



SOCIAL PROJECT FOR
ALTERNATIVE ENERGY,
BUILDING SANITATION AND
URBAN ENVIRONMENT



INTRODUCTION

- **Obstacles Facing Mankind**
 - Disruption of Ecological Balance
 - Global Economic Crisis
 - Problems with Conventional Energy Sources

- **Solutions that Reflect Challenges**
 - Total Change of Behaviour
 - Collective and Immediate Action
 - Public Awareness



PROJECT AIM

- To integrate all EU policies for
 - Energy Efficiency
 - Alternative Energy Production
 - Rehabilitation of Buildings
 - Infrastructural Development

- Cogeneration (Combined Heat and Power-CHP) – a Proven Tool for Energy Efficiency



RATIONALE BEHIND PROJECT

➤ Focus on Buildings

- 40% of the total end-user energy consumption in the EU and of CO₂ emissions
- 9% of gross domestic product and 7 - 8% of employed jobs in the European Community
- Increasing volume of electricity market



SITUATION IN BULGARIA

- Low Thermal and Acoustic Insulation of Buildings
- Problems with Uniting Ordinary People
- Difficult Provision of Funds
- Insufficient Promotion of Central Heating and CHP
- Unpleasant Appearance of Building Facades
- Weak Legal Framework for Implementation of CHP



PROJECT PROVISIONS

- Establishment of Local Cogeneration Systems on Biomass and Natural Gas and Utilization of Thermal Energy
- Implementation of Local Heating Systems in Populated Areas
- Building Sanitation
- Modernization and Improvement of Residential Environment



BIOMASS

- Nature of Biomass
- Wood stock of Bulgaria
 - Total Amount of Wood Stock - 591 mln.cub.m
 - Amount of Biomass - above 188.300 mln.cub.m
 - Maximum Production of Energy – 6 276 MW
 - 30% Accomplishment – 1 800 MW
- Implementation of Several Local Power Plants in Different Settlements



CONDITION OF BUILDINGS IN BULGARIA

- Widespread Panel Buildings
- Thermal Characteristics Similar to Monolithic Structures
- Compromised Façade Plasters
- Depreciated Façade Windows
- Damaged Heating Installations
 - Corroded Steel Pipes
 - Mass-Cut Heating Pipes
 - Substations without Equipment



PROJECT SCOPE

➤ Phase 1

- A Complex of Residential Buildings Located in a Certain Urban Residential Area

➤ Phase 2

- Public, Administrative and Business Buildings Located Near Thermal Power Station



KEY ADVANTAGES

- Highly Efficient Technology for Combustion of Biomass or Natural Gas
- Improvement of Ecological Environment
- Combined Production of Heat and Power
- Low Transport Costs for Hot Water
- Full Automatisatisation of Processes
- Low Services Costs for Heating



PROJECT BENEFITS

- For the State and the Government
- For the Populated Places and the Ordinary People
- For the Forests and the Environment



CONCLUSIONS

- Formation of National Structures to Supervise and Assist Energy Projects
- Long Period for Return On Investment
- Categorization of Existing, Newly Designed and Buildings under Construction According to Energy Efficiency Status
- Encouragement of Investment Projects by Private Companies

SAES
SOCIAL PROJECT FOR ALTERNATIVE ENERGY,
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ENVIRONMENT

developed by



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THANK YOU FOR THE ATTENTION!