



INVEST IN INNOVATIVE POWER GENERATION!

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Belenos Energy GmbH

A small biofuel Power Plant in NRW

- The company runs a 5 MW power plant with 50 small Block-Type Thermal Power Stations (BHKW)
- BHKWs are owned by Belenos's customers
- Belenos provides premises and sources the power plant equipment, which it operates and maintain for the customers
- The BHKWs are run on rape-seed oil, which Belenos sources
- Belenos sells the generated electricity and feeds it into the electricity network

Market Research



- BHKW-Investments in Focus in 2010
- Many new companies trying to gain investors attention with BHKW-Investments offers. 4 identified.
- Investors want to invest in Renewable Energies
- Gets media attention: One of the topic of ZDF Program Frontal21 in December 2010 „Blockheizkraft-werke: Reich werden wie die Stromkonzerne“. BHKW: Become rich like Power Utilities.
- We have identified a group of ~80 investors that will have available funds within 2 months.

The Business Model

- Invest in your own BHKW 100.000 € (100 kW el) or share it with partners
- Become an energy producer and benefit from German state subsidies (EEG)
- Belenos provides you with everything you need to make it work:
 - ▣ The BHKW,
 - ▣ a location where it can be connected to the grid and installation,
 - ▣ the fuel (rapeseed oil),
 - ▣ a maintenance package,
 - ▣ administrative support including tax adviser
- Get monthly fix payment from the first month and yearly balance payment
- Return on investment over a couple of years

Renewable Energy Sources Act (EEG): An Opportunity

- Electricity from biomass is subsidized.
 - ▣ 11.67 cents per kilowatt-hour for the first 150 kilowatts of output
 - ▣ Then degressive in 3 steps down to **7.79 cents between 5 and 20 megawatts**
- Subsidy extended e.g. for the following cases:
 - ▣ Using Innovative technologies (**Technology-bonus**)
 - if electrical efficiency of at least 45 per cent
 - For e.g. gas turbines,...
 - 2.0 cents per kWh
 - ▣ If generated from energy crops (**NawaRo-bonus**)
 - e.g. **Rapeseed oil**
 - 6.0 cents per kilowatt-hour for the first 500 kilowatts
 - 4.0 cents per kilowatt-hour for output between 500 kilowatts and 5 megawatts
 - ▣ In combined heat and power generation (**CHP-bonus**)
 - 3.0 cents per kWh

Fuel – Main Options

Biogas

- Through the grid, e.g. naturstrom.de, Düsseldorf
- 12.95 cents per kWh and 10.50 cents per kWh if 40.000 kWh/yr (Naturstrom.de)



Rapeseed Oil

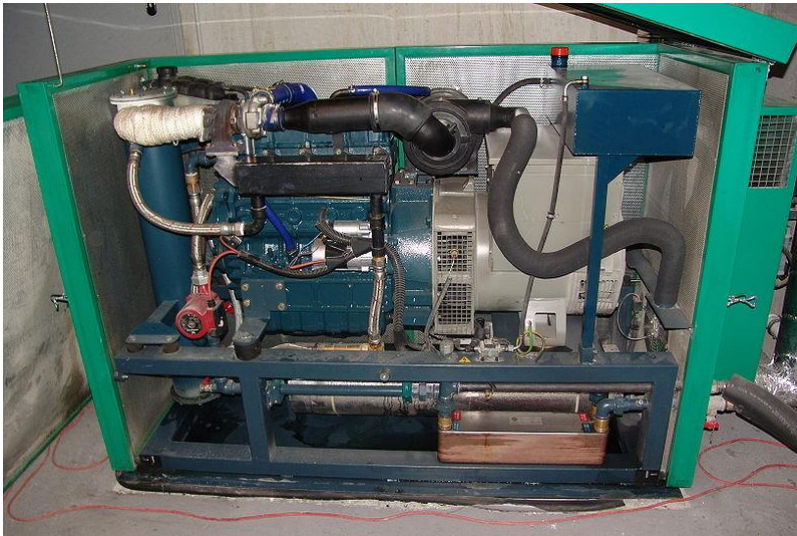
- Higher subsidies
- Must be refined
- Comparable price 10-11 cents per kWh for 1 liter at ~1€



BHKW – Main Options

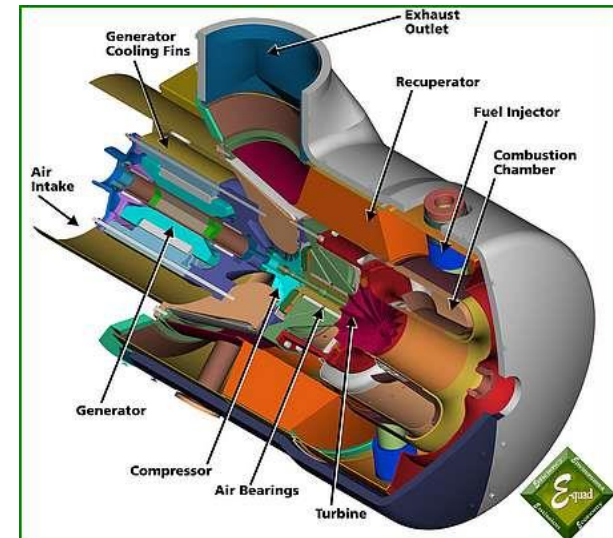
Traditional Technology

- Proven technology. Similar to diesel
- Works with rapeseed and palm oil
- Lifetime 60.000 to 80.000 hours
- High maintenance cost
- Electrical efficiency between 27 and 45% depending on size



Gas (Micro)turbines

- Emerging technology. Few manufacturers.
- Not proven it works with rapeseed oil. Biogas OK.
- Lifetime claimed to be 80.000 hours
- Lower maintenance
- Electrical efficiency 29% for 65kW



Fuel and BHKW – The Best Choice

- The electrical efficiency is the key factor
- Big BHKW (e.g. 250 kW) provide the best efficiency (~45%)
- Microturbine technology
 - ▣ does not provides a better electrical efficiency compared to traditional. There is no big microturbine available on the market.
 - ▣ Not enough competition
- Rapeseed oil is (currently) cheaper for the same energy content and the market is bigger.
- We go for traditional German technology (e.g. Engine MAN from Burkardt GmbH) and Rapeseed oil.
- **Cost BHKW** depends on the manufacturer. Average is slightly below **1 000 €/kW**
- **Cost rapeseed oil** vary on daily basis. Assumption for this business plan **~1€ per liter**

Investment Analysis

Market Study

Assumptions	Rate	Unit	Consumption (lt/kWh)
PP Capacity at Full Load	10.000,0	kW	
Fuel			
Rapeseed oil Consumption per hour	2.500,0	lt/hr	
Rapeseed oil Unit Price	1,0	Eur/lt	0,2500 lt/kWh
Oil			
Oil Consumption	5,0	lt/hr	
Oil Unit Price	1,0	Eur/lt	0,0005 lt/kWh
Antifreeze			
Antifreeze Consumption	10,0	lt/hr	
Antifreeze	2,0	Eur/lt	0,0010 lt/kWh
Running Time	7.920,0	hr/a	
Total Electricity Production	79.200.000,0	kWh/a	

Assumption Made Based on Market Study

Investment Analysis

Total Investment

Pay Item No.	Description	Quantity	Unit	Total Price, €	Direct Total Material Cost, €	Extended Labor Cost, €	Total Number of Work Hours for Category	Depreciation Rate in %	Depreciation Costs
1	Building Electrical Works	1 lot	Lump Sum	1.668.337 €	1.467.920 €	200.417 €	33.503 mh	0,10	146.792,00 €
2	Building Mechanical Works	1 lot	Lump Sum	383.947 €	313.471 €	70.476 €	11.746 mh	0,10	31.347,05 €
3	Building Plumbing Works	1 lot	Lump Sum	91.225 €	71.875 €	19.350 €	3.225 mh	0,10	7.187,50 €
4	Building Fire Alarm & Sprinkler	1 lot	Lump Sum	179.992 €	170.830 €	9.162 €	1.527 mh	0,10	17.083,00 €
5	Building Civil Works	1 lot	Lump Sum	1.677.506 €	1.102.250 €	575.256 €	95.876 mh	0,10	551.125,00 €
6	Power Plant Installation	1 lot	Lump Sum	6.580.200 €	6.210.600 €	369.600 €	61.600 mh	0,10	621.060,00 €
7	Exterior Works	1 lot	Lump Sum	357.250 €	286.750 €	70.500 €	11.750 mh	0,10	4.337,50 €
8	Mobilization & Demobilization	1 lot	Lump Sum	461.300 €	440.000 €	21.300 €	3.550 mh	0,10	1.600,00 €
9	Site Management, Site Engineering, Site Supervisory and Site Admin Staff - Cost	1 lot	Lump Sum	400.800 €	0 €	400.800 €	36.408 mh	0,00	0,00 €
10	Equipment Cost	1 lot	Lump Sum	291.000 €	291.000 €	0 €	600 mh	0,20	49.200,00 €
11	Travel Cost	1 lot	Lump Sum	26.750 €	26.750 €	0 €	mh	0,00	0,00 €
12	Other Direct Cost(ODC)	1 lot	Lump Sum	1.136.284 €	1.136.284 €	0 €	mh	10,00	10.000,00 €
13		1 lot	Lump Sum	0 €				0,00	0,00 €

TOTAL INVESTMENT COST

13.254.591 €

11.517.730 €

1.736.861 €

259.785 mh

Total Depreciation Cost

1.439.732,05 €

Investment and Depreciation Cost

Note: Break-down available in the Excel file

Investment Analysis

Consumption Cost

Item	Expendable Material(for 1 kWh electricity production)	Quantity	UoM	Unit Cost	Total Cost €
1	Rapeseed oil (for 1 kWh Electricity Production)	0,25000	lt.	1,00 €	0,25000 €
2	Motor Oil (for 1 kWh Electricity Production)	0,00050	lt.	1,00 €	0,00050 €
3	Antifreeze + Water(for 1 kWh Electricity Production)	0,00100	lt.	2,00 €	0,0020000 €
4	Maintenance Cost (Supervisor from Service)	2	men	0,004 €	0,0080000 €
TOTAL(Specific Consumption for 1 kWh Electricity)					0,2605000 €

Running Costs for 1 kWh Electricity Production

Investment Analysis

Labour Cost for Business(Brutto)

Item	Personal in Business	Quantity	Personnel Direct Cost €	Total Personnel Direct Cost €
1	Manager	1	100.000 €	100.000 €
2	Electrical Technician	1	50.000 €	50.000 €
3	Mechanical Technician	1	50.000 €	50.000 €
4				
TOTAL				200.000,00 €

Personnel Cost

Investment Analysis

Investment & Financing

Total Investment	40% Own Capital Funds	60% Bank Loan
13.254.590,57 €	5.301.836,23 €	7.952.754,34 €

Interest Paid on Debt

Financing & Interests Paid

Year	Balance of Dept	Interest Rate(%)	Interest Costs Paid p.a.	Repayment / Paying Back Loan p.a.
1. Year	7.952.754,34 €	0,07	556.692,80 €	795.275,43 €
2. Year	7.157.478,91 €	0,07	501.023,52 €	795.275,43 €
3. Year	6.362.203,47 €	0,07	445.354,24 €	795.275,43 €
4. Year	5.566.928,04 €	0,07	389.684,96 €	795.275,43 €
5. Year	4.771.652,61 €	0,07	334.015,68 €	795.275,43 €
6. Year	3.976.377,17 €	0,07	278.346,40 €	795.275,43 €
7. Year	3.181.101,74 €	0,07	222.677,12 €	795.275,43 €
8. Year	2.385.826,30 €	0,07	167.007,84 €	795.275,43 €
9. Year	1.590.550,87 €	0,07	111.338,56 €	795.275,43 €
10. Year	795.275,43 €	0,07	55.669,28 €	795.275,43 €
Total Interest Paid:			3.061.810,42 €	
TOTAL				7.952.754,34 €

Investment Analysis

Self Cost in 1-10 Years

Total Capacity(in kWh p.a.) = 79.200.000 kWh/a

Description	1. Year/Per kWh	1.Year	2.Year	3.Year	4.Year	5.Year
Utilization of Capacity (%100)	100%	100%	100%	100%	100%	100%
Produced Electricity (kWh/a)	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a
Item	Electricity Costs per kWh	Costs Per Year	Costs Per Year	Costs Per Year	Costs Per Year	Costs Per Year
Depreciation Costs	0,0182 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €
Financing Costs	0,0070 €	556.692,80 €	501.023,52 €	445.354,24 €	389.684,96 €	334.015,68 €
Labour Costs	0,0025 €	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €
Raw Material & Utilities	0,2605 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €
Sum of Costs		22.828.024,85 €	22.772.355,57 €	22.716.686,29 €	22.661.017,01 €	22.605.347,73 €
Cost per kWh	0,2882 €	0,2882 €	0,2875 €	0,2868 €	0,2861 €	0,2854 €

Description	6.Year	7.Year	8.Year	9.Year	10.Year
Utilization of Capacity (%100)	100%	100%	100%	100%	100%
Produced Electricity (kWh/a)	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a	79.200.000 kWh/a
Item	Costs Per Year	Costs Per Year	Costs Per Year	Costs Per Year	Costs Per Year
Depreciation Costs	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €
Financing Costs	278.346,40 €	222.677,12 €	167.007,84 €	111.338,56 €	55.669,28 €
Labour Costs	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €
Raw Material & Utilities	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €
Sum of Costs	22.549.678,45 €	22.494.009,17 €	22.438.339,89 €	22.382.670,61 €	22.327.001,33 €
Cost per kWh	0,2847 €	0,2840 €	0,2833 €	0,2826 €	0,2819 €

**Total
Costs
10 Years**

Investment Analysis

Turnover/Revenue

Year	Output	Price Per kWh	Turnover / Revenue
1	79.200.000 kWh/a	0,078 €	6.169.680,00 €
2	79.200.000 kWh/a	0,078 €	6.169.680,00 €
3	79.200.000 kWh/a	0,078 €	6.169.680,00 €
4	79.200.000 kWh/a	0,078 €	6.169.680,00 €
5	79.200.000 kWh/a	0,078 €	6.169.680,00 €
6	79.200.000 kWh/a	0,078 €	6.169.680,00 €
7	79.200.000 kWh/a	0,078 €	6.169.680,00 €
8	79.200.000 kWh/a	0,078 €	6.169.680,00 €
9	79.200.000 kWh/a	0,078 €	6.169.680,00 €
10	79.200.000 kWh/a	0,078 €	6.169.680,00 €

- Note that the price (per kWh) is fixed and determined by the law (EEG)

Turnover/Revenue

Investment Analysis

Cash Flow 1-10 Years

Description	1. Year	2. Year	3. Year	4. Year	5. Year
Turnover/Revenue	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €
Depreciation Costs	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €
Labour Costs	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €
Raw Material & Utilities	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €
Financing Cost	556.692,80 €	501.023,52 €	445.354,24 €	389.684,96 €	334.015,68 €
Loss Carried Forward	0,00 €	16.658.344,85 €	33.261.020,43 €	49.808.026,72 €	66.299.363,73 €
Profit Before Tax	-16.658.344,85 €	-33.261.020,43 €	-49.808.026,72 €	-66.299.363,73 €	-82.735.031,47 €
Taxes (40%)	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €
Profit After Tax	-16.658.344,85 €	-33.261.020,43 €	-49.808.026,72 €	-66.299.363,73 €	-82.735.031,47 €
Cash-Flow	-15.218.612,80 €	-31.821.288,38 €	-48.368.294,67 €	-64.859.631,68 €	-81.295.299,42 €
Repayment Credit	795.275,43 €	795.275,43 €	795.275,43 €	795.275,43 €	795.275,43 €
Dividend	-16.013.888,24 €	-32.616.563,81 €	-49.163.570,10 €	-65.654.907,12 €	-82.090.574,85 €

Cash-Flow Years 1 to 5

Investment Analysis

Description	6. Year	7. Year	8. Year	9. Year	10. Year
Turnover/Revenue	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €	6.169.680,00 €
Depreciation Costs	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €	1.439.732,05 €
Labour Costs	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €	200.000,00 €
Raw Material & Utilities	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €	20.631.600,00 €
Financing Cost	278.346,40 €	222.677,12 €	167.007,84 €	111.338,56 €	55.669,28 €
Loss Carried Forward	82.735.031,47 €	99.115.029,92 €	115.439.359,09 €	131.708.018,98 €	147.921.009,59 €
Profit Before Tax	-99.115.029,92 €	-115.439.359,09 €	-131.708.018,98 €	-147.921.009,59 €	-164.078.330,92 €
Taxes (40%)	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €
Profit After Tax	-99.115.029,92 €	-115.439.359,09 €	-131.708.018,98 €	-147.921.009,59 €	-164.078.330,92 €
Cash-Flow	-97.675.297,87 €	-113.999.627,04 €	-130.268.286,93 €	-146.481.277,54 €	-162.638.598,87 €
Repayment Credit	795.275,43 €	795.275,43 €	795.275,43 €	795.275,43 €	795.275,43 €
Dividend	-98.470.573,30 €	-114.794.902,47 €	-131.063.562,36 €	-147.276.552,98 €	-163.433.874,31 €
Total Dividend Cumulated Over 10 Years					-163.433.874 €

Cash-Flow Years 6 to 10

Conclusion

- Unfortunately no business case identified for small (or big) biofuel power plant based on this model!
- Why do we deviate so much from offers from competitors?
- Main issue:
 - ▣ **Electrical efficiency overestimated** in analysed competitor's business cases
- Other issues:
 - ▣ Underestimated Rapeseed oil cost
 - ▣ Overestimated subsidies (all BHKWs together form one single plant)
 - ▣ Underestimated BHKW lifetime & maintenance cost
 - ▣ Honesty? (See press reports on GFE)



Way Forward



- Make use of BHKW heat
 - ▣ To reach ~80-90% total efficiency
- Make it smaller
 - ▣ EEG subsidies are more favorable for small/medium size installations
- We have identified a suitable project requiring such combined heat and electricity generation. We will now present our **new project**, making use of the **competence** we have **build up** with Belenos Business Plan.

Förderverein Kleinschwimmhalle Frohdorf e.V.

A BHKW-Powered
Swimming Pool in NRW





The challenge

Frohdorf Swimming Pool is in trouble

- The 25 m swimming pool in Frohdorf, a village of 9 000 people, is threatened with imminent closure. It was built 20 years ago and is in dire need of renovation. Visitor numbers have fallen off in recent years to 40,000 as the pool has become less attractive. The pool is subsidised by local government with 1 50 000 Euro per year and earns 1 50 000 Euro from visitor receipts.
- A new heating system is urgently needed.
- Further **improvements**: development of **sauna** area in currently unused coal cellar.
Installation of underwater **lighting and counter current** system.
- Local government intends to save money by closing the pool.
- A “Förderverein” will be formed to run pool without subsidy from local government. The pool will be run largely by **volunteers**.



Organisational Form

**KF Power
Service GmbH
to run Power
Management
for the
Swimming
Pool**

- Förderverein Kleinschwimmhalle Frohdorf eV.
- Founding meeting already has taken place. Already 1500 members.
- Power Management (heat and electricity) is delegated to the **KF Power Service GmbH**. Contract between FKF and KF Power Service regulates this. This arrangement isolates the FKF from the main business risks.
- KF Power Service GmbH to be set up as a company offering services to FKF. To finance heat and electricity, FKF has committed to allocate 2/3 (67%) of its revenue to KF Power Service for the next 10 years, duration of the service contract.
- The rest of the renovation and investment program (Sauna, etc...) as well as the other running cost will be covered by the remaining 33% of the revenue. To make this possible, most of the renovation work as well as daily operations will be handled by already identified volunteers from FKF.

Market Research

- There is no other swimming pool in the area (<20 km)
- A questionnaire to 300 persons living in Frohdorf, investigating interest and willingness to pay and to contribute to running the swimming pool, has validated the concept and the following assumptions:
 - Membership costs 7 Euro for single person, 13 Euro for family/month.
 - Membership receipts: estimate 10 000 Euro/month = 120 000 Euro
 - Increase of membership number up to 3000 => 240 000 Euro.
 - Members get free swimming.
- Assume 20,000 guest visitors per year giving us earnings of 60 000 Euro (3 Euro entrance fee).



KF Power Service GmbH

- KF Power Service will be owned by FKF e.V. members. Membership is a prerequisite to be invited to take a share of KF Power Service.
- Technical requirements and operating mode:
 - ▣ BHKW running with rapeseed oil
 - ▣ Running 24h 300 days/year
 - Combined heat and electricity (100 kW/75 kW)
 - 14 hours/day -> 100 kW pool heating, 50 kW electricity consumption, remaining 25 kW sold to local energy utility
 - 8 hours/day -> 100 kW heating energy stored in a 20 000 l tank, most of 75 kW electricity sold to local energy utility
 - ▣ Maintenance and supervision subcontracted 500 hours/year
 - ▣ Free renting from FKF for the cellar where the BHKV will be installed



Investment Analysis KF Power Service GmbH

Item Description	Qty	Item Unit	Unit Cost	Total Cost	Depreciation	Cost of Depreciation
			(EUR)	(EUR)	Time (Yrs)	(EUR)
BHKW including Installation	1	Set	75.000,00	75.000,00	10,00	7.500,00
Tank 20 000 l and heat exchangers including installation	1	No	50.000,00	50.000,00	10,00	5.000,00
Other material	1	Set	5.000,00	5.000,00	10,00	500,00
TOTAL				130.000,00		13.000,00

Investment and Depreciation Cost

Investment Analysis KF Power Service GmbH

Total Investment	130.000,00
40% shareholder capital	52.000,00
60% bank loan	78.000,00

Financing & Interests Paid

Financial Year	Balance of Debt (EUR)	Interest %	Cost of Interest (EUR)	Installment (EUR)
1	78.000,00	7,00%	5.460,00	7.800,00
2	70.200,00	7,00%	4.914,00	7.800,00
3	62.400,00	7,00%	4.368,00	7.800,00
4	54.600,00	7,00%	3.822,00	7.800,00
5	46.800,00	7,00%	3.276,00	7.800,00
6	39.000,00	7,00%	2.730,00	7.800,00
7	31.200,00	7,00%	2.184,00	7.800,00
8	23.400,00	7,00%	1.638,00	7.800,00
9	15.600,00	7,00%	1.092,00	7.800,00
10	7.800,00	7,00%	546,00	7.800,00
			30.030,00	78.000,00

Investment Analysis KF Power Service GmbH

Consumption Expenditures				
Type	Qty	Unit	Unit Cost	Total Cost
Fuel (Rapeseed oil) (20 l per h)	175.200	liter	1	175.200,00

Running Costs for Electricity & Heat Production

Personnel Costs				
Post	Qty	Unit	Unit Cost	Total Cost
BHKW Supervision & Maintenance	500	hours	50	25.000,00

Personnel Cost

Investment Analysis KF Power Service GmbH

Item Description	Qty	Item Unit	Unit Cost (EUR)	Total Cost (EUR)
Subscription fees members	0,67%		240.000,00	160.800,00
Entrance fees visitors (67% of 20 000)	13.400	No	3,00	40.200,00
Electricity working hours (14h*300 days)	105000	kWh	0,21	21.703,50
Electricity closed hours (10h*300 days)	225000	kWh	0,21	46.507,50
TOTAL				222.703,50

Revenue

Investment Analysis KF Power Service GmbH

Cash Flow Calculation					
	1 year	2 year	3 year	4 year	5 year
Total expected revenue	222.703,50	222.703,50	222.703,50	222.703,50	222.703,50
Depreciation	13.000,00	13.000,00	13.000,00	13.000,00	13.000,00
Cost of Interest	5.460,00	4.914,00	4.368,00	3.822,00	3.276,00
Consumption Expenditure	175.200,00	175.200,00	175.200,00	175.200,00	175.200,00
Personnel Costs	25.000,00	25.000,00	25.000,00	25.000,00	25.000,00
Total Costs	218.660,00	218.114,00	217.568,00	217.022,00	216.476,00
Profit without tax	4.043,50	4.589,50	5.135,50	5.681,50	6.227,50
Tax 40%	1.617,40	1.835,80	2.054,20	2.272,60	2.491,00
Profit after tax	2.426,10	2.753,70	3.081,30	3.408,90	3.736,50
Cash Flow					
Net profit + depreciation	15.426,10	15.753,70	16.081,30	16.408,90	16.736,50
Installment	7.800,00	7.800,00	7.800,00	7.800,00	7.800,00
Dividend	7.626,10	7.953,70	8.281,30	8.608,90	8.936,50
Shareholder capital: 52.000,00					
Interest made on equity (%)	14,67	15,30	15,93	16,56	17,19
Cumulated dividend	7.626,10	15.579,80	23.861,10	32.470,00	41.406,50

Cash-Flow Years 1 to 5

Investment Analysis KF Power Service GmbH

Cash Flow Calculation					
	6 year	7 year	8 year	9 year	10 year
Total expected revenue	222.703,50	222.703,50	222.703,50	222.703,50	222.703,50
Depreciation	13.000,00	13.000,00	13.000,00	13.000,00	13.000,00
Cost of Interest	2.730,00	2.184,00	1.638,00	1.092,00	546,00
Consumption Expenditure	175.200,00	175.200,00	175.200,00	175.200,00	175.200,00
Personnel Costs	25.000,00	25.000,00	25.000,00	25.000,00	25.000,00
Total Costs	215.930,00	215.384,00	214.838,00	214.292,00	213.746,00
Profit without tax	6.773,50	7.319,50	7.865,50	8.411,50	8.957,50
Tax 40%	2.709,40	2.927,80	3.146,20	3.364,60	3.583,00
Profit after tax	4.064,10	4.391,70	4.719,30	5.046,90	5.374,50
Cash Flow					
Net profit + depreciation	17.064,10	17.391,70	17.719,30	18.046,90	18.374,50
Installment	7.800,00	7.800,00	7.800,00	7.800,00	7.800,00
Dividend	9.264,10	9.591,70	9.919,30	10.246,90	10.574,50
Shareholder capital: 52.000,00					
Interest made on equity (%)	17,82	18,45	19,08	19,71	20,34
Cumulated dividend	50.670,60	60.262,30	70.181,60	80.428,50	91.003,00

Cash-Flow Years 6 to 10

Conclusion



- We need 52.000 Euro
- FKF members wishing to invest in KF Power Service GmbH will make a very profitable investment!
- And can be proud to support green energy!



Back-Up Slides

- Selected Quotes from EEG

Renewable Energy Sources Act, EEG

Section 27 Biomass

(1) The tariff paid for electricity from biomass within the meaning of section 64(1) first sentence no. 2 of the Biomass Ordinance shall amount to

- **11.67 cents per kilowatt-hour for the first 150 kilowatts of output,**
- **9.18 cents per kilowatt-hour for output between 150 and 500 kilowatts,**
- **8.25 cents per kilowatt-hour for output between 500 kilowatts and 5 megawatts, and**
- **7.79 cents per kilowatt-hour for output between 5 and 20 megawatts.**
- Those quantities of vegetable oil methyl ester required as start-up, priming and supporting fuel shall be deemed to be biomass.

(2) Gas withdrawn from a gas network shall be deemed to be biomass where the thermal equivalent of the withdrawn quantity of such gas at the end of a calendar year corresponds to the quantity of gas from biomass fed into the gas network elsewhere within the territorial application of this Act.

(3) The entitlement to payment of a tariff shall exist for electricity

- from installations with a capacity of over 5 megawatts insofar as the electricity is from combined heat and power generation pursuant to Annex 3 to this Act,

- from installations which, along with biomass within the meaning of section 64(1) first sentence no. 2 of the Biomass Ordinance, also use other biomass, only insofar as the installation operator provides proof of which type of biomass is being used by keeping a record of the substances used with details and documentation of the type, quantity and unit, origin and lower calorific value per unit of the substance used.

- from installations which use gas withdrawn from a gas network within the meaning of subsection (2) above only insofar as the electricity is from combined heat and power generation pursuant to Annex 3 to this Act.

(4) The tariffs shall increase for electricity in accordance with subsection (1) above which is generated

- using **innovative technologies** pursuant to Annex 1 (technology bonus),
- from **energy crops** or manure pursuant to Annex 2 to this Act (bonus for electricity from energy crops), and
- **in combined heat and power generation pursuant to Annex 3 to this Act by 3.0 cents per kilowatt-hour (CHP bonus).**

Renewable Energy Sources Act, EEG

Bonus for electricity from energy crops

III. Positive List

The following shall be categorised as energy crops within the meaning of no. 1.1.a (Positive List):

- ...
- **rapeseed oil** and sunflower oil, each in their refined or unrefined state,
- palm oil and soya oil, refined or unrefined,
- ...

VI. Amount of the bonus

General bonus

- a) The bonus for electricity in accordance with no. 1 shall amount to
 - aa) **6.0 cents per kilowatt-hour for the first 500 kilowatts** of output in accordance with section 27(1) nos. 1 and 2, and
 - bb) 4.0 cents per kilowatt-hour for output between 500 kilowatts and 5 megawatts in accordance with section 27(1) no. 3.

II. Innovative installation technology

1. Eligibility criteria:

Entitlement to the technology bonus shall apply to electricity generated in one of the following installations or using one of the following technologies or procedures and where heat is used in accordance with Annex 3 or an electrical efficiency of **at least 45 per cent** is achieved:

- ...
- **c) gas turbines,**
- ...

2. Amount of the bonus

The technology bonus shall amount to **2.0 cents per kilowatt-hour.**

Renewable Energy Sources Act, EEG

The whole
Power Plant is
considered as
one
installation
=> reduced
subsidies

Section 19

Tariffs paid for electricity from several installations

- (1) Several installations shall be **classified as one installation, notwithstanding ownership**, and solely for the purpose of determining the tariff to be paid for the latest generator commissioned where
 - ▣ they are located on the same plot of land or are otherwise in direct spatial proximity,
 - ▣ they generate electricity from the same kind of renewable energy source,
 - ▣ the electricity generated in them is paid for in accordance with the provisions of this Act depending on the capacity of the installation, and
 - ▣ they were commissioned within a period of twelve consecutive calendar months.

- (2) Installation operators may bill electricity produced by several generators using the same kind of renewable energy source via a shared metering device. In such cases the capacity of each individual installation shall be relevant to the calculation of the tariffs, subject to subsection (1) above.