 8. Socio-Economic Aspects

SC NEVAL SRL has contracts with companies which are investing in co-generation projects from Miercurea Ciuc and Odorheiu Secuiesc. These investments may generate 150-200 employment opportunities, in all the supply chain, starting from timber harvesting and ending with energy production.

## 9. Pathway Form Forest to Energy

### State-of-Art Mechanization and Automation

SC NEVAL SRL deals with several processes which are specific to the energy production from woody biomass. The increased level of mechanization in timber harvesting, as well as many automatization facilities in pellet and briquettes production led to substantial improvements in all the supply chain. All the activities are supported by highly trained professional staff as well as by ICT technologies (wood tracking, suppliers and buyers tracking, selling, invoicing and accounting etc.).

### Innovation and Optimization

Improvements and optimizations were and are ones of the main preoccupations of SC NEVAL SRL. Currently, the company tries to energetically improve a pelletizing line which will be installed in the current year. The energy requirements will be considerably smaller (with about 50%) fact which will lead to substantial CO2 savings. The new system will use solar energy for sawdust drying, reducing the amount of needed energy with up to 50 Kwh for pelletizing-briquetting lines.

### New Investments

SC NEVAL SRL has invested in a project related to North-West Regional Development Agency, supported by the Sectorial Operational Programme - „Increasing the Economical Competitiveness” for acquisition of a wood chipper. The total investment amount was of 250000 euro.