



## **INSTITUTUL NATIONAL AL LEMNULUI S.A.**

Șos. Fabrica de Glucoză nr.7, Sector 2, București, CP 020332

Tel: 021 233933; 021 2331556 • Fax: 021 2331514

**e-mail: [office@inl.ro](mailto:office@inl.ro) • Internet: [www.inl.ro](http://www.inl.ro) • CUI: 2377342**

## **SUCURSALA BRAȘOV**

500040 Brașov, Str. Cloșca, Nr. 15, Telefon:0040268 / 414861,

Fax:: 0040268 / 470970, E-mail: [inl@brasovia.ro](mailto:inl@brasovia.ro),

Reg. J08 /229 /1993, Cod SIRUES 1196181, C.U.I. 3217030

# **REDUCTION OF ENERGY CONSUMPTION AND POLLUTING EMISSIONS AT: S.C. SILVAROM S.A. and „S.C. MONTANA” S.A. CÂMPENI**

**S.C. INL.S.A. BUKAREST –  
BRAȘOV BRANCH  
BRANCH MANAGER  
Eng. Ioan ILEA**



# NATIONAL INSTITUTE OF WOOD

- **Founded in 1933 in Bucharest as “Forest Studies and Projection Institute”**
- **1957 Foundation of Brasov branch**
- **1969 the Institute separated in 2 entities:**
  - **“Forest Research and Planning Management Institute” (ICAS)**
  - **“Research and Projection Institute for Wood Industry” (ICPIL)**
- **National Institute of Wood starting with 1992**



## Polluting Emissions and Energy Consumption Reductions for S.C. SILVAROM S.A Bucharest



- **Ecological filtering;**
- **Biomass fueled heat producers**  
;

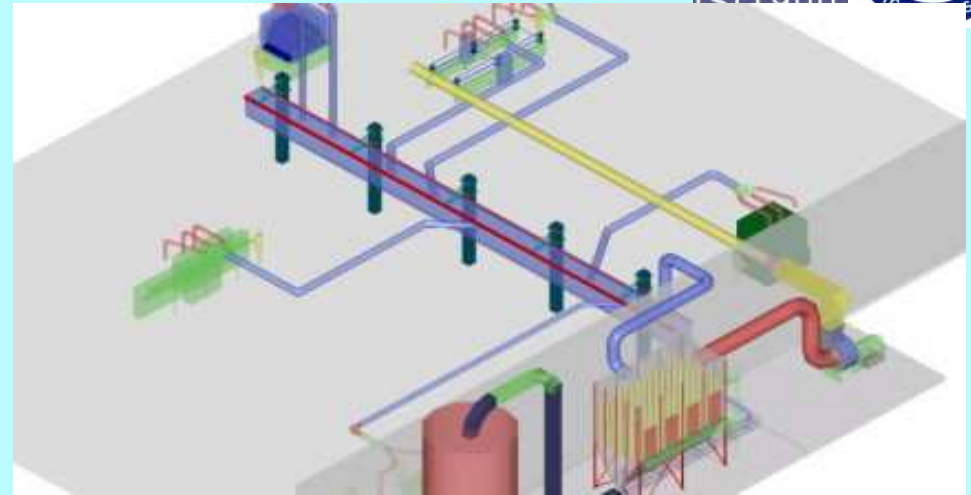




# Targets



- Polluting emissions reductions (dust, wood particles)
- Emissions reductions and the improvement of microclimate working conditions in the production area
- Collecting, processing and utilization of all non-industrialized wood wastes





### A) environment

- concentration of dust/sawdust in exhaust air: 80 – 100 mg/m<sup>3</sup> (accepted value of 20mg/m<sup>3</sup>)
- annual lost powdery wood in atmosphere is approximate of 300 to.
- re-circulate exhaust-air from mechanical working machines of 353.000 m<sup>3</sup>/year
- high concentration of Nox and dusts from the existing heating central, which worked with a very low efficiency

### B) ENERGY

- A surplus of fuel (300 to/an equivalent with 970 to conventional combustibile)
- Increased capacity of the boiler heat producers
- Total replacement of liquid fuel (CLU) → annual saving of over 1.000 t/an.
- Thermo energy requirement reduced with approx 1.950 Gcal/an, due to re-circulation of warm filtered air inside the halls





# Actions:

- Ministry of Industry and Trade,
- Ministry of Water Forests and Environment Protection,→
- Research and Environment Engineering Institute

**National Program of Action for Environment Protection**

+

- Danish Environmental Protection Agency (from Danish Ministry of Environment Energy)

**Detailed project of the National Institute of Wood – Brasov Branch**



50% from the value of equipment imported from Denmark





## Montana S.A.



**Collaboration with Danish Environmental Protection Agency (DEPA) has continued with the elaboration of other 5 (five) - feasibility studies:**

- S.C. „SARMEX” S.A. SATU MARE;
- S.C. „MOBINS” S.A. BUCUREȘTI;
- S.C. „ALFA” S.A. ORADEA;
- S.C. „SPECIAL” S.A. SIBIU
- S.C. „MONTANA” S.A. CÂMPENI.



## S.C MONTANA S.A. CÂMPENI "ECOLOGICAL FILTER AND COMBUSTION INSTALLATION FOR EFFICIENT UTILISATION OF WOOD WASTES"



### ISSUES:

- The existing technological equipments had high values of wood dust and ash emissions in the environmental air.
- The site of the company platform is an area with tourism potential;
- The absence of suitable equipments for the exhausting and the filtration of air and ecological burn of wood waste from production.





# OBJECTIVES:

- Total elimination of annual emissions in atmosphere (35 tons dust and a considerable limitation of quick ash emission from boiler house)
- Dust level in accordance with the requirements of environment normative of maximum 20mg/m<sup>3</sup> (existing value of 80 -100 mg/m<sup>3</sup>)
- Collection, processing and utilization of all non – industrial wood wastes to produce the heat agent for production and administration.





# Achievements

- Filter equipments of 230.000 m<sup>3</sup>/h and re-circulation of air in proportion of 80%.
- Equivalent energy saving of approx 2.150 Gcal/an, due to recirculation;
- Increased efficiency with modern boiler type Justsen- Multimiser 4400 kw, which uses entire amount of wood material resulted Indirect in the production process.





## Purchasing costs:



• Subsidy from Ministry of Environment Denmark as part of the “Financial aid for Environment protection” program:	1.583.000 DKK
• Own resources:	3.100.000 DKK
• Discount from H. MOLDOW A/S	594.000 DKK
<b>TOTAL FINANCING</b>	<b>5.277.000 DKK</b>