Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			5.524.095	
Repayment period in years without grace period			9	
Grace period - years			1	
Amount of annual instalment			613.788	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	5.524.095	-	441.928	441.928
2	5.524.095	613.788	441.928	1.055.716
3	4.910.307	613.788	392.825	1.006.613
4	4.296.518	613.788	343.721	957.510
5	3.682.730	613.788	294.618	908.407
6	3.068.942	613.788	245.515	859.304
7	2.455.153	613.788	196.412	810.201
8	1.841.365	613.788	147.309	761.098
9	1.227.577	613.788	98.206	711.994
10	613.788	613.788	49.103	662.891
Total		**5.524.095**	**1.767.710**	**6.678.017**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	840.000	4,0%	33.600,00
3	Equipment - old		0%	-
4	Equipment - new	9.135.000,0	10%	913.500,00
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vehicles - old		0%	-
8	Vehicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	973.560	20,0%	194.712,00
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**1.141.812,00**
13	**ALL TOTAL**			**1.141.812,00**

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY		
Changes in % on 5 variables with the following presumptions:	Domestic incomes	-5%
	Foreign incomes	0%
	Price of rawmaterials on domestic market	0%
in EUR	Proce of raw materials on foreign market	0%
	Investment costs	0%

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Project costs (Investment):											
Total project costs	-11.048.190,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Increased income											
Domestic income	0,0	723.763,2	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4
Foreign income	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Total increased income	0,0	723.763,2	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4	1.447.526,4
Increased oeprational costs											
Costs for domestic market	0,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0	124.688,0
Increased gross working profit	0,0	599.075,2	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4
INCREASED NET PROFIT	-11.048.190,0	599.075,2	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4	1.322.838,4

FINANCIAL RATE OF RETURN	3%
NET PRESENT VALUE	-1.863.871,1
(discount rate)	15%

Table 11. Sensibility of Rate of Profitability

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ASSETS:										
Current assets										
Surplus of cash	-49.651	148.013	148.013	148.013	148.013	148.013	148.013	148.013	148.013	148.013
Cash from working	7.619	15.237	15.237	15.237	15.237	15.237	15.237	15.237	15.237	15.237
Receivables for buyers	62.618	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237
Inventories	62.618	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237
Other	0	0	0	0	0	0	0	0	0	0
Total current assets	145.822	413.723	413.723	413.723	413.723	413.723	413.723	413.723	413.723	288.487
Net fixed assets	10.948.560	10.854.712	10.760.865	10.667.017	10.573.170	10.479.322	10.385.475	10.291.627	10.197.780	10.103.932
Total fixed assets	10.948.560	21.902.902	21.809.055	21.715.207	21.621.360	21.527.512	21.433.665	21.339.817	21.245.970	21.152.122
TOTAL ASSETS	**22.048.725**	**22.222.778**	**22.128.931**	**22.035.083**	**22.155.795**	**22.061.947**	**21.968.099**	**21.874.252**	**21.780.404**	**503.046**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)										
Liabilities										
Deficit of cash	89.611	250.611	250.611	250.611	250.611	250.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	10.248	10.248	10.248	10.248	10.248	10.248	10.248	10.248	10.248	10.248
Other	122.607	255.462	255.462	255.462	255.462	255.462	255.462	255.462	255.462	255.462
Debts	161.000	-452.788	-1.066.577	-1.680.365	-2.294.153	-2.907.942	-3.521.730	-4.135.518	-4.749.307	-5.363.095
Other long term liabilities and reservations	0	0	0	0	0	0	0	0	0	0
TOTAL LIABILITIES	383.466	63.533	-550.255	-1.164.044	-1.777.832	-2.391.620	-3.005.409	-3.619.197	-4.232.985	-4.846.774
Shareholding capital										
Capital	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795	2.470.795
Retained annual profit	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071
Retained profits	0	81.969	828.924	1.616.144	2.443.628	3.271.112	4.138.861	5.046.875	5.995.152	6.983.695
TOTAL SHAREHOLDING CAPITAL	2.552.764	3.299.719	4.086.939	4.914.423	5.741.907	6.609.656	7.517.670	8.465.947	9.454.490	10.523.561
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**2.936.230**	**3.363.252**	**3.536.684**	**3.750.380**	**3.964.075**	**4.218.036**	**4.512.261**	**4.846.750**	**5.221.504**	**5.676.788**

Table 12. Simplificated balance sheet

Table 13. Income statement

INCOME STATEMENT

in EUR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Sales and other incomes:											
in country	761.856	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	
abroad	-	-	-	-	-	-	-	-	-	-	
Total sale	**761.856**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	**1.523.712**	
Costs and expenditures											
Raw materials											
Gross salaries	-	-	-	-	-	-	-	-	-	-	
Other costs	-	-	-	-	-	-	-	-	-	-	
Total costs	-	-	-	-	-	-	-	-	-	-	
Depreciation:	126.119	126.119	126.119	126.119	126.119	126.119	126.119	126.119	126.119	126.119	
Total depreciation	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	**126.119**	
Interest costs											
Total interest costs	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	262.583										**24.339**
Extra items:		441.928	392.825	343.721	294.618	294.618	245.515	196.412	147.309	98.206	
Total extra items -	**661.894**	**612.791**	**563.688**	**514.585**	**514.585**	**465.482**	**416.379**	**367.276**	**318.173**	**219.966**	
NET PROFIT BEFORE TAXATION	99.962	910.921	960.024	1.009.127	1.009.127	1.058.230	1.107.333	1.156.436	1.205.539	1.303.746	98.911
Income tax	(17.993)	(163.966)	(172.804)	(181.643)	(181.643)	(190.481)	(199.320)	(208.159)	(216.997)	(234.674)	
(% from the income before taxation)	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
NET PROFIT	**81.969**	**746.955**	**787.220**	**827.484**	**827.484**	**867.749**	**908.013**	**948.278**	**988.542**	**1.069.071**	

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7	61,7	61,7	61,7	61,7	61,7
JR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CES										
ces										
ined profit	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071
preciation	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848
low from regular working	175.816	840.803	881.067	921.332	921.332	961.596	1.001.861	1.042.125	1.082.390	1.162.919
□□□□□□										
Credits	613.788	-	-	-	-	-	-	-	-	-
ancial activities	613.788	-		-	-	-	-	-	-	-
er sources										
from owners	5.524.095		-	-	-	-	-	-	-	-
capital from joint ventures	-	-	-	-	-	-	-	-	-	-
OURCES	**6.313.699**	**840.803**	**881.067**	**921.332**	**921.332**	**961.596**	**1.001.861**	**1.042.125**	**1.082.390**	**1.162.919**
ents	11.048.190	-	-	-	-	-	-	-	-	-
ivities										
	-	613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788
l activities		613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788
IAND	**11.048.190**	**613.788**	**613.788**	**613.788**	**613.788**	**613.788**	**613.788**	**613.788**	**613.788**	**613.788**
EFICIT OF	(4.734.491)	227.014	267.279	307.544	307.544	347.808	388.073	428.337	468.602	549.131
/E EFICIT	(4.734.491)	(4.507.476)	(4.240.197)	(3.932.654)	(3.625.110)	(3.277.302)	(2.889.229)	(2.460.892)	(1.992.291)	(1.443.160)

Table 14. Review of Cash Flow

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Liquidity										
Current ratio										
Current assets (□)	195.473	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710	140.474
Short term liabilities (B)	132.855	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710
□/B	1,47	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,53
Quick ratio										
Current assets (□)	195.473	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710	140.474
Inventories (B)	62.618	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237	125.237
Short term liabilities (C)	132.855	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710	265.710
(□-B)/C	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53
The share of debt in total capital										
Debts in total assets										
Debt (□)	161.000	-452.788	-1.066.577	-1.680.365	-2.294.153	-2.907.942	-3.521.730	-4.135.518	-4.749.307	-5.363.095
Total assets (B)	21.632.601	22.222.778	22.128.931	22.035.083	22.155.795	22.061.947	21.968.099	21.874.252	21.780.404	503.046
□/B	1%	-2%	-5%	-8%	-10%	-13%	-16%	-19%	-22%	-1066%
Debt/Shareholding capital										
Debt (□)	161.000	-452.788	-1.066.577	-1.680.365	-2.294.153	-2.907.942	-3.521.730	-4.135.518	-4.749.307	-5.363.095
Shareholding capital (B)	5.606.064	6.353.019	7.140.239	7.967.723	8.795.207	9.662.956	10.570.970	11.519.247	12.507.790	13.576.861
□/B	3%	-7%	-15%	-21%	-26%	-30%	-33%	-36%	-38%	-40%
Debt spreading over										
Net income (□)	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071
Depreciation (B)	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848	93.848
Interest (C)		441.928	392.825	343.721	294.618	294.618	245.515	196.412	147.309	98.206
Mature instalment (D)	0	613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788	613.788
(□+B+C)/ D	1,4	1,2	1,3	1,3	1,3	1,4	1,5	1,6	1,7	1,9
Profitability										
Net profit rate										
Net profit (□)	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071
Income (B)	761.856	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712	1.523.712
□/B	11%	49%	52%	54%	54%	57%	60%	62%	65%	70%
Return of total assets										
Net profit (□)	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071
Total assets (B)	21.632.601	22.222.778	22.128.931	22.035.083	22.155.795	22.061.947	21.968.099	21.874.252	21.780.404	503.046
□/ B	0,00	0,03	0,04	0,04	0,04	0,04	0,04	0,04	0,05	2,13
Return of capital										
Net profit (□)	81.969	746.955	787.220	827.484	827.484	867.749	908.013	948.278	988.542	1.069.071

Table 15. Financial Ratios

"Integrating and strengthening the European Research Area, Specific Measures in support of International Cooperation (INCO)"

Sixth Framework Programme

"Rural Sustainable Development through Integration of Renewable Energy Technologies in Poor European Regions"

RES INTEGRATION

MACEDONIA - EXAPLES OF ECO-NOMY ANALYSIS OF THREE PLANNED INVESTMANTS

RES - INTEGRATION

Work Package 4: FP6-509204
ECONOMIC IMPACT ASSESSMENT

MACEDONIA

EVALUATION OF ECONOMIC JUSTIFIABLENESS FOR INVESTING IN THREE RENEWABLE ENERGY PROJECTS

FINANCIAL ANALYSIS

8. PROJECT FOR SOLAR THERMAL SYSTEMS

PODBELASICA REGION (repayment period 5 years)

According to the financial model that shows the energy production by the solar thermal system in Podbelasica region, we can comment on the following:
Considering the fact that the total basic costs are higher than the incomes, this project is not profitable for this period of analysing and this capacity of energy production (MWh). It means that the basic investment for realization of this project is too much expensive.

- **Financial rate of return**

The financial rate of return is negative, the discount rate (15%), which means that the project will realize more costs than incomes, i.e. the investment is non-profitable.

HOT WATER SOLAR SYSTEMS (HWSS) (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
Building construction		0	0
- building and crafty activities		0	0
- machine installations			0
- electro-installations and telephony			0
- drain and drainage			0
- other activities			0
EQUIPMENT - HWSS		41.358.250	670.312
- invoice value with assemblage and transport		41.358.250	670.312
- custom	0%	0	0
- tax	0%	0	0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0
- licence rights and patent		0	0
- engineering and managing the project		0	0
- training		0	0
- shape of projects		0	0
- interest		0	0
- other costs		0	0
Other capital costs		0	0
TOTAL PLANNED COSTS FOR FIXED ASSETS		41.358.250	670.312
Funds planned for working capital			
TOTAL REQUIRED FUNDS		41.358.250	670.312

Table 1. Total capital costs

DEN/EUR	61,7	RESOURCES in denars	countervalue in EUR	Structure of funds resources
BANKING CREDITS		**24.814.950,2**	**402.187,2**	**60,00%**
- Bank		24.814.950,2	402.187,2	60,00%
- Commercial Banks		0,0	0,0	0,00%
- World Bank		0,0	0,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**16.543.300,2**	**268.124,8**	**40,00%**
- preparatory investments		16.543.300,2	268.124,8	40,00%
- additional investments		0,0	0,0	0,00%
- SEAF		0,0	0,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**41.358.250,4**	**670.312,0**	**100,00%**

Table 2. Total financial sources

DEN/EUR	61,7	in denars	in EUR	Structute of utilization
MACHINES, EQUIPMENT AND TECHNOLOGY		**14.888.970,14**	**241.312,2**	**60,00%**
BUILDING CONSTRUCTION		**4.962.990,00**	**80.437,0**	**20,00%**
WORKING CAPITAL		**4.962.990,00**	**80.437,0**	**20,00%**
TOTAL BANK CREDIT		**24.814.950,20**	**402.187,2**	**100,00%**

Table 3. Structure of utilisation

Table 4. Sales in denars/EUR after investment

Annual production (KWh)	2006	2007	2008	2009	2010
Quantity 650 units x 1.34 MWh = 837.5 MWh	837.500,00	837.500,00	837.500,00	837.500,00	837.500,00
Price per unit 0.058 EUR/KWh (3.58 den/KWh)	3,58	3,58	3,58	3,58	3,58
Value= Product unit * price per unit	**2.997.078**	**2.997.078**	**2.997.078**	**2.997.078**	**2.997.078**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Incomes from other activities	0	0	0	0	0
TOTAL IN DEN	**2.997.078**	**2.997.078**	**2.997.078**	**2.997.078**	**2.997.078**
TOTAL IN EUR	**48.575**	**48.575**	**48.575**	**48.575**	**48.575**
Domestic market (in % from total)	100%	100%	100%	100%	100%
Foreign market (in % from total)	0%	0%	0%	0%	0%
Domestic market	**48.575**	**48.575**	**48.575**	**48.575**	**48.575**
Foreign market	-	-	-	-	-

Table 5. Total costs after investment

TOTAL NUMBER OF EMPLOYEES					
Amounts in denars	**2006**	**2007**	**2008**	**2009**	**2010**
Total raw materials	-	-	-	-	-
Total raw materials - domestic	-	-	-	-	-
Total raw materials - foreign	-	-	-	-	-
Salary costs	**823.500**	**823.500**	**823.500**	**823.500**	**823.500**
Salary costs for regular employees					
Compensation costs for part time jobs					
Other costs	**385.625**	**385.625**	**385.625**	**385.625**	**385.625**
Costs for energy					
Maintanance costs	385.625	385.625	385.625	385.625	385.625
Marketing costs					
Other costs					
-					
Total costs - domestic	385.625	385.625	385.625	385.625	385.625
Total costs - foreign	-	-	-	-	-
Total costs	**385.625**	**385.625**	**385.625**	**385.625**	**385.625**
Total costs in EUR	**6.250**	**6.250**	**6.250**	**6.250**	**6.250**

Table 6. Annual profit

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
BEFORE INVESTMENT					
Incomes from domestic market	-	-	-	-	-
Incomes from export	-	-	-	-	-
Total income	-	-	-	-	-
Costs from domestic market	-	-	-	-	-
Costs from foreign market	-	-	-	-	-
Total operational costs	-	-	-	-	-
GROSS WORKING INCOMES	-	-	-	-	-
AFTER INVESTMENT					
Incomes from domestic market	48.575	48.575	48.575	48.575	48.575
Incomes from export	-	-	-	-	-
Total incomes	48.575	48.575	48.575	48.575	48.575
Costs from domestic market	6.250	6.250	6.250	6.250	6.250
Costs from foreign market	-	-	-	-	-
Total operational costs	6.250	6.250	6.250	6.250	6.250
GROSS WORKING INCOMES	**42.325**	**42.325**	**42.325**	**42.325**	**42.325**
GROWTH AND FINANCIAL CALCULATIONS					
Incomes from domestic market	48.575	48.575	48.575	48.575	48.575
Incomes from export	-	-	-	-	-
Total incomes	48.575	48.575	48.575	48.575	48.575
Costs from domestic market	6.250	6.250	6.250	6.250	6.250
Costs from foreign market	-	-	-	-	-
Total operational costs	6.250	6.250	6.250	6.250	6.250
GROSS WORKING INCOMES	**42.325**	**42.325**	**42.325**	**42.325**	**42.325**

Table 7. Working capital

FORESEEN ADDITIONAL WORKING CAPITAL					
exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
Increased current assets:					
Cash needed	486	486	486	486	486
(as % of increased income)	1%	1%	1%	1%	1%
Receivables from buyers	3.992	3.992	3.992	3.992	3.992
(number of collecting days/ increased income)	30	30	30	30	30
Inventories					
Materials and spare parts (raw materials)	0	0	0	0	0
(number of collecting days/ increased costs and inventories)	30	30	30	30	30
Finished and semifinished products	0	0	0	0	0
(number of collection days/ increased income)	0	0	30	30	30
Final product	3.992,5	3.992,5	3.992,5	3.992,5	3.992,5
(number of collection days/ increased income)	30	30	30	30	30
Other	0	0	0	0	0
(% of increased income)	0%	0%	0%	0%	0%
Increased current assets	8.470,7	8.470,7	8.470,7	8.470,7	8.470,7
Increased short term liabilities					
Liabilities toward suppliers	514	514	514	514	2.137
(number of collection days/ increased costs)	30	30	30	30	30
Salary liabilities -	-	-	-	-	-
(number of pay out days/increased salaries)	30	30	30	30	30
Depreciation	280	280	280	280	280
(number of calculation days/annual depreciation)	30	30	30	30	30
Other	2.118	2.118	2.118	2.118	2.118
(% of increased income)	4%	4%	4%	4%	4%
Increased short term liabilities	2.912	2.912	2.912	2.912	2.912
ADDITIONAL WORKING CAPITAL	5.559	5.559	5.559	5.559	5.559

INCREASING OF ADDITIONAL WORKING CAPITAL	5.559	0	0	0	0

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-670.312,0	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	48.575,0	48.575,0	48.575,0	48.575,0	48.575,0
Foreign incomes	0,0	0,0	0,0	0,0	0,0	0,0
Total increase income	0,0	48.575,0	48.575,0	48.575,0	48.575,0	48.575,0
Incresed operational costs						
Costs from domestic market	0,0	6.250,0	6.250,0	6.250,0	6.250,0	6.250,0
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	6.250,0	6.250,0	6.250,0	6.250,0
Increased gross working profit	0,0	0,0	42.325,0	42.325,0	42.325,0	42.325,0
INCREASED NET PROFIT	-670.312,0	42.325,0	42.325,0	42.325,0	42.325,0	42.325,0

FINANCIAL RATE OF RETURN	#NUM!
NET PRESENT VALUE	-459.506,1
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			402.187	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			100.547	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	402.187	-	32.175	32.175
2	402.187	100.547	32.175	132.722
3	301.640	100.547	24.131	124.678
4	201.094	100.547	16.087	116.634
5	100.547	100.547	8.044	108.591
Total		**402.187**	**112.612**	**514.800**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	-	4,0%	-
3	Equipment - old		0%	-
4	Equipment - new	670.312,5	2%	13.406
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-
8	Vechicles - new	0,0		-

9	Other - old	-	0%	-
10	Other - new	-	20,0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**13.406,25**
13	**ALL TOTAL**			**13.406,25**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY	**Domestic incomes**	**-10%**
Changes in % on 5 variables with the following presumptions:	**Foreign incomes**	0%
	Price of rawmaterials on domestic market	0%
in EUR	**Proce of raw materials on foreign market**	0%
	Investment costs	**10%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-670.312,0	0,0	0,0	0,0	0,0	0,0
Increased income						
Domestic income	0,0	43.717,5	43.717,5	43.717,5	43.717,5	43.717,5
Foreign income	0,0	0,0	0,0	0,0	0,0	0,0
Total increased income	0,0	43.717,5	43.717,5	43.717,5	43.717,5	43.717,5
Increased oeprational costs						
Costs for domestic market	0,0	6.250,0	6.250,0	6.250,0	6.250,0	6.250,0
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	6.250,0	6.250,0	6.250,0	6.250,0	6.250,0
Increased gross working profit	0,0	37.467,5	37.467,5	37.467,5	37.467,5	37.467,5
INCREASED NET PROFIT	-670.312,0	37.467,5	37.467,5	37.467,5	37.467,5	37.467,5

FINANCIAL RATE OF RETURN	#NUM!
NET PRESENT VALUE	-473.665,3
(discount rate)	15%

Exchange of EUR	61,7	61,7	61,7	61,7	61,7	61,7

Table 12. Simplificated balance sheet

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010
ASSETS:					
Current assets					
Surplus of cash	-12.987	148.013	148.013	148.013	148.013
Cash from working	486	486	486	486	486
Receivables for buyers	3.992	3.992	3.992	3.992	3.992
Inventories	3.992	3.992	3.992	3.992	3.992
Other	0	0	0	0	0
Total current assets	-4.516	156.484	156.484	156.484	152.491
Net fixed assets	670.312	669.210	668.108	667.006	665.904
Total fixed assets	670.312	1.339.522	1.338.420	1.337.318	1.336.216
TOTAL ASSETS	**1.335.006**	**1.494.904**	**1.493.802**	**1.492.700**	**367.050**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)					
Liabilities					
Deficit of cash	89.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	2.137	514	514	514	514
Other	7.957	7.957	7.957	7.957	7.957
Debts	161.000	60.453	-40.094	-140.640	-241.187
Other long term liabilities and reservations	0	0	0	0	0
TOTAL LIABILITIES	259.082	319.535	218.988	118.441	17.894
Shareholding capital					
Capital	107.400	107.400	107.400	107.400	107.400
Retained annual profit	7.361	13.957	20.552	27.148	33.744
Retained profits	0	7.361	21.317	41.870	69.018

TOTAL SHAREHOLDING CAPITAL	136.323	114.761	128.717	149.270	176.418
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**398.623**	**373.842**	**448.252**	**368.258**	**294.859**

Table 13. Income statement

INCOME STATEMENT

in EUR	2005	2006	2007	2008	2009	2010
Sales and other incomes:						
in country	-	48.575	48.575	48.575	48.575	48.575
abroad	-	-	-	-	-	-
Total sale	**-**	**48.575**	**48.575**	**48.575**	**48.575**	**48.575**
Costs and expenditures						
Raw materials						
in country	-	-	-	-	-	-
abroad	-	-	-	-	-	-
Gross salaries	-	-	-	-	-	-
Other costs	-	6.322	6.322	6.322	6.322	6.322
Total costs	**-**	**6.322**	**6.322**	**6.322**	**6.322**	**6.322**
Depreciation:						
Total depreciation	-	1.102	1.102	1.102	1.102	1.102
Interest costs						
Total interest costs			32.175	24.131	16.087	8.044
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	**-**	**31.760**	**39.599**	**31.555**	**23.511**	**15.467**
Extra items:						

Total extra items	-	-	-	-	-	-
NET PROFIT BEFORE TAXATION	-	35.272	8.976	17.020	25.064	33.108
Income tax	-	(1.616)	(3.064)	(4.512)	(5.959)	(7.407)
(% from the income before taxation)		18%	18%	18%	18%	18%
NET PROFIT	**-**	**7.361**	**13.957**	**20.552**	**27.148**	**33.744**

Table 14. Review of Cash Flow

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7
in EUR	2006	2007	2008	2009	2010
SOURCES					
Own resources					
Retained profit	7.361	13.957	20.552	27.148	33.744
Depreciation	1.102	1.102	1.102	1.102	1.102
Cash inflow from regular working	29.203	30.264	8.463	15.058	21.654
□□□□□□□□□					
Credits	161.000	-	-	-	-
Total financial activities	161.000	-	161.000	-	-
From other sources					
New capital from owners	107.400	107.400	-	-	-
New capital from joint ventures	-	-	-	-	-
TOTAL SOURCES	**276.863**	**15.058**	**21.654**	**28.250**	**34.846**
DEMAND					
Investments					
Total investments	670.312	-	-	-	-
Financial activities					
Instalments	-	100.547	100.547	100.547	100.547

Total financial activities	-	-	100.547	100.547	100.547
TOTAL DEMAND	**670.312**	**100.547**	**100.547**	**100.547**	**100.547**
ANNUAL SURPLUS/DEFICIT OF CASH	(393.449)	(85.488)	(78.893)	(72.297)	(65.701)
CUMULATIVE SURPLUS/DEFICIT	(393.449)	(478.938)	(557.830)	(630.127)	(695.828)

Table 15. Financial Ratios

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010
Liquidity					
Current ratio					
Current assets (□)	8.471	8.471	8.471	8.471	4.478
Short term liabilities (B)	8.471	8.471	8.471	8.471	8.471
□/B	1,00	1,00	1,00	1,00	0,53
Quick ratio					
Current assets (□)	8.471	8.471	8.471	8.471	4.478
Inventories (B)	3.992	3.992	3.992	3.992	3.992
Short term liabilities (C)	8.471	8.471	8.471	8.471	8.471
(□-B)/C	0,53	0,53	0,53	0,53	0,53
The share of debt in total capital					
Debts in total assets					
Debt (□)	161.000	60.453	-40.094	-140.640	-241.187
Total assets (B)	1.335.006	1.494.904	1.493.802	1.492.700	367.050
□/B	12%	4%	-3%	-9%	-66%
Debt/Shareholding capital					
Debt (□)	161.000	60.453	-40.094	-140.640	-241.187
Shareholding capital (B)	114.761	128.717	149.270	176.418	210.162
□/B	140%	47%	-27%	-80%	-115%

Debt spreading over					
Net income (□)	7.361	13.957	20.552	27.148	33.744
Depreciation (B)	1.102	1.102	1.102	1.102	1.102
Interest (C)		32.175	24.131	16.087	8.044
Mature instalment (D)	0	100.547	100.547	100.547	100.547
(□+B+C)/ D	1,3	0,3	0,3	0,3	0,3
Profitability					
Net profit rate					
Net profit (□)	7.361	13.957	20.552	27.148	33.744
Income (B)	48.575	48.575	48.575	48.575	48.575
□/B	15%	29%	42%	56%	69%
Return of total assets					
Net profit (□)	7.361	13.957	20.552	27.148	33.744
Total assets (B)	1.335.006	1.494.904	1.493.802	1.492.700	367.050
□/ B	0,01	0,01	0,01	0,02	0,09
Return of capital					
Net profit (□)	7.361	13.957	20.552	27.148	33.744
Capital (□)	114.761	128.717	149.270	176.418	210.162
□/ B	0,06	0,11	0,14	0,15	0,16
Working					
Inventories turn over					
Sales costs (□)	6.322	6.322	6.322	6.322	6.322
Inventories (B)	3.992	3.992	3.992	3.992	3.992
□/ B	0,00	1,58	1,58	1,58	1,58
Average time for payment					
Receivables (□)	3.992	3.992	3.992	3.992	3.992
Daily income (B)	133	133	133	133	133
□/ B	30	30	30	30	30
Turn over of fixed assets					
Income (□)	48.575	48.575	48.575	48.575	48.575
Fixed assets (B)	670.312	1.339.522	1.338.420	1.337.318	1.336.216
□/ B	0,0	0,0	0,0	0,0	0,0
Turn over of all assets					
Income (□)	48.575	48.575	48.575	48.575	48.575
Total assets (B)	1.335.006	1.494.904	1.493.802	1.492.700	367.050
□/ B	0,0	0,0	0,0	0,0	0,1

FINANCIAL ANALYSIS

According to the financial model that shows the projections of the bio diesel production, we can comment on the following:

9. PROJECT FOR BIODIESEL PRODUCTION PLANT (repayment period 5 years)

Considering the fact that the operational costs are higher than the incomes, this project is not profitable. 87% of the operational costs are consisted of costs for oil seed (soybean) and oil beet (rapeseed). It means that the basic raw material for realization of this project is too much expensive.

DEN/EUR	61,7	**RESOURCES** in denars	**countervalue in EUR**	**Structure of funds resources**
BANKING CREDITS		**13.516.372,2**	**219.066,0**	**60,00%**

BIODIESEL PRODUCTION PLANT (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
OILSEED CRUSHING PLANTS (SOYBEAN)		**7.039.353,0**	**114.090,0**
- invoice value with assemblage and transport		7.039.353,0	114.090,0
- custom	0%	0,0	0,0
- tax	0%	0,0	0,0
OILSEED CRUSHING PLANTS (RAPESEED)		**8.248.673,0**	**133.690,0**
- invoice value with assemblage and transport		8.248.673,0	133.690,0
- custom	0%	0,0	0,0
- tax	0%	0,0	0,0
BIODIESEL PRODUCTION PLANT		**7.239.261,0**	**117.330,0**
- invoice value with assemblage and transport		7.239.261,0	117.330,0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0
- licence rights and patent		0	0
- engineering and managing the project		0	0
- training		0	0
- shape of projects		0	0
- interest		0	0
- other costs		0	0
Other capital costs		0	0
TOTAL PLANNED COSTS FOR FIXED ASSETS		**22.527.287,0**	**365.110,0**
Funds planned for working capital			**0,0**
TOTAL REQUIRED FUNDS		**22.527.287,0**	**365.110,0**

Table 1. Total capital costs

Table 2. Total financial sources

Soybean		4.223.611,8	68.454,0	60,00%

Rapeseed		4.949.203,8	80.214,0	0,00%
Bio diesel		4.343.556,6	70.398,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**9.010.914,8**	**146.044,0**	**40,00%**
Soybean		2.815.741,2	45.636,0	40,00%
Rapeseed		3.299.469,2	53.476,0	0,00%
Bio diesel		2.895.704,4	46.932,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**22.527.287,0**	**365.110,0**	**100,00%**

DEN/EUR	**61,7**	**in denars**	**in EUR**	**Structute of utilization**
MACHINES, EQUIPMENT AND TECHNOLOGY		**13.516.372,20**	**219.066**	**60,00%**
BUILDING CONSTRUCTION		**4.505.457,4**	**73.022**	**20,00%**
WORKING CAPITAL		**4.505.457,40**	**73.022**	**20,00%**
TOTAL BANK CREDIT		**22.527.287,00**	**365.110,0**	**100,00%**

Table 3. Structure of utilisation

Table 4. Sales in denars/EUR after investment (for 5 years)

Annual production t/a	**2006**	**2007**	**2008**	**2009**	**2010**
Quantity Meal production (**soybean**) t/a	550,5	550,5	550,5	550,5	550,5
Price per unit (t)	7.404	7.404	7.404	7.404	7.404
Value= Product unit * price per unit	**4.075.902**	**4.075.902**	**4.075.902**	**4.075.902**	**4.075.902**

Quantity	Meal production (**rapeseed**) t/a	523,4	523,4	523,4	523,4	523,4
	Price per unit (t)	7.404	7.404	7.404	7.404	7.404
Value= Product unit * price per unit		**3.875.254**	**3.875.254**	**3.875.254**	**3.875.254**	**3.875.254**
Quantity	**Biodisel** production (soybean) t/a	112,80	112,80	112,80	112,80	112,80
	Price per unit (t)	65.304	65.304	65.304	65.304	65.304
Value= Product unit * price per unit		**7.366.280**	**7.366.280**	**7.366.280**	**7.366.280**	**7.366.280**
Quantity	**Biodisel** production (rapeseed) t/a	334,62	334,62	334,62	334,62	334,62
	Price per unit (t)	34.983	34.983	34.983	34.983	34.983
Value= Product unit * price per unit		**11.706.065**	**11.706.065**	**11.706.065**	**11.706.065**	**11.706.065**
Incomes from other activities		0	0	0	0	0
TOTAL IN DEN		**27.023.500**	**27.023.500**	**27.023.500**	**27.023.500**	**27.023.500**
TOTAL IN EUR		**437.982**	**437.982**	**437.982**	**437.982**	**437.982**
Domestic market (in % from total)		100%	100%	100%	100%	100%
Foreign market (in % from total)		0%	0%	0%	0%	0%
Domestic market		**437.982**	**437.982**	**437.982**	**437.982**	**437.982**
Foreign market		-	-	-	-	-

Table 5. Costs for row materials

Costs for row materials after investment		**2006**	**2007**	**2008**	**2009**	**2010**
	Quantity (t/a)					

Oil seed (soybean) t/a		663,30	663,30	663,30	663,30	663,30
	Price / t	13.142	13.142	13.142	13.142	13.142
	Total	8.717.155	8.717.155	8.717.155	8.717.155	8.717.155
Oil seed (rapeseed) t/a	Quantity (t/a)	858	858	858	858	858
	Price / t	13.142	13.142	13.142	13.142	13.142
	Total	11.275.922	11.275.922	11.275.922	11.275.922	11.275.922
Methanol	Quantity (t/a)	43,38	43,38	43,38	43,38	43,38
	Price / t	15.425	15.425	15.425	15.425	15.425
	Total	**669.137**	**669.137**	**669.137**	**669.137**	**669.137**
Catalyst (sodium hydroxide)	Quantity (t/a)	2,64	2,64	2,64	2,64	2,64
	Price / t	2.530	2.530	2.530	2.530	2.530
	Total	**6.678**	**6.678**	**6.678**	**6.678**	**6.678**
Sulfuric acid	Quantity (t/a)	2,55	2,55	2,55	2,55	2,55
	Price / t	70.955	70.955	70.955	70.955	70.955
	Total	**180.935**	**180.935**	**180.935**	**180.935**	**180.935**
Cooling water	Quantity (t/a)	8,505	8,505	8,505	8,505	8,505
	Price / t	27.765	27.765	27.765	27.765	27.765
	Total	**236.141**	**236.141**	**236.141**	**236.141**	**236.141**
Nitrogen	Quantity (t/a)	1,36	1,36	1,36	1,36	1,36
	Price / t	123.400	123.400	123.400	123.400	123.400
	Total	**167.824**	**167.824**	**167.824**	**167.824**	**167.824**
Glycerol	Quantity (t/a)	47,63	47,63	47,63	47,63	47,63
	Price / t	31.467	31.467	31.467	31.467	31.467
	Total	**1.498.773**	**1.498.773**	**1.498.773**	**1.498.773**	**1.498.773**
TOTAL		**22.752.565**	**22.752.565**	**22.752.565**	**22.752.565**	**22.752.565**
		61,7	**61,7**	**61,7**	**61,7**	**61,7**
TOTAL (EUR)		**368.761**	**368.761**	**368.761**	**368.761**	**368.761**
Home trade		**368.761**	**368.761**	**368.761**	**368.761**	**368.761**
Foreign trade		**-**	**-**	**-**	**-**	**-**

Table 6. Total costs after investment

Amounts in denars	2006	2007	2008	2009	2010
Total raw materials	**22.494.433**	**22.494.433**	**22.494.433**	**22.494.433**	**22.494.433**
Total raw materials - domestic	**22.494.433**	**22.494.433**	**22.494.433**	**22.494.433**	**22.494.433**
Total raw materials - foreign	**-**	**-**	**-**	**-**	**-**
Salary costs	**3.739.020**	**3.739.020**	**3.739.020**	**3.739.020**	**3.739.020**
Salary costs for regular employees					
Soybean crushing plant	**1.573.350**	**1.573.350**	**1.573.350**	**1.573.350**	**1.573.350**
Rapeseed crushing plant	**1.573.350**	**1.573.350**	**1.573.350**	**1.573.350**	**1.573.350**
Biodiesel production plant	**592.320**	**592.320**	**592.320**	**592.320**	**592.320**
Compensation costs for part time jobs					
Other costs	**1.307.389**	**1.307.389**	**1.307.389**	**1.307.389**	**1.307.389**
Costs for energy	*686.375*	*686.375*	*686.375*	*686.375*	*686.375*
Soybean crushing plant	273.338	273.338	273.338	273.338	273.338
Rapeseed crushing plant	328.631	328.631	328.631	328.631	328.631
Biodiesel production plant	84.406	84.406	84.406	84.406	84.406
Maintanance costs					
Marketing costs					
Other costs	621.014	621.014	621.014	621.014	621.014
Soybean crushing plant	90.477	90.477	90.477	90.477	90.477
Rapeseed crushing plant	309.691	309.691	309.691	309.691	309.691
Biodiesel production plant	220.847	220.847	220.847	220.847	220.847
-					
Total costs - domestic	27.540.842	27.540.842	27.540.842	27.540.842	27.540.842
Total costs - foreign	-	-	-	-	-
Total costs	**27.540.842**	**27.540.842**	**27.540.842**	**27.540.842**	**27.540.842**
Total costs in EUR	**446.367**	**446.367**	**446.367**	**446.367**	**446.367**

Table 7. Annual profit (for 5 years)

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR		61,7	61,7	61,7	61,7	61,7
in EUR						
		2006	2007	2008	2009	2010
BEFORE INVESTMENT						
Incomes from domestic market		-	-	-	-	-
Incomes from export		-	-	-	-	-
Total income		-	-	-	-	-
Costs from domestic market		-	-	-	-	-
Costs from foreign market		-	-	-	-	-
Total operational costs		-	-	-	-	-
GROSS WORKING INCOMES		-	-	-	-	-
AFTER INVESTMENT						
Incomes from domestic market		437.982	437.982	437.982	437.982	437.982
Incomes from export	-	-	-	-	-	-
Total incomes		437.982	437.982	437.982	437.982	437.982
Costs from domestic market		446.367	446.367	446.367	446.367	446.367
Costs from foreign market	-	-	-	-	-	-
Total operational costs		446.367	446.367	446.367	446.367	446.367
GROSS WORKING INCOMES		**(8.385)**	**(8.385)**	**(8.385)**	**(8.385)**	**(8.385)**
GROWTH AND FINANCIAL CALCULATIONS						
Incomes from domestic market		437.982	437.982	437.982	437.982	437.982
Incomes from export	-	-	-	-	-	-
Total incomes		437.982	437.982	437.982	437.982	437.982
Costs from domestic market		446.367	446.367	446.367	446.367	446.367
Costs from foreign market	-	-	-	-	-	-
Total operational costs		446.367	446.367	446.367	446.367	446.367
GROSS WORKING INCOMES		**(8.385)**	**(8.385)**	**(8.385)**	**(8.385)**	**(8.385)**

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-365.110,0	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	437.982,2	437.982,2	437.982,2	437.982,2	437.982,2
Foreign incomes	0,0	0,0	0,0	0,0	0,0	0,0
Total increase income	0,0	437.982,2	437.982,2	437.982,2	437.982,2	437.982,2
Incresed operational costs						
Costs from domestic market	0,0	446.367,0	446.367,0	446.367,0	446.367,0	446.367,0
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	446.367,0	446.367,0	446.367,0	446.367,0
Increased gross working profit	0,0	0,0	-8.384,8	-8.384,8	-8.384,8	-8.384,8
INCREASED NET PROFIT	-365.110,0	-8.384,8	-8.384,8	-8.384,8	-8.384,8	-8.384,8

FINANCIAL RATE OF RETURN	**#NUM!**
NET PRESENT VALUE	-341.927,9
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			365.110	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			91.278	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	365.110	-	29.209	29.209
2	365.110	91.278	29.209	120.486
3	273.833	91.278	21.907	113.184
4	182.555	91.278	14.604	105.882
5	91.278	91.278	7.302	98.580
TOTAL CREDIT LIABILITIES		**365.110**	**102.231**	**467.341**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	143.560,0	4,0%	5.742
3	Equipment - old		0%	-
4	Equipment - new	22.500,0	10%	2.250
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-
8	Vechicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	-	20,0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**7.992,40**
13	**ALL TOTAL**			**7.992,40**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY		
Changes in % on 5 variables with the following presumptions:	**Domestic incomes**	**-20%**
	Foreign incomes	0%
	Price of rawmaterials on domestic market	0%
	Proce of raw materials on foreign market	0%
in EUR	**Investment costs**	**20%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-365.110,0	0,0	0,0	0,0	0,0	0,0
Increased income						
Domestic income	0,0	394.184,0	394.184,0	394.184,0	394.184,0	394.184,0
Foreign income	0,0	0,0	0,0	0,0	0,0	0,0
Total increased income	0,0	394.184,0	394.184,0	394.184,0	394.184,0	394.184,0
Increased oeprational costs						
Costs for domestic market	0,0	446.367,0	446.367,0	446.367,0	446.367,0	446.367,0
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	446.367,0	446.367,0	446.367,0	446.367,0	446.367,0
Increased gross working profit	0,0	-52.183,0	-52.183,0	-52.183,0	-52.183,0	-52.183,0
INCREASED NET PROFIT	-365.110,0	-52.183,0	-52.183,0	-52.183,0	-52.183,0	-52.183,0

FINANCIAL RATE OF RETURN	**#NUM!**
NET PRESENT VALUE	-469.596,1
(discount rate)	15%

Exchange of EUR	61,7	61,7	61,7	61,7	61,7	61,7

Table 12. Simplificated balance sheet

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010
ASSETS:					
Current assets					
Surplus of cash	-219.066	0	0	0	0
Cash from working	0	0	0	0	0
Receivables for buyers	0	0	0	0	0
Inventories	0	0	0	0	0
Other	0	0	0	0	0
Total current assets	-219.066	0	0	0	0
Net fixed assets	365.110	365.110	365.110	365.110	365.110
Total fixed assets	365.110	730.220	730.220	730.220	730.220
TOTAL ASSETS	**511.154**	**730.220**	**730.220**	**730.220**	**0**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)					
Liabilities					
Deficit of cash	89.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	0	0	0	0	0
Other	0	0	0	0	0
Debts	161.000	69.723	-21.555	-112.833	#REF!
Other long term liabilities and reservations	0	0	0	0	0
TOTAL LIABILITIES	250.611	320.334	229.056	137.779	#REF!
Shareholding capital					
Capital	146.044	146.044	146.044	146.044	146.044
Retained annual profit	-35.027	-29.039	-23.051	-17.064	-11.076
Retained profits	0	-35.027	-64.066	-87.118	-104.181
TOTAL SHAREHOLDING CAPITAL	111.017	81.978	58.926	41.863	30.787
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**361.628**	**402.311**	**287.982**	**179.641**	**#REF!**

	-149.526	-327.909	-442.238	-550.579	#REF!	

Table 13. Income statement

INCOME STATEMENT

in EUR	2005	2006	2007	2008	2009	2010
Sales and other incomes:						
in country	-	437.982	437.982	437.982	437.982	437.982
abroad	-	-	-	-	-	-
Total sale	**-**	**437.982**	**437.982**	**437.982**	**437.982**	**437.982**
Costs and expenditures						
Raw materials						
in country	-	368.761	368.761	368.761	368.761	368.761
abroad	-	-	-	-	-	-
Gross salaries	-	61.295	61.295	61.295	61.295	61.295
Other costs	-	21.433	21.433	21.433	21.433	21.433
Total costs	**-**	**451.489**	**451.489**	**451.489**	**451.489**	**451.489**
Depreciation:						
Total depreciation	-	-	-	-	-	-
Interest costs						
Total interest costs			29.209	21.907	14.604	7.302
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	**-**	**480.698**	**473.396**	**466.094**	**458.791**	**451.489**
Extra items:						
Total extra items	-	-	-	-	-	-
NET PROFIT BEFORE TAXATION	-	(42.716)	(35.414)	(28.111)	(20.809)	(13.507)
Income tax	-	7.689	6.374	5.060	3.746	2.431
(% frOm the income before taxation)		18%	18%	18%	18%	18%

NET PROFIT	**-**	**(35.027)**	**(29.039)**	**(23.051)**	**(17.064)**	**(11.076)**

Table 14. Financial Ratios

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010
Liquidity					
Current ratio					
Current assets (□)	0	0	0	0	0
Short term liabilities (B)	0	0	0	0	#REF!
□/B	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!
Quick ratio					
Current assets (□)	0	0	0	0	0
Inventories (B)	0	0	0	0	0
Short term liabilities (C)	0	0	0	0	#REF!
(□-B)/C	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!
The share of debt in total capital					
Debts in total assets					
Debt (□)	161.000	69.723	-21.555	-112.833	#REF!
Total assets (B)	511.154	730.220	730.220	730.220	0
□/B	31%	10%	-3%	-15%	#REF!
Debt/Shareholding capital					
Debt (□)	161.000	69.723	-21.555	-112.833	#REF!
Shareholding capital (B)	111.017	81.978	58.926	41.863	30.787
□/B	145%	85%	-37%	-270%	#REF!
Debt spreading over					
Net income (□)	-35.027	-29.039	-23.051	-17.064	-11.076
Depreciation (B)	0	0	0	0	0
Interest (C)		29.209	21.907	14.604	7.302
Mature instalment (D)	91.278	91.278	91.278	91.278	#REF!
(□+B+C)/ D	0,0	-0,1	-0,1	-0,1	#REF!
Profitability					
Net profit rate					

Net profit (□)	-35.027	-29.039	-23.051	-17.064	-11.076
Income (B)	437.982	437.982	437.982	437.982	437.982
□/B	-8%	-7%	-5%	-4%	-3%
Return of total assets					
Net profit (□)	-35.027	-29.039	-23.051	-17.064	-11.076
Total assets (B)	511.154	730.220	730.220	730.220	0
□/ B	(0,07)	(0,04)	(0,03)	(0,02)	#DIV/0!
Return of capital					
Net profit (□)	-35.027	-29.039	-23.051	-17.064	-11.076
Capital (□)	111.017	81.978	58.926	41.863	30.787
□/ B	(0,32)	(0,35)	(0,39)	(0,41)	(0,36)
Working					
Inventories turn over					
Sales costs (□)	451.489	451.489	451.489	451.489	451.489
Inventories (B)	0	0	0	0	0
□/ B	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Average time for payment					
Receivables (□)	0	0	0	0	0
Daily income (B)	1.200	1.200	1.200	1.200	1.200
□/ B	0	0	0	0	0
Turn over of fixed assets					
Income (□)	437.982	437.982	437.982	437.982	437.982
Fixed assets (B)	365.110	730.220	730.220	730.220	730.220
□/ B	0,0	0,6	0,6	0,6	0,6
Turn over of all assets					
Income (□)	437.982	437.982	437.982	437.982	437.982
Total assets (B)	511.154	730.220	730.220	730.220	0
□/ B	0,9	0,6	0,6	0,6	#DIV/0!

FINANCIAL ANALYSIS

According to the financial model that shows the projections of the bio diesel production, we can comment on the following:

1. PROJECT FOR CONSTRUCTION TWO BOREHOLES IED-3 AND IED-4 FOR GEOTHERMAL WATER(WELL IED-3 AND IED-4)

BANSKO GEOTHERMAL FIELD (repayment period 5 years)

Considering the fact that the operational costs are higher than the incomes, this project is not profitable. 87% of the operational costs are consisted of costs for oil seed (soybean) and oil beet (rapeseed). It means that the basic raw material for realization of this project is too much expensive.

- **Financial rate of return**

The financial rate of return is 92% (repayment period 5 years, Table 8.) mach higher than the discount rate (15%), which means that the project will realize more incomes than costs, i.e. the investment is profitable and investment will be return for short period.

- **Net profit**

During the whole repayment period of 5 years, the project shows net profit with tendency of growth from year to year.

- **Cash flow**

The cash flow is positive during the whole repayment period of 5 and 10 years that could be positively estimated.

GEOTHERMAL PLANT (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
BOREHOLE **IDE-3**		39.685.440,0	643.200,0
- invoice value with assemblage and transport		39.685.440,0	643.200,0
- custom	0%	0,0	0,0
- tax	0%	0,0	0,0
BOREHOLE **IDE-4**		61.545.750,0	997.500,0
- invoice value with assemblage and transport		61.545.750,0	997.500,0
- custom	0%	0,0	0,0
- tax	0%	0,0	0,0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0

Table 1. Total capital costs

- licence rights and patent		0	0

- engineering and managing the project		**RESOURCES**	**counter value**	0
- training		in denars	**in EUR**	0
- shape of projects DEN/EUR	61,7		0	**Structure of funds resources**
- interest			0	0
- other costs			0	0
BANKING CREDITS		**60.738.714,0**	**984.420,0**	**60,00%**
Other capital costs			0,0	0
BOREHOLE **IDE-3**		23.811.264,0	385.920,0	60,00%
BOREHOLE **IDE-4**		36.927.450,0	598.500,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**40.492.476,0**	**656.280,0**	**40,00%**
		0,0	0,0	40,00%
BOREHOLE **IDE-3**		15.874.176,0	257.280,0	0,00%
BOREHOLE **IDE-4**		24.618.300,0	399.000,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**101.231.190,0**	**1.640.700,0**	**100,00%**

TOTAL PLANNED COSTS FOR FIXED **1.640.700,0**

Funds planned for working capital **0,0**

TOTAL REQUIRED FUNDS **1.640.700,0**

Table 2. Total financial sources

Table 3. Structure of utilisation

DEN/EUR	61,7	in denars	in EUR	Structure of utilization
MACHINES, EQUIPMENT AND TECHNOLOGY		**36.369.188,40**	**589.452**	**60,00%**
BUILDING CONSTRUCTION		**12.123.062,8**	**196.484**	**20,00%**
WORKING CAPITAL		**12.123.062,80**	**196.484**	**20,00%**
TOTAL BANK CREDIT		**60.615.314,0**	**982.420,0**	**100,00%**

Table 4. Sales in denars/EUR after investment (for 5 years)

Annual production (KWh)	**2006**	**2007**	**2008**	**2009**	**2010**
Quantity **Borehole IDE-3** Annual Energy Production (KWh)	21.600.000,0	21.600.000,0	21.600.000,0	21.600.000,0	21.600.000,0
Price per unit (den/KWh)	1,5	1,5	1,5	1,5	1,5
Value= Product unit * price per unit	**33.318.000**	**33.318.000**	**33.318.000**	**33.318.000**	**33.318.000**
Quantity **Borehole IDE-4** Annual Energy Production (KWh)	42.300.000,0	42.300.000,0	42.300.000,0	42.300.000,0	42.300.000,0
Price per unit (den/KWh)	1,5	1,5	1,5	1,5	1,5
Value= Product unit * price per unit	**65.247.750**	**65.247.750**	**65.247.750**	**65.247.750**	**65.247.750**
Quantity					
Price per unit					
Value= Product unit * price per unit					
Quantity					
Price per unit					
Value= Product unit * price per unit					
Incomes from other activities	0	0	0	0	0
TOTAL IN DEN	**98.565.750**	**98.565.750**	**98.565.750**	**98.565.750**	**98.565.750**
TOTAL IN EUR	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**
Domestic market (in % from total)	100%	100%	100%	100%	100%
Foreign market (in % from total)	0%	0%	0%	0%	0%
Domestic market	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**
Foreign market	-	-	-	-	-

Table 5. Total costs after investment

Amounts in denars	2006	2007	2008	2009	2010
Total raw materials					
Total raw materials - domestic					
Total raw materials - foreign					
Salary costs					
Salary costs for regular employees					
Compensation costs for part time jobs					
Other costs	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**
Costs for energy					
Maintanance costs	444.240	444.240	444.240	444.240	444.240
Marketing costs					
Other costs (**Concession)**	1.264.751	1.264.751	1.264.751	1.264.751	1.264.751
-					
Total costs - domestic	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**
Total costs - foreign	-	-	-	-	-
Total costs	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**	**1.708.991**
Total costs in EUR	**27.698**	**27.698**	**27.698**	**27.698**	**27.698**

Table 7. Annual profit (for 5 years)

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
BEFORE INVESTMENT					
Incomes from domestic market	-	-	-	-	-
Incomes from export	-	-	-	-	-
Total income	-	-	-	-	-
Costs from domestic market	-	-	-	-	-
Costs from foreign market	-	-	-	-	-
Total operational costs	-	-	-	-	-
GROSS WORKING INCOMES	**-**	**-**	**-**	**-**	**-**
AFTER INVESTMENT					
Incomes from domestic market	1.597.500	1.597.500	1.597.500	1.597.500	1.597.500
Incomes from export -	-	-	-	-	-
Total incomes	1.597.500	1.597.500	1.597.500	1.597.500	1.597.500
Costs from domestic market	27.698	27.698	27.698	27.698	27.698
Costs from foreign market -	-	-	-	-	-
Total operational costs	27.698	27.698	27.698	27.698	27.698
GROSS WORKING INCOMES	**1.569.802**	**1.569.802**	**1.569.802**	**1.569.802**	**1.569.802**
GROWTH AND FINANCIAL CALCULATIONS					
Incomes from domestic market	1.597.500	1.597.500	1.597.500	1.597.500	1.597.500

Incomes from export	-	-	-	-	-	-
Total incomes		1.597.500	1.597.500	1.597.500	1.597.500	27.698
Costs from domestic market		27.698	27.698	27.698	27.698	27.698
Costs from foreign market	-	-	-	-	-	-
Total operational costs		27.698	27.698	27.698	27.698	27.698
GROSS WORKING INCOMES		**1.569.802**	**1.569.802**	**1.569.802**	**1.569.802**	**1.569.802**

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-1.640.700,0	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	1.597.500,0	1.597.500,0	1.597.500,0	1.597.500,0	1.597.500,0
Foreign incomes	0,0	0,0	0,0	0,0	0,0	0,0
Total increase income	0,0	1.597.500,0	1.597.500,0	1.597.500,0	1.597.500,0	1.597.500,0
Incresed operational costs						
Costs from domestic market	0,0	27.698,4	27.698,4	27.698,4	27.698,4	27.698,4
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	27.698,4	27.698,4	27.698,4	27.698,4
Increased gross working profit	0,0	0,0	1.569.801,6	1.569.801,6	1.569.801,6	1.569.801,6
INCREASED NET PROFIT	-1.640.700,0	1.569.801,6	1.569.801,6	1.569.801,6	1.569.801,6	1.569.801,6

FINANCIAL RATE OF RETURN	**92%**
NET PRESENT VALUE	3.149.146,5
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			982.420	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			245.605	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	982.420	-	78.594	78.594
2	982.420	245.605	78.594	324.199
3	736.815	245.605	58.945	304.550
4	491.210	245.605	39.297	284.902
5	245.605	245.605	19.648	265.253
TOTAL CREDIT LIABILITIES		**982.420**	**275.078**	**1.257.498**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Equipment – new IDE-3	643.200	2,0%	12.864
3	Equipment - old		0%	-
4	Equipment – new IDE-4	997.500	2%	19.950
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-

8	Vechicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	-	0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**32.814,00**
13	**ALL TOTAL (EUR)**			**32.814,00**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY	**Domestic incomes**	**-20%**
Changes in % on 5 variables with the following presumptions:	**Foreign incomes**	0%
	Price of rawmaterials on domestic market	0%
in EUR	**Proce of raw materials on foreign market**	0%
	Investment costs	**20%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-1.640.700,0	0,0	0,0	0,0	0,0	0,0
Increased income						
Domestic income	0,0	1.437.750,0	1.437.750,0	1.437.750,0	1.437.750,0	1.437.750,0
Foreign income	0,0	0,0	0,0	0,0	0,0	0,0
Total increased income	0,0	1.437.750,0	1.437.750,0	1.437.750,0	1.437.750,0	1.437.750,0
Increased oeprational costs						
Costs for domestic market	0,0	27.698,4	27.698,4	27.698,4	27.698,4	27.698,4
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	27.698,4	27.698,4	27.698,4	27.698,4	27.698,4
Increased gross working profit	0,0	1.410.051,6	1.410.051,6	1.410.051,6	1.410.051,6	1.410.051,6
INCREASED NET PROFIT	-1.640.700,0	1.410.051,6	1.410.051,6	1.410.051,6	1.410.051,6	1.410.051,6

FINANCIAL RATE OF RETURN	**82%**
NET PRESENT VALUE	2.683.488,4
(discount rate)	15%

Exchange of EUR	61,7	61,7	61,7	61,7	61,7	61,7

Table 12. Income statement

INCOME STATEMENT

in EUR	2005	2006	2007	2008	2009	2010
Sales and other incomes:						
in country	-	1.597.500	1.597.500	1.597.500	1.597.500	1.597.500
abroad	-	-	-	-	-	-
Total sale	**-**	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**	**1.597.500**
Costs and expenditures						
Raw materials						
in country	-	-	-	-	-	-
abroad	-	-	-	-	-	-
Gross salaries	-	-	-	-	-	-
Other costs	-	28.016	28.016	28.016	28.016	28.016
Total costs	**-**	**28.016**	**28.016**	**28.016**	**28.016**	**28.016**
Depreciation:						
Total depreciation	-	-	-	-	-	-
Interest costs						
Total interest costs			78.594	58.945	39.297	19.648
TOTAL OPERATIONAL INCOMES AND	**-**	**480.698**	**106.610**	**86.961**	**67.313**	**47.665**

EXPENDITURES						
Extra items:						
Total extra items	-	-	-	-	-	-
NET PROFIT BEFORE TAXATION	-	(42.716)	1.490.890	1.510.539	1.530.187	1.549.835
Income tax	-	(268.360)	(271.897)	(275.434)	(278.970)	(282.507)
(% frOm the income before taxation)		18%	18%	18%	18%	18%
NET PROFIT	-	**1.222.530**	**1.238.642**	**1.254.753**	**1.270.865**	**1.286.977**

Table 13. Review of Cash Flow

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7
in EUR	2006	2007	2008	2009	2010
SOURCES					
Own resources					
Retained profit	1.222.530	1.238.642	1.254.753	1.270.865	1.286.977
Depreciation	-	-	-	-	-
Cash inflow from regular working	90.189	92.831	1.222.530	1.238.642	1.254.753
□□□□□□□□□					
Credits	161.000	-	-	-	-
Total financial activities	161.000	-	161.000	-	-
From other sources					
New capital from owners	107.400	107.400	-	-	-
New capital from joint ventures	-	-	-	-	-
TOTAL SOURCES	**1.490.930**	**1.238.642**	**1.254.753**	**1.270.865**	**1.286.977**
DEMAND					
Investments					
Total investments	1.640.700	-	-	-	-

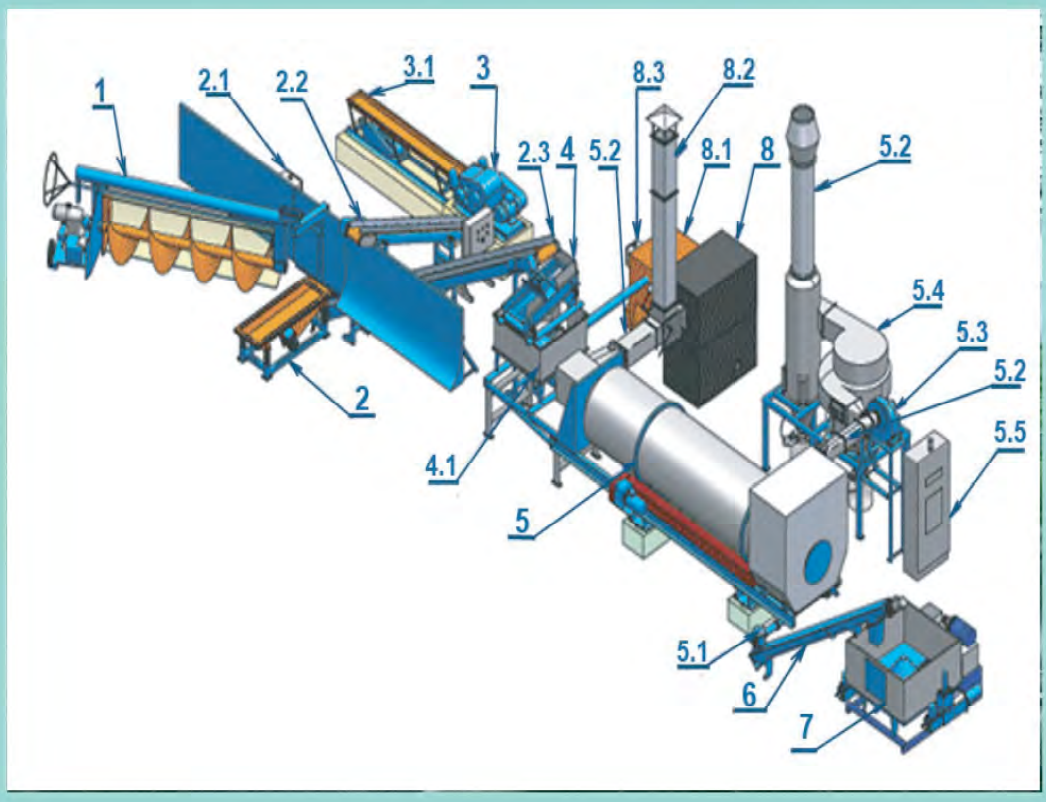
Financial activities					
Instalments	245.605	245.605	245.605	245.605	-
Total financial activities	40.275	245.605	245.605	245.605	245.605
TOTAL DEMAND	**1.886.305**	**245.605**	**245.605**	**245.605**	**-**
ANNUAL SURPLUS/DEFICIT OF CASH	(395.375)	993.037	1.009.148	1.025.260	1.286.977
CUMULATIVE SURPLUS/DEFICIT	(395.375)	597.662	1.606.810	2.632.070	3.919.046

"Integrating and strengthening the European Research Area, Specific Measures in support of International Cooperation (INCO)"

Sixth Framework Programme

"Rural Sustainable Development through Integration of Renewable Energy Technologies in Poor European Regions"

RES INTEGRATION



SERBIA - EXAMPLE OF ECONOMIC ANALYSIS OF PLANNED INVESTMENT IN BRIQUETTE PRODUCTION

RES - INTEGRATION

Work Package 4: FP6-509204
ECONOMIC IMPACT ASSESSMENT

SERBIA

EVALUATION OF ECONOMIC JUSTIFIABLENESS FOR INVESTING IN FOUR DIFFERENT RES PLANTS

RES Integration Project
WP 4
Project Partner: SERBIA

COST BENEFIT ANALYSIS

According to the financial model that shows the projections of the pellets production in Cvetojevac, Serbia, it is possible to comment the following:

10. PROJECT FOR PELLETS PRODUCTION PLANT KNIC – Serbia (repayment period 5 years)

- **Financial rate of return**

With capacity of pellets planned production per year, the financial rate of return is about 110% (repayment period 5 years, Table 8.), its very high whit the discount rate (15%) and sensibility rate of profitability also high (about than 88%) , which means that the project will realize more incomes than costs, i.e. the investment is profitable.

- **Net profit**

During the whole repayment period of 5 years, the project shows net profit with tendency of growth from year to year.

- **Cash flow**

The cash flow is positive during the whole repayment period of 5 years that could be positively estimated.

- **Liquidity ratio (current)**

The current liquidity ratio is ~1 (Table 15) that is in accordance with the optimal current liquidity ratio. This means that there are enough current assets to cover the short term liabilities.

- **Liquidity ratio (quick)**

The same situation applies for the quick liquidity ratio when this ratio is about 0,5.

- **Profitability ratio**

This ratio shows tendency of growth form year to year that could be positively estimated.

PELLETS PRODUCTION PLANT – KNIC Serbia (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
Building construction		10.489.000	170.000
- building and crafty activities		10.489.000	170.000
- machine installations			0
- electro-installations and telephony			0
- drain and drainage			0
- other activities			0
EQUIPMENT - Wood briquette production plant		2.221.200	36.000
- invoice value with assemblage and transport		2.221.200	36.000
- custom	0%	0	0
- tax	0%	0	0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0
- licence rights and patent		0	0
- engineering and managing the project		0	0
- training		0	0
- shape of projects		0	0
- interest		0	0
- other costs		0	0
Other capital costs		0	0
TOTAL PLANNED COSTS FOR FIXED ASSETS		***12.710.200***	***206.000***
Funds planned for working capital			**31.720**
TOTAL REQUIRED FUNDS		**12.710.200**	**237.720**

Table 1. Total capital costs

DEN/EUR	61,7	RESOURCES in denars	countervalue in EUR	Structure of funds resources
BANKING CREDITS		**8.067.028,2**	**130.746,0**	**55,00%**
- Bank		8.067.028,2	130.746,0	60,00%
- Commercial Banks		0,0	0,0	0,00%
- World Bank		0,0	0,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**6.600.295,8**	**106.974,0**	**45,00%**
- preparatory investments		6.600.295,8	106.974,0	40,00%
- additional investments		0,0	0,0	0,00%
- SEAF		0,0	0,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**14.667.324,0**	**237.720,0**	**100,00%**

Table 2. Total financial sources

Table 3. Structure of utilisation

DEN/EUR	61,7	in denars	in EUR	Structute of utilization
MACHINES, EQUIPMENT AND TECHNOLOGY		**4.840.216,92**	**78.448**	**60,00%**
BUILDING CONSTRUCTION		**1.613.405,6**	**26.149**	**20,00%**
WORKING CAPITAL		**1.613.405,64**	**26.149**	**20,00%**
TOTAL BANK CREDIT		**8.067.028,2**	**130.746,0**	**100,00%**

Table 4. Sales in EUR after investment

Annual wood briquette production t/a	2006	2007	2008	2009	2010
Quantity of pellets (t/a)	2.400	2.400	2.400	2.400	2.400
Price per unit (t) (in Euro)	130	135	140	145	150

Price per unit (t) (in DEN)	8.021	8.330	8.638	8.947	9.255
Value= Product unit * price per unit	**19.250.400**	**19.990.800**	**20.731.200**	**21.471.600**	**22.212.000**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Incomes from other activities	0	0	0	0	0
TOTAL IN EUR	**312.000**	**324.000**	**336.000**	**348.000**	**360.000**
Domestic market (in % from total)	50%	50%	50%	50%	50%
Foreign market (in % from total)	50%	50%	50%	50%	50%
Domestic market	**156.000**	**162.000**	**168.000**	**174.000**	**180.000**
Foreign market	**156.000**	**162.000**	**168.000**	**174.000**	**180.000**

Table 5. Total costs after investment

TOTAL NUMBER OF EMPLOYEES					
Amounts in denars	**2006**	**2007**	**2008**	**2009**	**2010**
Total raw materials	-	-	-	-	-
Total raw materials - domestic	-	-	-	-	-
Total raw materials - foreign	-	-	-	-	-
Salary costs	**48.000,00**	**49.000,00**	**50.000,00**	**51.000,00**	**52.000,00**
Salary costs for regular employees					
Compensation costs for part time jobs					
Other costs					
Costs for energy	-	-	-	-	-
Maintanance costs	4.800,00	4.900,00	5.000,00	5.100,00	5.200,00
Marketing costs	2400,00	2400,00	2400,00	2400,00	2400,00
Other costs	400,00	400,00	400,00	400,00	400,00

Total costs in EUR	55.600	56.700	57.800	58.900	60.000

Table 6. Annual profit

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR		61,7	61,7	61,7	61,7	61,7
in EUR						
		2006	2007	2008	2009	2010
AFTER INVESTMENT						
Incomes from domestic market		156.000	162.000	168.000	174.000	180.000
Incomes from export	156.000	162.000	168.000	174.000	180.000	63.750
Total incomes	312.000	324.000	336.000	348.000	360.000	127.500
Costs from domestic market		52.655	53.744	54.833	55.921	57.010
Costs from foreign market	-	-	-	-	-	-
Total operational costs	52.655	53.744	54.833	55.921	57.010	23.012
GROSS WORKING INCOMES		**259.345**	**270.256**	**281.167**	**292.079**	**302.990**
GROWTH AND FINANCIAL CALCULATIONS						
Incomes from domestic market		156.000	162.000	168.000	174.000	180.000
Incomes from export		156.000	162.000	168.000	174.000	180.000
Total incomes		312.000	324.000	336.000	348.000	360.000
Costs from domestic market		52.655	53.744	54.833	55.921	57.010
Costs from foreign market	-	-	-	-	-	-
Total operational costs		52.655	53.744	54.833	55.921	57.010
GROSS WORKING INCOMES		**259.345**	**270.256**	**281.167**	**292.079**	**302.990**

Table 7. Working capital

FORESEEN ADDITIONAL WORKING CAPITAL

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
Increased current assets:					
Cash needed	3.120	3.240	3.360	3.480	3.600

(as % of increased income)	1%	1%	1%	1%	1%
Receivables from buyers	25.644	26.630	27.616	28.603	29.589
(number of collecting days/ increased income)	30	30	30	30	30
Inventories					
Materials and spare parts (raw materials)	0	0	0	0	0
(number of collecting days/ increased costs and inventories)	30	30	30	30	30
Finished and semifinished products	0	0	0	0	0
(number of collection days/ increased income)	0	0	30	30	30
Final product	25.643,8	26.630,1	27.616,4	28.602,7	29.589,0
(number of collection days/ increased income)	30	30	30	30	30
Other	0	0	0	0	0
(% of increased income)	0%	0%	0%	0%	0%
Increased current assets	54.407,7	56.500,3	58.592,9	60.685,5	62.778,1
Increased short term liabilities					
Liabilities toward suppliers	4.328	4.417	4.507	4.596	4.686
(number of collection days/ increased costs)	30	30	30	30	30
Salary liabilities	3.900	3.982	4.063	4.144	4.225
(number of pay out days/increased salaries)	30	30	30	30	30
Depreciation	855	855	855	855	855
(number of calculation days/annual depreciation)	30	30	30	30	30
Other	13.605	14.128	14.652	15.175	15.698
(% of increased income)	4%	4%	4%	4%	4%
Increased short term liabilities	22.688	23.382	24.076	24.770	25.464
ADDITIONAL WORKING CAPITAL	31.720	33.118	34.517	35.915	37.314
INCREASING OF ADDITIONAL WORKING CAPITAL	31.720	1.399	1.399	1.399	1.399

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-237.719,5	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	156.000,0	162.000,0	168.000,0	174.000,0	180.000,0
Foreign incomes	0,0	156.000,0	162.000,0	168.000,0	174.000,0	180.000,0
Total increase income	0,0	312.000,0	324.000,0	336.000,0	348.000,0	360.000,0
Incresed operational costs						
Costs from domestic market	0,0	52.655,4	53.744,1	54.832,7	55.921,4	57.010,0
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	52.655,4	53.744,1	54.832,7	55.921,4
Increased gross working profit	0,0	0,0	259.344,6	270.255,9	281.167,3	292.078,6
INCREASED NET PROFIT	-237.719,5	259.344,6	270.255,9	281.167,3	292.078,6	302.990,0

FINANCIAL RATE OF RETURN	110%
NET PRESENT VALUE	604.050,7
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			130.746,00	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			32.687,00	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	130.746	-	10.460	10.460
2	130.746	32.687	10.460	43.146
3	98.060	32.687	7.845	40.531
4	65.373	32.687	5.230	37.916
5	32.687	32.687	2.615	35.301
Total		**130.746,00**	**36.609,00**	**167.355,00**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	170.000	4,0%	6.800,00
3	Equipment - old		0%	-
4	Equipment - new	36.000,0	10%	3.600,00
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-
8	Vechicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	-	0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**10.400,00**
13	**ALL TOTAL**			**10.400,00**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY		
Changes in % on 5 variables with the following presumptions:	**Domestic incomes**	**-30%**
	Foreign incomes	0%
	Price of rawmaterials on domestic market	0%
in EUR	**Proce of raw materials on foreign market**	0%
	Investment costs	**20%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-237.719,5	0,0	0,0	0,0	0,0	-237.719,5
Increased income						
Domestic income	0,0	109.200,0	113.400,0	117.600,0	121.800,0	0,0
Foreign income	0,0	156.000,0	162.000,0	168.000,0	174.000,0	0,0
Total increased income	0,0	265.200,0	275.400,0	285.600,0	295.800,0	0,0
Increased oeprational costs						
Costs for domestic market	0,0	55.055,4	56.144,1	57.232,7	58.321,4	0,0
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	55.055,4	56.144,1	57.232,7	58.321,4	0,0
Increased gross working profit	0,0	210.144,6	219.255,9	228.367,3	237.478,6	0,0
INCREASED NET PROFIT	-237.719,5	210.144,6	219.255,9	228.367,3	237.478,6	-237.719,5

FINANCIAL RATE OF RETURN	88%
NET PRESENT VALUE	451.597,4
(discount rate)	15%

Table 12. Simplificated balance sheet

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010
ASSETS:					
Current assets					
Surplus of cash	219.447	560.595	751.825	954.135	1.167.527
Cash from working	3.120	3.240	3.360	3.480	3.600
Receivables for buyers	25.644	26.630	27.616	28.603	29.589
Inventories	25.644	26.630	27.616	28.603	29.589
Other	0	0	0	0	0
Total current assets	274.841	618.082	811.404	1.015.807	1.200.717
Net fixed assets	206.000	205.145	204.290	203.436	202.581
Total fixed assets	206.000	442.865	442.010	441.155	440.300
TOTAL ASSETS	**717.706**	**1.060.092**	**1.252.559**	**1.456.108**	**1.415.276**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)					
Liabilities					
Deficit of cash	89.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	2.137	4.328	4.417	4.507	4.596
Other	50.080	52.083	54.086	56.089	58.092
Debts	161.000	128.314	95.627	62.941	30.254
Other long term liabilities and reservations	0	0	0	0	0
TOTAL LIABILITIES	305.019	435.425	404.831	374.237	343.643
Shareholding capital					
Capital	107.400	107.400	107.400	107.400	107.400
Retained annual profit	200.899	211.980	223.061	234.142	245.224
Retained profits	0	200.899	412.879	635.940	870.082
TOTAL SHAREHOLDING CAPITAL	308.299	520.279	743.340	977.482	1.222.706
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**613.317**	**955.703**	**1.148.171**	**1.351.719**	**1.566.349**

Table 13. Income statement

in EUR	2006	2007	2008	2009	2010
Sales and other incomes:					
in country	156.000	162.000	168.000	174.000	180.000
abroad	156.000	162.000	168.000	174.000	180.000
Total sale	**312.000**	**324.000**	**336.000**	**348.000**	**360.000**
Costs and expenditures					
Raw materials					
in country	-	-	-	-	-
abroad	-	-	-	-	-
Gross salaries	48.000	49.000	50.000	51.000	52.000
Other costs	7.687	7.788	7.890	7.991	8.092
Total costs	**55.687**	**56.788**	**57.890**	**58.991**	**60.092**
Depreciation:					
Total depreciation	855	855	855	855	855
Interest costs					
Total interest costs		10.460	7.845	5.230	2.615
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	**67.002**	**65.488**	**63.974**	**62.460**	**60.947**
Extra items:					
Total extra items	-	-	-	-	-
NET PROFIT BEFORE TAXATION	244.998	258.512	272.026	285.540	299.053
Income tax	(44.100)	(46.532)	(48.965)	(51.397)	(53.830)
(% from the income before taxation)	18%	18%	18%	18%	18%
NET PROFIT	**200.899**	**211.980**	**223.061**	**234.142**	**245.224**

Table 14. Review of Cash Flow

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7
in EUR	2006	2007	2008	2009	2010
SOURCES					
Own resources					
Retained profit	200.899	211.980	223.061	234.142	245.224
Depreciation	855	855	855	855	855
Cash inflow from regular working	201.753	212.835	223.916	234.997	246.079
Credits	161.000	-	-	-	-
Total financial activities	161.000	-		-	-
From other sources					
New capital from owners	107.400		-	-	-
New capital from joint ventures	-	-	-	-	-
TOTAL SOURCES	**470.153**	**212.835**	**223.916**	**234.997**	**246.079**
DEMAND					
Investments					
Total investments	237.720	-	-	-	-
Financial activities					
Instalments	-	32.687	32.687	32.687	32.687
Total financial activities		-	32.687	32.687	32.687
TOTAL DEMAND	**237.720**	**32.687**	**32.687**	**32.687**	**32.687**
ANNUAL SURPLUS/DEFICIT OF CASH	232.434	180.148	191.229	202.311	213.392
CUMULATIVE SURPLUS/DEFICIT	232.434	412.582	603.812	806.122	1.019.514

Table 15. Projection of net foreign market inflow

PROJECTION OF NET FOREIGN CURRENCY INFLOW

in EUR	2005	2006	2007	2008	2009	2010
SOURCES						
Total export	0	156.000	162.000	168.000	174.000	180.000
Credits	130.746	0	0	0	0	0
Total foreign currency sources	**130.746**	**156.000**	**162.000**	**168.000**	**174.000**	**180.000**
EXPENDITURES						
Inevstement costs (planned)	237.720	0	0	0	0	0
Import						
Total import	0	0	0	0	0	0
Credit repayment						
Instalment, net	0	0	32.687	32.687	32.687	32.687
Interest	0	10.460	7.845	5.230	2.615	0
Total credit repayment	0	10.460	40.531	37.916	35.301	32.687
Total foreign currency expenditures	**130.746**	**10.460**	**40.531**	**37.916**	**35.301**	**32.687**
TOTAL NET FOREIGN CURRENCY PROFIT	**0**	**145.540**	**121.469**	**130.084**	**138.699**	**147.314**

Table 16. Financial Ratios

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010
Liquidity					
Current ratio					
Current assets (□)	55.394	57.487	59.579	61.672	33.189
Short term liabilities (B)	54.408	56.500	58.593	60.685	62.778
□/B	1,02	1,02	1,02	1,02	0,53
Quick ratio					
Current assets (□)	55.394	57.487	59.579	61.672	33.189
Inventories (B)	25.644	26.630	27.616	28.603	29.589
Short term liabilities (C)	54.408	56.500	58.593	60.685	62.778
(□-B)/C	0,53	0,53	0,53	0,53	0,53
The share of debt in total					

capital					
Debts in total assets					
Debt (□)	161.000	128.314	95.627	62.941	30.254
Total assets (B)	717.706	1.060.092	1.252.559	1.456.108	1.415.276
□/B	22%	12%	8%	4%	2%
Debt/Shareholding capital					
Debt (□)	161.000	128.314	95.627	62.941	30.254
Shareholding capital (B)	308.299	520.279	743.340	977.482	1.222.706
□/B	52%	25%	13%	6%	2%
Debt spreading over					
Net income (□)	200.899	211.980	223.061	234.142	245.224
Depreciation (B)	855	855	855	855	855
Interest (C)		10.460	7.845	5.230	2.615
Mature instalment (D)	0	32.687	32.687	32.687	32.687
(□+B+C)/ D	20,3	5,4	6,0	6,7	7,5
Profitability					
Net profit rate					
Net profit (□)	200.899	211.980	223.061	234.142	245.224
Income (B)	312.000	324.000	336.000	348.000	360.000
□/B	64%	65%	66%	67%	68%
Return of total assets					
Net profit (□)	200.899	211.980	223.061	234.142	245.224
Total assets (B)	717.706	1.060.092	1.252.559	1.456.108	1.415.276
□/ B	0,28	0,20	0,18	0,16	0,17
Return of capital					
Net profit (□)	200.899	211.980	223.061	234.142	245.224
Capital (□)	308.299	520.279	743.340	977.482	1.222.706
□/ B	0,65	0,41	0,30	0,24	0,20
Working					
Inventories turn over					
Sales costs (□)	55.687	56.788	57.890	58.991	60.092
Inventories (B)	25.644	26.630	27.616	28.603	29.589
□/ B	0,00	2,09	2,06	2,02	1,99
Average time for payment					
Receivables (□)	25.644	26.630	27.616	28.603	29.589
Daily income (B)	855	888	921	953	986
□/ B	30	30	30	30	30
Turn over of fixed assets					
Income (□)	312.000	324.000	336.000	348.000	360.000
Fixed assets (B)	206.000	442.865	442.010	441.155	440.300
□/ B	0,0	0,7	0,7	0,8	0,8
Turn over of all assets					
Income (□)	312.000	324.000	336.000	348.000	360.000

Total assets (B)	717.706	1.060.092	1.252.559	1.456.108	1.415.276
□/ B	0,4	0,3	0,3	0,2	0,3

RES Integration Project
WP 4
Project Partner: SERBIA

COST BENEFIT ANALYSIS

According to the financial model that shows the projections of the pellets production in Cvetojevac, Serbia, it is possible to comment the following:

11. PROJECT FOR PELLETS PRODUCTION PLANT CVETOJEVAC – Serbia (repayment period 5 years)

- **Financial rate of return**

in according with the planned production capacity per year, the financial rate of return is 110% (repayment period 5 years, Table 8.), its very high whit the discount rate (15%) and sensibility rate of profitability also high (more than 90%) , which means that the project will realize more incomes than costs, i.e. the investment is profitable.

- **Net profit**

During the whole repayment period of 5 years, the project shows net profit with tendency of growth from year to year.

- **Cash flow**

The cash flow is positive during the whole repayment period of 5 years that could be positively estimated.

- **Liquidity ratio (current)**

The current liquidity ratio is ~1 (Table 15) that is in accordance with the optimal current liquidity ratio. This means that there are enough current assets to cover the short term liabilities.

PELLETS PRODUCTION PLANT – CVETOJEVAC Serbia (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
Building construction		3.702.000	60.000
- building and crafty activities		3.702.000	60.000
- machine installations			0
- electro-installations and telephony			0
- drain and drainage			0
- other activities			0
EQUIPMENT - Wood briquette production plant		771.250	12.500
- invoice value with assemblage and transport		771.250	12.500
- custom	0%	0	0
- tax	0%	0	0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0
- licence rights and patent		0	0
- engineering and managing the project		0	0

- **Liquidity ratio (quick)**

The same situation applies for the quick liquidity ratio.

- **Profitability ratio**

This ratio shows tendency of growth form year to year that could be positively estimated.

Table 1. Total capital costs

- training		0	0

- shape of projects			0	0
- interest			0	0
- other costs			0	0
Other capital costs			0	0
TOTAL PLANNED COSTS FOR FIXED ASSETS DEN/EUR	61,7	**RESOURCES** in denars	**countervalue in EUR** *4.473.250*	**Structure of funds sources** 72.500
Funds planned for working capital				**11.236**
BANKING CREDITS **TOTAL REQUIRED FUNDS**		**3.099.906,7**	**50.241,6** **4.473.250**	**60,00%** **83.736**
- Bank		3.099.906,7	50.241,6	60,00%
- Commercial Banks		0,0	0,0	0,00%
- World Bank		0,0	0,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**2.066.604,5**	**33.494,4**	**40,00%**
- preparatory investments		2.066.604,5	33.494,4	40,00%
- additional investments		0,0	0,0	0,00%
- SEAF		0,0	0,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**5.166.511,2**	**83.736,0**	**100,00%**

Table 2. Total financial sources

Table 3. Structure of utilisation

DEN/EUR	61,7	in denars	in EUR	Structute of utilization
MACHINES, EQUIPMENT AND TECHNOLOGY		**1.859.944,03**	**30.145**	**60,00%**
BUILDING CONSTRUCTION		**619.981,3**	**10.048**	**20,00%**
WORKING CAPITAL		**619.981,34**	**10.048**	**20,00%**
TOTAL BANK CREDIT		**3.099.906,7**	**50.241,6**	**100,00%**

Table 4. Sales in EUR after investment

Annual wood pellets production t/a	2006	2007	2008	2009	2010

Quantity of pellets (t/a)	850	850	850	850	850
Price per unit (t) (in Euro)	130	135	140	145	150
Price per unit (t) (in DEN)	8.021	8.330	8.638	8.947	9.255
Value= Product unit * price per unit	**110.500**	**114.750**	**119.000**	**123.250**	**127.500**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Incomes from other activities	0	0	0	0	0
TOTAL IN EUR	**110.500**	**114.750**	**119.000**	**123.250**	**127.500**
Domestic market (in % from total)	50%	50%	50%	50%	50%
Foreign market (in % from total)	50%	50%	50%	50%	50%
Domestic market	**55.250**	**57.375**	**59.500**	**61.625**	**63.750**
Foreign market	**55.250**	**57.375**	**59.500**	**61.625**	**63.750**

Table 5. Total costs after investment

TOTAL NUMBER OF EMPLOYEES					
Amounts in denars	**2006**	**2007**	**2008**	**2009**	**2010**
Total raw materials	-	-	-	-	-
Total raw materials - domestic	-	-	-	-	-
Total raw materials - foreign	-	-	-	-	-
Salary costs	**17.000,00**	**18.000,00**	**19.000,00**	**20.000,00**	**21.000,00**
Salary costs for regular employees					
Compensation costs for part time jobs					
Other costs					
Costs for energy	-	-	-	-	-
Maintenance costs	1.700,00	1.800,00	1.900,00	2.000,00	2.100,00
Marketing costs	850,00	850,00	850,00	850,00	850,00

Other costs	150,00	150,00	150,00	150,00	150,00
Total costs in EUR	**19.700,00**	**20.800,00**	**21.900,00**	**23.000,00**	**24.100,00**

Table 6. Annual profit

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
AFTER INVESTMENT					
Incomes from domestic market	55.250	57.375	59.500	61.625	63.750
Incomes from export	55.250	57.375	59.500	61.625	63.750
Total incomes	110.500	114.750	119.000	123.250	127.500
Costs from domestic market	18.657	19.746	20.834	21.923	23.012
Costs from foreign market	-	-	-	-	-
Total operational costs	18.657	19.746	20.834	21.923	23.012
GROSS WORKING INCOMES	**91.843**	**95.004**	**98.166**	**101.327**	**104.488**
GROWTH AND FINANCIAL CALCULATIONS					
Incomes from domestic market	55.250	57.375	59.500	61.625	63.750
Incomes from export	55.250	57.375	59.500	61.625	63.750
Total incomes	110.500	114.750	119.000	123.250	127.500
Costs from domestic market	18.657	19.746	20.834	21.923	23.012
Costs from foreign market	-	-	-	-	-
Total operational costs	18.657	19.746	20.834	21.923	23.012
GROSS WORKING INCOMES	**91.843**	**95.004**	**98.166**	**101.327**	**104.488**

Table 7. Working capital

FORESEEN ADDITIONAL WORKING CAPITAL

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
Increased current assets:					
Cash needed	1.105	1.148	1.190	1.233	1.275
(as % of increased income)	1%	1%	1%	1%	1%
Receivables from buyers	9.082	9.432	9.781	10.130	10.479
(number of collecting days/ increased income)	30	30	30	30	30
Inventories					
Materials and spare parts (raw materials)	0	0	0	0	0
(number of collecting days/ increased costs and inventories)	30	30	30	30	30
Finished and semifinished products	0	0	0	0	0
(number of collection days/ increased income)	0	0	30	30	30
Final product	9.082,2	9.431,5	9.780,8	10.130,1	10.479,5
(number of collection days/ increased income)	30	30	30	30	30
Other	0	0	0	0	0
(% of increased income)	0%	0%	0%	0%	0%
Increased current assets	19.269,4	20.010,5	20.751,6	21.492,8	22.233,9
Increased short term liabilities					
Liabilities toward suppliers	1.533	1.623	1.712	1.802	1.891
(number of collection days/ increased costs)	30	30	30	30	30
Salary liabilities	1.381	1.463	1.544	1.625	1.706
(number of pay out days/increased salaries)	30	30	30	30	30
Depreciation	300	300	300	300	300
(number of calculation days/annual depreciation)	30	30	30	30	30
Other	4.818	5.004	5.189	5.374	5.560
(% of increased income)	4%	4%	4%	4%	4%

Increased short term liabilities	17.307	8.033	8.389	8.745	9.102
ADDITIONAL WORKING CAPITAL	15.930	11.236	11.621	12.006	12.391
INCREASING OF ADDITIONAL WORKING CAPITAL	15.930	11.236	385	385	385

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-83.736,0	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	55.250,0	57.375,0	59.500,0	61.625,0	63.750,0
Foreign incomes	0,0	55.250,0	57.375,0	59.500,0	61.625,0	63.750,0
Total increase income	0,0	110.500,0	114.750,0	119.000,0	123.250,0	127.500,0
Incresed operational costs						
Costs from domestic market	0,0	18.657,1	19.745,8	20.834,4	21.923,1	23.011,8
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	18.657,1	19.745,8	20.834,4	21.923,1
Increased gross working profit	0,0	0,0	91.842,9	95.004,2	98.165,6	101.326,9
INCREASED NET PROFIT	-83.736,0	91.842,9	95.004,2	98.165,6	101.326,9	104.488,2

FINANCIAL RATE OF RETURN	110%
NET PRESENT VALUE	210.776,3
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			50.242,00	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			12.560	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	50.242	-	4.019	4.019
2	50.242	12.560	4.019	16.580
3	37.681	12.560	3.014	15.575
4	25.121	12.560	2.010	14.570
5	12.560	12.560	1.005	13.565
Total		**50.242**	**14.068**	**64.309**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	60.000	4,0%	2.400
3	Equipment - old		0%	-
4	Equipment - new	12.500,0	10%	1.250
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-
8	Vechicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	-	0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**3.650,00**
13	**ALL TOTAL**			**3.650,00**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY		
Changes in % on 5 variables with the following presumptions:	**Domestic incomes**	**-25%**
	Foreign incomes	0%
	Price of rawmaterials on domestic market	0%
in EUR	**Proce of raw materials on foreign market**	0%
	Investment costs	**20%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-83.736,0	0,0	0,0	0,0	0,0	0,0
Increased income						
Domestic income	0,0	41.437,5	43.031,3	44.625,0	46.218,8	47.812,5
Foreign income	0,0	55.250,0	57.375,0	59.500,0	61.625,0	63.750,0
Total increased income	0,0	96.687,5	100.406,3	104.125,0	107.843,8	111.562,5
Increased oeprational costs						
Costs for domestic market	0,0	19.507,1	20.595,8	21.684,4	22.773,1	23.861,8
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	19.507,1	20.595,8	21.684,4	22.773,1	23.861,8
Increased gross working profit	0,0	77.180,4	79.810,5	82.440,6	85.070,7	87.700,7
INCREASED NET PROFIT	-83.736,0	77.180,4	79.810,5	82.440,6	85.070,7	87.700,7

FINANCIAL RATE OF RETURN	91%
NET PRESENT VALUE	165.368,4
(discount rate)	15%

Table 12. Simplificated balance sheet

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010
ASSETS:					
Current assets					
Surplus of cash	242.866	465.900	531.340	600.187	672.439
Cash from working	1.105	1.148	1.190	1.233	1.275
Receivables for buyers	9.082	9.432	9.781	10.130	10.479
Inventories	9.082	9.432	9.781	10.130	10.479
Other	0	0	0	0	0
Total current assets	262.484	486.260	552.441	622.029	684.194
Net fixed assets	72.500	72.200	71.900	71.600	71.300
Total fixed assets	72.500	155.936	155.636	155.336	155.036
TOTAL ASSETS	**418.420**	**641.896**	**707.777**	**777.065**	**898.753**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)					
Liabilities					
Deficit of cash	89.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	2.137	1.533	1.623	1.712	1.802
Other	17.736	18.388	19.039	19.691	20.343
Debts	161.000	148.440	135.879	123.319	110.758
Other long term liabilities and reservations	0	0	0	0	0
TOTAL LIABILITIES	269.880	419.061	407.242	395.423	383.603
Shareholding capital					
Capital	107.400	107.400	107.400	107.400	107.400
Retained annual profit	70.889	74.295	77.701	81.107	84.513
Retained profits	0	70.889	145.184	222.884	303.991
TOTAL SHAREHOLDING CAPITAL	178.289	252.584	330.284	411.391	495.904
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**448.169**	**671.645**	**737.526**	**806.814**	**879.507**

Table 13. Income statement

in EUR	2006	2007	2008	2009	2010
Sales and other incomes:					
in country	55.250	57.375	59.500	61.625	63.750
abroad	55.250	57.375	59.500	61.625	63.750
Total sale	**110.500**	**114.750**	**119.000**	**123.250**	**127.500**
Costs and expenditures					
Raw materials					
in country	-	-	-	-	-
abroad	-	-	-	-	-
Gross salaries	17.000	18.000	19.000	20.000	21.000
Other costs	2.731	2.832	2.933	3.034	3.136
Total costs	**19.731**	**20.832**	**21.933**	**23.034**	**24.136**
Depreciation:					
Total depreciation	300	300	300	300	300
Interest costs					
Total interest costs		4.019	3.014	2.010	1.005
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	**81.415**	**24.050**	**24.147**	**24.243**	**24.339**
Extra items:					
Total extra items	-	-	-	-	-
NET PROFIT BEFORE TAXATION	109.185	86.450	90.603	94.757	98.911
Income tax	(15.561)	(16.309)	(17.056)	(17.804)	(18.552)
(% from the income before taxation)	18%	18%	18%	18%	18%
NET PROFIT	**70.889**	**74.295**	**77.701**	**81.107**	**84.513**

Table 14. Review of Cash Flow

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7
in EUR	2006	2007	2008	2009	2010
SOURCES					
Own resources					
Retained profit	70.889	74.295	77.701	81.107	84.513
Depreciation	300	300	300	300	300
Cash inflow from regular working	71.189	74.595	78.001	81.407	84.813
□□□□□□□□□					
Credits	50.241	-	-	-	-
Total financial activities	50.241	-		-	-
From other sources					
New capital from owners	33.494		-	-	-
New capital from joint ventures	-	-	-	-	-
TOTAL SOURCES	**154.924**	**74.595**	**78.001**	**81.407**	**84.813**
DEMAND					
Investments					
Total investments	83.736	-	-	-	-
Financial activities					
Instalments	-	12.560	12.560	12.560	12.560
Total financial activities		12.560	12.560	12.560	12.560
TOTAL DEMAND	**83.736**	**12.560**	**12.560**	**12.560**	**12.560**
ANNUAL SURPLUS/DEFICIT OF	71.188	62.034	65.440	68.846	72.252

CASH					
CUMULATIVE SURPLUS/DEFICIT	71.188	133.222	198.662	267.509	339.761

Table 15. Projection of net foreign market inflow

PROJECTION OF NET FOREIGN CURRENCY INFLOW

in EUR	2005	2006	2007	2008	2009	2010
SOURCES						
Total export	0	55.250	57.375	59.500	61.625	63.750
Credits	50.242	0	0	0	0	0
Total foreign currency sources	**50.242**	**55.250**	**57.375**	**59.500**	**61.625**	**63.750**
EXPENDITURES						
Inevstement costs (planned)	83.736	0	0	0	0	0
Import						
Total import	0	0	0	0	0	0
Credit repayment						
Instalment, net	0	0	12.560	12.560	12.560	12.560
Interest	0	4.019	3.014	2.010	1.005	0
Total credit repayment	0	4.019	15.575	14.570	13.565	12.560
Total foreign currency expenditures	**50.242**	**4.019**	**15.575**	**14.570**	**13.565**	**12.560**
TOTAL NET FOREIGN CURRENCY PROFIT	**0**	**51.231**	**41.800**	**44.930**	**48.060**	**51.190**

Table 16. Financial Ratios

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010
Liquidity					
Current ratio					
Current assets (□)	19.619	20.360	21.101	21.842	11.754
Short term liabilities (B)	19.269	20.011	20.752	21.493	22.234
□/B	1,02	1,02	1,02	1,02	0,53
Quick ratio					
Current assets (□)	19.619	20.360	21.101	21.842	11.754
Inventories (B)	9.082	9.432	9.781	10.130	10.479
Short term liabilities (C)	19.269	20.011	20.752	21.493	22.234

(□-B)/C	0,53	0,53	0,53	0,53	0,53
The share of debt in total capital					
Debts in total assets					
Debt (□)	161.000	148.440	135.879	123.319	110.758
Total assets (B)	344.514	457.231	523.112	592.400	714.088
□/B	47%	32%	26%	21%	16%
Debt/Shareholding capital					
Debt (□)	161.000	148.440	135.879	123.319	110.758
Shareholding capital (B)	104.383	178.678	256.378	337.485	421.998
□/B	154%	83%	53%	37%	26%
Debt spreading over					
Net income (□)	70.889	74.295	77.701	81.107	84.513
Depreciation (B)	300	300	300	300	300
Interest (C)		4.019	3.014	2.010	1.005
Mature instalment (D)	0	12.560	12.560	12.560	12.560
(□+B+C)/ D	18,7	5,0	5,5	6,1	6,8
Profitability					
Net profit rate					
Net profit (□)	70.889	74.295	77.701	81.107	84.513
Income (B)	110.500	114.750	119.000	123.250	127.500
□/B	64%	65%	65%	66%	66%
Return of total assets					
Net profit (□)	70.889	74.295	77.701	81.107	84.513
Total assets (B)	344.514	457.231	523.112	592.400	714.088
□/ B	0,21	0,16	0,15	0,14	0,12
Return of capital					
Net profit (□)	70.889	74.295	77.701	81.107	84.513
Capital (□)	104.383	178.678	256.378	337.485	421.998
□/ B	0,68	0,42	0,30	0,24	0,20
Working					
Inventories turn over					
Sales costs (□)	19.731	20.832	21.933	23.034	24.136
Inventories (B)	9.082	9.432	9.781	10.130	10.479
□/ B	0,00	2,09	2,13	2,17	2,20
Average time for payment					
Receivables (□)	9.082	9.432	9.781	10.130	10.479
Daily income (B)	303	314	326	338	349
□/ B	30	30	30	30	30
Turn over of fixed assets					
Income (□)	110.500	114.750	119.000	123.250	127.500
Fixed assets (B)	72.500	155.936	155.636	155.336	155.036
□/ B	0,0	0,7	0,7	0,8	0,8
Turn over of all assets					

Income (□)	110.500	114.750	119.000	123.250	127.500
Total assets (B)	344.514	457.231	523.112	592.400	714.088
□/ B	0,3	0,3	0,2	0,2	0,2

RES Integration Project
WP 4
Project Partner: SERBIA

COST BENEFIT ANALYSIS

According to the financial model that shows the projections of the energy production from solar collectors in Knic, Serbia, we can comment on the following:

12. PROJECT FOR Collector investment for 1000 Households (SOLAR)
KNIC – Serbia (repayment period 5 years)

- **Financial rate of return**

With planned capacity of 1000 households and production per year, the financial rate of return is about 220% (repayment period 5 years, Table 8.), its very high optimistic scenario whit the discount rate (15%) and sensibility rate of profitability also high (about than 158%), which means that the project will realize more incomes than costs, i.e. the investment is profitable.

- **Net profit**

During the whole repayment period of 5 years, the project shows net profit with tendency of growth from year to year.

- **Cash flow**

The cash flow is positive during the whole repayment period of 5 years that could be positively estimated.

- **Liquidity ratio (current)**

The current liquidity ratio is ~1 (Table 15) that is in accordance with the optimal current liquidity ratio. This means that there are enough current assets to cover the short term liabilities.

- **Liquidity ratio (quick)**

The same situation applies for the quick liquidity ratio when this ratio is about 0,5.

- **Profitability ratio**

This ratio shows tendency of growth form year to year that could be positively estimated.

The financial analysis shows that the expected parameters are very high its mean very optimistic scenario.

Table 1. Total capital costs

Collector investment for 1000 Households in Knic community, Serbia (repayment period 5 years)

DEN/EUR		in denars 61,7	in EUR
Preparing activities		0,0	0,0
Building construction		0	0
- building and crafty activities		0	0
- machine installations			0
- electro-installations and telephony			0
- drain and drainage			0
- other activities			0
EQUIPMENT - Wood briquette production plant		24.680.000	400.000
- invoice value with assemblage and transport		24.680.000	400.000
- custom	0%	0	0
- tax	0%	0	0
ADDITIONAL EQUIPMENT		0	0
- invoice value with assemblage and transport		0	0
- custom	0%	0	0
- tax	18%	0	0
VECHICLES		0	0
- invoice value with assemblage and transport			0
- custom		0	0
- tax	18%	0	0
OTHER		0	0
- licence rights and patent		0	0
- engineering and managing the project		0	0
- training		0	0
- shape of projects		0	0
- interest		0	0
- other costs		0	0
Other capital costs		0	0
TOTAL PLANNED COSTS FOR FIXED ASSETS		***24.680.000***	***400.000***
Funds planned for working capital			**170.759**
TOTAL REQUIRED FUNDS		**24.680.000**	**570.759**

Table 2. Total financial sources

DEN/EUR	61,7	**RESOURCES** in denars	**countervalue in EUR**	**Structure of funds resources**
BANKING CREDITS		**22.890.289,7**	**370.993,4**	**65,00%**
- Bank		22.890.289,7	370.993,4	65,00%
- Commercial Banks		0,0	0,0	0,00%
- World Bank		0,0	0,0	0,00%
- European Bank		0,0	0,0	0,00%
- Other resources		0,0	0,0	0,00%
OWN SOURCES		**12.325.540,6**	**199.765,7**	**35,00%**
- preparatory investments		12.325.540,6	199.765,7	35,00%
- additional investments		0,0	0,0	0,00%
- SEAF		0,0	0,0	0,00%
-from accumulation		0,0	0,0	0,00%
- from depreciation		0,0	0,0	0,00%
OTHER SOURCES		**0,0**	**0,0**	**0,00%**
		0,0	0,0	0,00%
		0,0	0,0	0,00%
TOTAL FINANCAIL SOURCES		**35.215.830,3**	**570.759,0**	**100,00%**

Table 3. Structure of utilisation

DEN/EUR	61,7	in denars	in EUR	Structute of utilization
MACHINES, EQUIPMENT AND TECHNOLOGY		18.312.263,84	296.795	80,00%
BUILDING CONSTRUCTION		0,0	0	0,00%
WORKING CAPITAL		4.578.065,96	74.199	20,00%
TOTAL BANK CREDIT		22.890.329,8	370.994,0	100,00%

Table 4. Sales in EUR after investment

Annual production	2006	2007	2008	2009	2010
Quantity of KWh	2.712.000	2.712.000	2.712.000	2.712.000	2.712.000
Price per unit (in Euro)	0.5	0.5	0.5	0.5	0.5
Value= Product unit * price per unit	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Quantity					
Price per unit					
Value= Product unit * price per unit	**0**	**0**	**0**	**0**	**0**
Incomes from other activities	0	0	0	0	0
TOTAL IN EUR	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**
Domestic market (in % from total)	100%	100%	100%	100%	100%
Foreign market (in % from total)	0%	0%	0%	0%	0%
Domestic market	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**
Foreign market	-	-	-	-	-

Table 5. Total costs after investment

TOTAL NUMBER OF EMPLOYEES					

Amounts in denars	2006	2007	2008	2009	2010
Total raw materials	-	-	-	-	-
Total raw materials - domestic	-	-	-	-	-
Total raw materials - foreign	-	-	-	-	-
Salary costs	-	-	-	-	-
Salary costs for regular employees					
Compensation costs for part time jobs					
Other costs	**40.000**	**40.000**	**40.000**	**40.000**	**40.000**
Costs for energy					
Maintanance costs	**40.000**	**40.000**	**40.000**	**40.000**	**40.000**
Marketing costs	-	-	-	-	-
Other costs	-	-	-	-	-
Total costs in EUR	**40.000**	**40.000**	**40.000**	**40.000**	**40.000**

Table 6. Annual profit

FORESEEN ANNUAL PROFIT

for the new project as a difference between the new and current production

(before and after investment)

exchange for EUR		61,7	61,7	61,7	61,7	61,7
in EUR						
		2006	2007	2008	2009	2010
AFTER INVESTMENT						
Incomes from domestic market		1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Incomes from export	-	-	-	-	-	-
Total incomes	-	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Costs from domestic market		40.000	40.000	40.000	40.000	40.000
Costs from foreign market	-	-	-	-	-	-
Total operational costs	40.000	40.000	40.000	40.000	40.000	40.000
GROSS WORKING INCOMES		**1.316.000**	**1.316.000**	**1.316.000**	**1.316.000**	**1.316.000**
GROWTH AND FINANCIAL CALCULATIONS						

Incomes from domestic market		1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Incomes from export	-	-	-	-	-	-
Total incomes	-	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Costs from domestic market		40.000	40.000	40.000	40.000	40.000
Costs from foreign market	-	-	-	-	-	-
Total operational costs	-	40.000	40.000	40.000	40.000	40.000
GROSS WORKING INCOMES		**1.316.000**	**1.316.000**	**1.316.000**	**1.316.000**	**1.316.000**

Table 7. Working capital

FORESEEN ADDITIONAL WORKING CAPITAL

exchange for EUR	61,7	61,7	61,7	61,7	61,7
in EUR					
	2006	2007	2008	2009	2010
Increased current assets:					
Cash needed	13.560	13.560	13.560	13.560	13.560
(as % of increased income)	1%	1%	1%	1%	1%
Receivables from buyers	111.452	111.452	111.452	111.452	111.452
(number of collecting days/ increased income)	30	30	30	30	30
Inventories					
Materials and spare parts (raw materials)	0	0	0	0	0
(number of collecting days/ increased costs and inventories)	30	30	30	30	30
Finished and semifinished products	0	0	0	0	0
(number of collection days/ increased income)	0	0	30	30	30
Final product	111.452,1	111.452,1	111.452,1	111.452,1	111.452,1
(number of collection days/ increased income)	30	30	30	30	30
Other	0	0	0	0	0
(% of increased income)	0%	0%	0%	0%	0%
Increased current assets	236.464,1	236.464,1	236.464,1	236.464,1	236.464,1
Increased short term liabilities					
Liabilities toward suppliers	3.288	3.288	3.288	3.288	3.288
(number of collection days/ increased costs)	30	30	30	30	30
Salary liabilities	-	-	-	-	-
(number of pay out days/increased salaries)	30	30	30	30	30
Depreciation	3.288	3.288	3.288	3.288	3.288
(number of calculation days/annual depreciation)	30	30	30	30	30

Other	59.130	59.130	59.130	59.130	59.130
(% of increased income)	4%	4%	4%	4%	4%
Increased short term liabilities	65.705	65.705	65.705	65.705	65.705
ADDITIONAL WORKING CAPITAL	170.759	170.759	170.759	170.759	170.759
INCREASING OF ADDITIONAL WORKING CAPITAL	170.759	0	0	0	0

Table 8. Financial Rate of Return for investment of 5 years

FINANCIAL RATE OF PROFITABILITY

in EUR	2005	2006	2007	2008	2009	2010
Project costs:						
Total project costs:	-570.759,0	0,0	0,0	0,0	0,0	0,0
Increased income:						
Domestic incomes	0,0	1.356.000,0	1.356.000,0	1.356.000,0	1.356.000,0	1.356.000,0
Foreign incomes	0,0	0,0	0,0	0,0	0,0	0,0
Total increase income	0,0	1.356.000,0	1.356.000,0	1.356.000,0	1.356.000,0	1.356.000,0
Incresed operational costs						
Costs from domestic market	0,0	40.000,0	40.000,0	40.000,0	40.000,0	40.000,0
Costs from foregin market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	0,0	40.000,0	40.000,0	40.000,0	40.000,0
Increased gross working profit	0,0	0,0	1.316.000,0	1.316.000,0	1.316.000,0	1.316.000,0
INCREASED NET PROFIT	-570.759,0	1.316.000,0	1.316.000,0	1.316.000,0	1.316.000,0	1.316.000,0

FINANCIAL RATE OF RETURN	230%
NET PRESENT VALUE	3.339.719,2
(discount rate)	15%

Table 9. Review of credit liabilities

Amount in EUR				
Source of assets			**BANK**	
Credit amount			370.994	
Repayment period in years without grace period			4	
Grace period - years			1	
Amount of annual instalment			92.749	
Interest			8,00%	
Periods	Credit	Instalment	Interest	Annuity
1	370.994	-	29.680	29.680

2	370.994	92.749	29.680	122.428
3	278.246	92.749	22.260	115.008
4	185.497	92.749	14.840	107.588
5	92.749	92.749	7.420	100.168
	Total	**370.994**	**103.878**	**474.872**

Table 10. Calculation of Depreciation

Nr.	Fixed assets	Value	%	Depreciation
1	Building - old	-	0%	-
2	Building - new	-	4,0%	-
3	Equipment - old		0%	-
4	Equipment - new	400.000,0	10%	40.000,00
5	Subsidiary equipment -old		0,00%	-
6	Subsidiary equipment -new	0,0		-
7	Vechicles - old		0%	-
8	Vechicles - new	0,0		-
9	Other - old	-	0%	-
10	Other - new	-	0%	-
11	**TOTAL - OLD**			**-**
12	**TOTAL - NEW**			**40.000,00**
13	**ALL TOTAL**			**40.000,00**

Table 11. Sensibility of Rate of Profitability

ANALYZING THE SENSIBILTY OF THE FINANCIAL RATE OF PROFITABILITY

TESTING THE SENSIBILITY	**Domestic incomes**	**-30%**
Changes in % on 5 variables	**Foreign incomes**	0%
with the following presumptions:	**Price of raw materials on domestic market**	0%
in EUR	**Price of raw materials on foreign market**	0%
	Investment costs	**20%**

	2005	2006	2007	2008	2009	2010
Project costs (Investment):						
Total project costs	-570.759,0	0,0	0,0	0,0	0,0	0,0
Increased income						

Domestic income	0,0	949.200,0	949.200,0	949.200,0	949.200,0	949.200,0
Foreign income	0,0	0,0	0,0	0,0	0,0	0,0
Total increased income	0,0	949.200,0	949.200,0	949.200,0	949.200,0	949.200,0
Increased oeprational costs						
Costs for domestic market	0,0	40.000,0	40.000,0	40.000,0	40.000,0	40.000,0
Costs from foreign market	0,0	0,0	0,0	0,0	0,0	0,0
Total increased operational costs	0,0	40.000,0	40.000,0	40.000,0	40.000,0	40.000,0
Increased gross working profit	0,0	909.200,0	909.200,0	909.200,0	909.200,0	909.200,0
INCREASED NET PROFIT	-570.759,0	909.200,0	909.200,0	909.200,0	909.200,0	909.200,0

FINANCIAL RATE OF RETURN	158%
NET PRESENT VALUE	2.153.9 30,8
(discount rate)	15%

Table 12. Simplificated balance sheet

SIMPLIFICATED BALANCE SHEET

EUR	2006	2007	2008	2009	2010
ASSETS:					
Current assets					
Surplus of cash	739.652	1.868.986	2.843.404	3.823.907	4.810.494
Cash from working	13.560	13.560	13.560	13.560	13.560
Receivables for buyers	111.452	111.452	111.452	111.452	111.452
Inventories	111.452	111.452	111.452	111.452	111.452
Other	0	0	0	0	0
Total current assets	976.116	2.105.450	3.079.869	4.060.371	4.935.506
Net fixed assets	400.000	396.712	393.425	390.137	386.849
Total fixed assets	400.000	967.471	964.184	960.896	957.608
TOTAL ASSETS	**1.943.588**	**3.069.634**	**4.040.765**	**5.017.979**	**5.150.065**
LIABILITIES AND SHAREHOLDING CAPITAL (NEW)					
Liabilities					
Deficit of cash	89.611	250.611	250.611	250.611	250.611
Short liabilities toward suppliers	2.137	3.288	3.288	3.288	3.288
Other	233.176	233.176	233.176	233.176	233.176
Debts	161.000	68.252	-24.497	-117.246	-209.994
Other long term liabilities and reservations	0	0	0	0	0

TOTAL LIABILITIES	487.075	555.327	462.578	369.830	277.081
Shareholding capital					
Capital	107.400	107.400	107.400	107.400	107.400
Retained annual profit	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Retained profits	0	1.051.711	2.109.505	3.173.384	4.243.348
TOTAL SHAREHOLDING CAPITAL	1.159.111	2.216.905	3.280.784	4.350.748	5.426.796
TOTAL LIABILITIES AND SHAREHOLDING CAPITAL	**1.646.186**	**2.772.232**	**3.743.363**	**4.720.577**	**5.703.877**

Table 13. Income statement

INCOME STATEMENT

in EUR	2005	2006	2007	2008	2009	2010
Sales and other incomes:						
in country	-	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
abroad	-	-	-	-	-	-
Total sale	**-**	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**	**1.356.000**
Costs and expenditures						
Raw materials						
in country	-	-	-	-	-	-
abroad	-	-	-	-	-	-
Gross salaries	-	-	-	-	-	-
Other costs	-	40.459	40.459	40.459	40.459	40.459
Total costs	**-**	**40.459**	**40.459**	**40.459**	**40.459**	**40.459**
Depreciation:						
Total depreciation	-	3.288	3.288	3.288	3.288	3.288
Interest costs						
Total interest costs			29.680	22.260	14.840	7.420
TOTAL OPERATIONAL INCOMES AND EXPENDITURES	**-**	**73.426**	**66.006**	**58.586**	**51.167**	**43.747**
Extra items:						
Total extra items	-	-	-	-	-	-
NET PROFIT BEFORE TAXATION	-	1.282.574	1.289.994	1.297.414	1.304.833	1.312.253
Income tax	(230.863)	(232.199)	(233.534)	(234.870)	(236.206)	(236.206)

(% from the income before taxation)	18%	18%	18%	18%	18%
NET PROFIT	**1.051.711**	**1.057.795**	**1.063.879**	**1.069.963**	**1.076.048**

Table 14. Review of Cash Flow

REVIEW OF CASH FLOW

(SOURCES OF ASSETS AND NEED FOR INVESTMENT)

	61,7	61,7	61,7	61,7	61,7
in EUR	2006	2007	2008	2009	2010
SOURCES					
Own resources					
Retained profit	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Depreciation	3.288	3.288	3.288	3.288	3.288
Cash inflow from regular working	201.753	212.835	1.054.998	1.061.082	1.067.167
Credits	161.000	-	-	-	-
Total financial activities	161.000	-	161.000	-	-
From other sources					
New capital from owners	107.400	107.400	-	-	-
New capital from joint ventures	-	-	-	-	-
TOTAL SOURCES	**1.323.398**	**1.061.082**	**1.067.167**	**1.073.251**	**1.079.335**
DEMAND					
Investments					
Total investments	570.759	-	-	-	-
Financial activities					
Instalments	-	92.749	92.749	92.749	92.749
Total financial activities		-	92.749	92.749	92.749
TOTAL DEMAND	**570.759**	**92.749**	**92.749**	**92.749**	**92.749**
ANNUAL SURPLUS/DEFICIT OF CASH	752.639	968.334	974.418	980.503	986.587
CUMULATIVE SURPLUS/DEFICIT	752.639	1.720.973	2.695.391	3.675.894	4.662.481

Table 15. Projection of net foreign market inflow

PROJECTION OF NET FOREIGN CURRENCY INFLOW

in EUR	2005	2006	2007	2008	2009	2010
SOURCES						
Total export	0	0	0	0	0	0
Credits	370.994	0	0	0	0	0
Total foreign currency sources	**370.994**	**0**	**0**	**0**	**0**	**0**
EXPENDITURES						
Inevstement costs (planned)	570.759	0	0	0	0	0
Import						
Total import	0	0	0	0	0	0
Credit repayment						
Instalment, net	0	0	92.749	92.749	92.749	92.749
Interest	0	29.680	22.260	14.840	7.420	0
Total credit repayment	0	29.680	115.008	107.588	100.168	92.749
Total foreign currency expenditures	**370.993**	**29.680**	**115.008**	**107.588**	**100.168**	**92.749**
TOTAL NET FOREIGN CURRENCY PROFIT	**1**	**-29.680**	**-115.008**	**-107.588**	**-100.168**	**-92.749**

Table 16. Financial Ratios

FINANCIAL RATIOS

in EUR	2006	2007	2008	2009	2010
Liquidity					
Current ratio					
Current assets (□)	236.464	236.464	236.464	236.464	125.012
Short term liabilities (B)	236.464	236.464	236.464	236.464	236.464
□/B	1,00	1,00	1,00	1,00	0,53
Quick ratio					
Current assets (□)	236.464	236.464	236.464	236.464	125.012
Inventories (B)	111.452	111.452	111.452	111.452	111.452
Short term liabilities (C)	236.464	236.464	236.464	236.464	236.464
(□-B)/C	0,53	0,53	0,53	0,53	0,53
The share of debt in total capital					
Debts in total assets					
Debt (□)	161.000	68.252	-24.497	-117.246	-209.994
Total assets (B)	1.943.588	3.069.634	4.040.765	5.017.979	5.150.065
□/B	8%	2%	-1%	-2%	-4%
Debt/Shareholding capital					
Debt (□)	161.000	68.252	-24.497	-117.246	-209.994
Shareholding capital (B)	1.159.111	2.216.905	3.280.784	4.350.748	5.426.796
□/B	14%	3%	-1%	-3%	-4%

Debt spreading over					
Net income (□)	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Depreciation (B)	3.288	3.288	3.288	3.288	3.288
Interest (C)		29.680	22.260	14.840	7.420
Mature instalment (D)	0	92.749	92.749	92.749	92.749
(□+B+C)/ D	36,5	9,4	10,1	10,8	11,6
Profitability					
Net profit rate					
Net profit (□)	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Income (B)	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
□/B	78%	78%	78%	79%	79%
Return of total assets					
Net profit (□)	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Total assets (B)	1.943.588	3.069.634	4.040.765	5.017.979	5.150.065
□/ B	0,54	0,34	0,26	0,21	0,21
Return of capital					
Net profit (□)	1.051.711	1.057.795	1.063.879	1.069.963	1.076.048
Capital (□)	1.159.111	2.216.905	3.280.784	4.350.748	5.426.796
□/ B	0,91	0,48	0,32	0,25	0,20
Working					
Inventories turn over					
Sales costs (□)	40.459	40.459	40.459	40.459	40.459
Inventories (B)	111.452	111.452	111.452	111.452	111.452
□/ B	0,00	0,36	0,36	0,36	0,36
Average time for payment					
Receivables (□)	111.452	111.452	111.452	111.452	111.452
Daily income (B)	3.715	3.715	3.715	3.715	3.715
□/ B	30	30	30	30	30
Turn over of fixed assets					
Income (□)	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Fixed assets (B)	400.000	967.471	964.184	960.896	957.608
□/ B	0,0	1,4	1,4	1,4	1,4
Turn over of all assets					
Income (□)	1.356.000	1.356.000	1.356.000	1.356.000	1.356.000
Total assets (B)	1.943.588	3.069.634	4.040.765	5.017.979	5.150.065
□/ B	0,7	0,4	0,3	0,3	0,3

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RES INTEGRATION

GERMANY - EXAMPLE OF ECONOMIC ANALYSIS OF PLANNED INVESTMENT IN BIOMAS ENERGY PLANT

COST BENEFIT ANALYSIS

○ *INTRODUCTION*

The financial data of the Biomass Centre Achental are indicated in the tables on the following pages. The data were filled in a excel template, which was prepared by the responsible project partner.

There are two different possibilities for the evaluation of the financial data:

1. Project for new Start-Up Business (Related to new Company)

2. Project for Follow-Up activities for new investment in existing Business (Related to existing Company)

With the project development of the BM Centre Achental, a new Start-Up Business will be established. Thus the data are filled in according to project type Nr. 1 – new company.

The different data categories in the excel file are explained as follows:

- **INVESTMENT ACTIVITIES (Description and Costs estimation):**

  ⇒ Costs of the location, Equipment and material costs, Custom duties, Taxes, Engineering and managing the project completion, Other costs, Other capital costs, Grants of different sources

- **PRODUCTION COSTS:**

  ⇒ Raw materials (Specification of quantities and prices), Working power: Permanent staff and temporal engagement, Different taxes (Specification and values), Maintenance costs, Marketing costs, Working capital costs.

- **PRICE OF PRODUCT(S):**

  ⇒ TOTAL PRODUCTION (Pieces, KWh, etc. - depending on product), Present unit price in the country, TOTAL MARKET VALUE OF THE PRODUCTION