Business Plan The Concept Biogas Brålanda













The concept "Biogas Brålanda"

1. Executive summary

Until recently, studies and discussions about biogas production in Västra Götaland region and in Sweden as a whole have been based on large-scale biogas plants that depend upon transporting substrate with trucks or tractors to the plant (digester) and the residue back to the farms. This has proved very difficult to be profitable. The Biogas Brålanda concept is about creating a system that connects small farm-based biogas plants into a system so that larger amounts of energy can be produced. Connecting smaller farms' holdings by an infrastructure system is an innovation in biogas production. This concept replaces the need for transportation of digestate to the plant, as well as residues from the plant, and transports raw gas through a pipeline grid which in total has positive implications for the environment.

2. Innovative idea

Biogas Brålanda demonstrates a new and innovative way to achieve the economic benefits of a large-scale plant while maintaining the benefits of small-scale operations. Through the construction of an infrastructure system consisting of a gas grid, measuring equipment, biogas dryers, upgrading station and filling stations vehicle fuel can be produced from manure more effectively both from an environmental and transportation perspective than previously seen in Sweden or internationally. Instead of transporting substrate by vehicles to large digester plants, gas can be transported in a gas grid. Lesser quantities of gas can be gathered in an environmentally and energy effective manner to a gas grid and provide in total a large amount of gas. That means that small-scale biogas production at the farm level placed in a grid system can achieve the same economic benefits of a large-scale operation while maintaining the benefits of the small-scale operations. The system can also grow as new anaerobic digestion plants are connected.

3. SSCM analysis

The SSCM Analysis of the concept Biogas Brålanda is shown in Table 1 and 2. The analysis in the matrix has been seen as "living material" which is continuously being worked on. The value-chain for Biogas Brålanda begins with substrate and ends with the market for vehicle fuel.

The SSCM analysis addresses the various stages in the value chain by examining what improvements and what enablers are needed for these improvements. Even questions related to risk within the various areas have been addressed. In the economics section these risks have been highlighted via simulation of various changes in parameters, see point 4.3.6.



4. The business case

4..1 Operational Process

The operational process shown in figure 1 is simplified. From the farmers own digesting plant can the raw gas produced be channeled via local grid pipelines to a main stem that then leads to an upgrading station. A gas dyer, measuring equipment and an apparatus for increasing pressure is placed between the digesting plant and the main stem pipeline. After the raw gas reaches the central upgrading station, the raw gas is transformed to vehicle fuel which then continues through the main stem pipeline out to the filling stations and/or user.

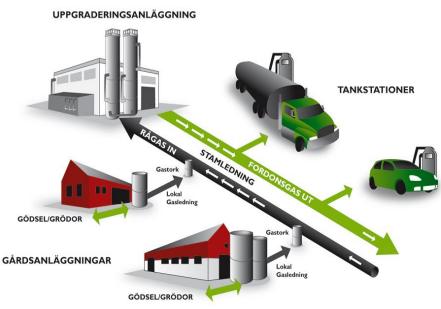


Figure 1

The Biogas Brålanda concept covers the entire value chain from manure to vehicle fuel. Because of this, the question becomes whether or not the amount of investment needed to make the price of the final product competitive with other vehicle fuels can still give enough return on investment. As it was initially apparent that the concept probably needed more commercial actors to cover the entire value chain a spreadsheet program was developed to calculate whether a competitive final price generated a sufficiently high internal rate of return (IRR) for the project. The spreadsheet is described in more detail by a report available on Innovatum's webpage ¹.

1) Link to Innovatum webpage:

www.innovatum.se/files/rapporter%20energi%20miljo/rapport%20kalkylverktyg_lönsamhetskalkyler ing%20biogastillämpningar%202009.pdf





Table 1

Sustainability indicator	Farmers	Manure	Energy crops	Organic waste	Transportation of feedstock	Biogas Plant		
Туре	Livestock farmers, crop farmers	Liquid and solid manure from beef, pig and poultry.	Clover and grass ley, maize, sugar beats, artichoke, whole grain seed, hemp.	Straw, tops from potatoes, peas and sugar beats, poor silage, chaff, household waste, slaughterhouse residues.	Pipes: Manure and liquid waste. Trucks:Dry substrate.	Wet digestion Dry digestion		
Targets	Improved knowledge about production of biogas amongst farmers. Farmers producing biogas for sale and for tractor fuel.	Production of biogas from manure in Fyrbodal. Improved knowledge about potential of manure.	Improved knowledge about potential for energy crops for digestion. Grow energy crops for biogas production.	Survey of organic waste potential in Fyrbodal. Improved knowledge about potential of organic waste for digestion.	Pipes: Improved knowledge about pumping manure/liquid waste long distance (up to 5 km) in pipes in the ground. Reduce traffic on roads. Develop effective pretreatment of the substrate before pumping. Efficient laying procedure of grids.	Improved knowledge about mixing substrates for digestion. Improve the organic load in the digester. Shorten residence time of the substrate in the digester. Smaller and more energy efficient biogas plants. Accessible service. More demonstrations plants.		
Environmental Aspect	Reduce methane emissions from manure. Produce own fertilizer in a natural cycle. environmentally friendly fuel.	Odors	Energy crops reduce the need of fertilizer since the nutrition in the crop is recycled to the soil through the residues.	The raw material exists and through digestion energy is produced and the residues gives a supplement of plant nutrition.	Pipes: No fossil fuel consumption. Pipes: Reduced traffic on roads which leads to less traffic noise.	Converts the substrate to high energy methane gas and, for the plants, readily available nutrition which replace commercial fertilizer.		
cycle. Produce environmentally friendly fuel. Social Aspect Poor knowledge about biogas amongst farmers leads to less willing to take risks (want economic security). Main Existing or Potential Barriers Poor knowledge, new and unknown enterprise, few demonstration plants or farm plants to get inspiration from. Possible Enablers Workshops, information etc in order to improve technical								
	sting or Potential Poor knowledge, new and unknown enterprise, few demonstration plants or farm plants to get inspiration from. Low energy exchange, lar volumes, geographically lo distances between farms. Enablers Workshops, information etc in order to improve technical Survey of manure potentia Fyrbodal and where the far		Production cost	Limited access	Poor knowledge about pumping manure/liquid waste in long pipes. Few demonstration plants.	High investment cost. High energy cost. Technology is not suited for smaller biogas plants. Few demonstration plants.		
Possible Enablers		Survey of manure potential in Fyrbodal and where the farms are situated and how to get an efficient collection of manure.	Survey of potential area for energy crops in Fyrbodal. More efficient production of energy crops. Growing nitrogen fixation crops gives self produced nitrogen. More efficient logistics.	Survey of organic waste potential in Fyrbodal.	Develop technplogy for pumping manure/liquid waste long distance in pipes in the ground.	Developing energy efficient turn-key Swedish-made biogas plants. Establish service chains in Sweden. Advice and research. Calculation tools.		
Possible Economic Benefits	income source, economic security, new funding opportunities. Calculation tool.		Higher price. State support for growing energy crop.	Increased gas exchange. Increased plant nutrition access. Reception and processing fee.	Lower cost. Investment support.	New forms of financing. Investment support.		
Possible Technological Benefits	Calculation tool. ible Technological fits More biogas plants as demonstrations objects. pure and		Pretreatment of straw products for better exploitation of biogas.	Efficient sanitation. Pretreatment of straw products for a better exploitation of biogas.	Pumping technology for manure and liquid waste.	Efficient heat exchanger, heat pump, sanitisation of biogas plants on farm level. Digestion of dry substrate.		
Level units Indicator	profitable biogas production. enefits Make money, business plans, new income source, economic security, new funding opportunities. Calculation tool. Support for climate biogas plants as demonstrations objects. al More biogas plants as demonstrations objects. Develop technology pumping manure lon and composition of not solve to produce biogas. Numbers of participating farmers. Ton Farmers who want to produce biogas. Ton manure available digestion.		hectare Numbers of hectares for potential energy crop with regard to feed and food production.	Ton Ton organic waste available for biogas production.	Km Distance for transportation of feedstock.	Euro/kWh Production cost		
Stakeholders	Biogas Dalsland (co-operative of farmers) Project advisory service (Innovatum)	Farm enterprises Advisory sevice companies Project advisory service (Innovatum)	Farm enterprises Advisory service companies Project advisory service (Innovatum)	Farm enterprises, Advisory service companies, Board of Agriculture, County Board, Local municipalities, Organic farming organization, project advisory service (Innovatum)	Farm enterprises. Equipment suppliers, machine stations, contractors for laying grids, transport companies, County Board, local municipalities, landowners, Land Survey Board, service companies, project advisory service (Innovatum).	Farm eterprises, equipment suppliers, contractors for laying grids, Board of Agriculture, County Board, local municipalities, service companies, project advisory service (Innovatum).		

Table 2	Т	a	b	le	2
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Sustainability indicator	Distribution and use of residues	Distribution of biogas	Upgrading Plant	Fuel stations	Vehicles	Market Individuals, business cars, companies, public service, bus companies, distribution companies, taxi All vehicles in public sector in Fyrbodal shall use biogas as fuel.		
Туре	Liquid residues in pipes.	Gas grid	Waterscrubber, membrane technique, cryogenic upgrading	Compressed gas, liquid methane.	Passenger cars, vans, buses, trucks, construction machinery, tractors, service vehicles at airports and other logistics center.			
Targets	Pumping the residues from biogas plant to the field. Maximum utilization of plant nutrients in the residues.	Improved knowledge about pumping gas in grids. Efficient laying procedure of the gas grid. More efficient drying of the gas. Energy efficient compressors. Joint laying of the gas grid with other infrastructure.	Several joint large-scale upgrades in grids. Several small upgrades at the farm level. Several Cryogenics upgrades.	More fuel stations for biogas. More fuel stations for heavy vehicles. More fuel stations with liquid methane. More smaller fuel stations for locations with limited amount of vehicles.	More passenger cars, vans, trucks and buses driven by biogas.			
Environmental Aspect	the manure. grid (instead of transport on roads). Increased availibility of plant nutrients. Less nitrogen leaching to watercourses from digested manure and residues. Reduced odors. Reduced odors. ial Aspect High investment costs.		Reduced methane emissions at the plant.	The most environmentally friendly vehicle fuel. Reduces greenhouse gas emissions by 80-140 % compared to petrol and diesel.	The most environmentally friendly vehicle fuel. Reduces greeenhouse gas emissions by 80-140 % compared to petrol and diesel. Quieter engines.	The most environmentally friendly vehicle fuel. Reduces greenhouse gas emissions by 80-140 % compared to petrol and diesel.		
Social Aspect				Fuel stations should be built easily accessible, with good service range.				
Main Existing or Potential Barriers	Not permitted to use digested slaughterhouse residues as fertilizer in organic farming. High investement cost.	Few demonstrations plants. No established infrastructure for distribution.	Small upgrading plants have too high investment and operating costs.	High investment cost. No existing fuel stations for liquid methane. Few fuel stations for heavy vehichles.	Very limited selection of vans, buses and heavy vehicles driven on biogas. Availability of biogas.	Too small production volume o biogas. Poor knowledge on biogas and its advantages.		
Possible Enablers	change regulations about what is permitted in organic farming. Separation of the residue if it is to be transported long distances.of the gas grid.Efficient and energy-saving distribution.Inventory of infrastructure investments for pipelines in Fyrbodal.		Cryogenic upgrading gives liquid methane, liquid carbon dioxide.	Develop less expensive fuel stations, smaller fuel stations and fuel stations for liquid methane.	Development of heavy vehicles and buses with Duel-Fuel technology. Joint procurements to get manufacturers to develop more vehicles driven on biogas.	Information about biogas, workshops, joint procurements Accessible stations with good service. User-friendly vehicles with long range. No CO2-tax or energy tax. Reduced benefit value for company cars. Not more expensive than fossi fuels. More easily used tank nozzles Faster refueling of heavy vehicles. Service friendly.		
Possible Economic Benefits Increased nutrient availability. Lower distribution cost. Investment support.		Support for the establishment of new infrastructure.	Lower price. Investment support.	No CO2-tax or energy tax.	Availability of biogas.			
Possible Technological Benefits	Lower dry matter content. More efficient distribution technique. More efficient distribution technique. More efficient drying equipr designed for smaller plants Energy-efficient compresso and fans.		Energy efficient plants. Smaller plants.	Small fuel stations of about 100 000 m3/year. Technology for fuel stations for liquid methane.	Smaller engines with higher efficiency. Duel fuel engines for heavy vehicles and buses. Lighter tanks for biogas. Service friendly.			
Level units	Hectare	m3/meters	m3	Pieces	Pieces, Gram CO ₂ /km	CO ₂ -equivalent		
Indicator	Access to distribution area. Numbers of m3/meter grid Farm enterprises, equipment suppliers, contractors for laying grids, Board of Agriculture, County Board, local municipalities, landowners, Land Servey Board, project advisory service (Innovatum). Grid company (Nätaktiebolaget Biogas Brålanda), equipment suppliers, contractors for laying grids, County Board, local municipalities, landowners, Land Servey Board, project advisory service (Innovatum).		Numbers of m3 upgraded biogas.	Numbers of fuel stations.	Numbers of sold vehicles. Emissions	Reduces of greenhouse gas emissions		
Stakeholders			Operating company (Biogas Brålanda AB), equipment suppliers, contractors for laying grids, County Board, local municipalities, service companies, project advisory (Innovatum).	Energy companies, operating companies (Biogas Brålanda AB), equipment suppliers, contractors for laying grids, County Board, local municipalities, service companies, project advisory service (Innovatum).	Manufacturers, buyers and sellers of vehicles. Conversion companies, service companies, project advisory service (Innovatum).	Individuals Companies Public sector, Project advisory service (Innovatum)		

The value chain is divided into different "modules" for which investment requirements, operating and maintenance costs are specified. The different modules are: digestion plants, local gas pipelines, measuring equipment, gas dryers, instruments for pressure elevation, grid lines (raw gas in - vehicle fuel out), upgrade facilities and filling stations.

By linking all the modules in the value chain and summing up the needs for investment, operation and maintenance costs it was possible to estimate the price of the vehicle fuel required to achieve a certain IRR.

The calculation model also calculated the input and retail price for each module, Figure 2, which was required to achieve the desired IRR for the module.

When the calculations yielded returns / IRR from each module that was put in and thus a selling price per Nm³ of methane gas could be seen, it became a good basis for discussions / negotiations between stakeholders.

The Biogas Brålanda concept concentrated on making it possible for the resulting surplus to be distributed in proportion to capital invested and at the level of risk this was happening.

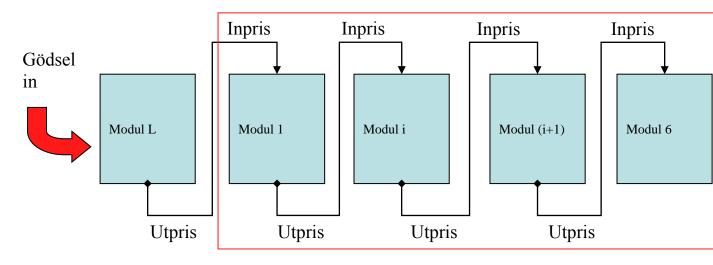


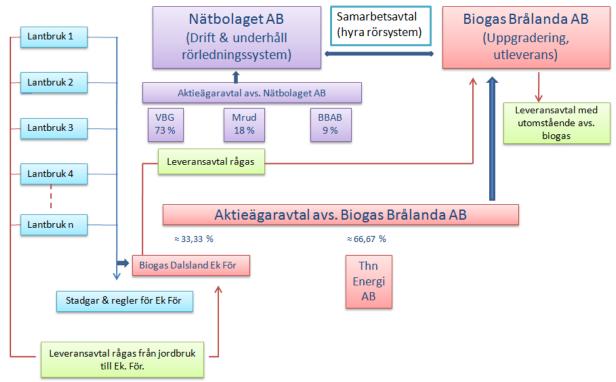
Figure. 2

4.2 Organizational Structure

When it became evident that a satisfactory internal rate with a competitive retail price to consumers could be achieved, a discussion began around how the different modules would be shared among stakeholders. The result of these discussions was the forming of an economic association by farmers who would be owners of the digestion plants on the different farms. As well another company was formed, a "network/grid company", to take charge of the gas pipelines, measures equipment solutions, biogas wiper and instruments for pressure elevation. In addition, a third company, an "operating/service company", was formed to take care of the upgrading plant and distribution facilities.



When it was concluded how the value chain could be organized into companies and the total deal could be prosperous, negotiations over the economic agreements of the forming companies began. Due to the fact that the value chain consisted of different modules with their investment needs, operation and maintenance costs it was possible with the help of the spreadsheet model to calculate how the final price could be distributed between the modules. If the various "companies" worked with different risks it would be possible to take this into account in the calculation model by setting a risk associated with internal rate per module. However, it would be limited to the fact that the final price was determined.



The negotiations resulted in the organization structure shown in Figure 3.



The organizational structure of Biogas Brålanda, seen in Figure 3, contains three companies: Biogas Dalsland Economic Association, Nätbolaget AB and Biogas Brålanda AB. Biogas Dalsland represents farmers who supply the raw gas to the grid. Nätbolaget AB is owned by the municipalities of Vänersborg (73 %) and Mellerud (18 %) as well as Biogas Brålanda AB (9 %). Biogas Brålanda AB is two thirds part-owned by Trollhättan Energy AB and the remaining third by Biogas Dalsland. With this structure we can see that the farmers through Biogas Dalsland Economic Association have a direct or indirect ownership in all companies. It was an approach from the beginning of the project Biogas Brålanda that farmers would participate in the business opportunities in a greater capacity than just delivering raw gas.

The different farmers have supply agreements for their produced raw gas with Biogas Dalsland Economic Association which in turn has a supply agreement for the farmer's raw gas with Biogas Brålanda AB. Biogas Brålanda AB hires local gas pipelines,



measuring equipment, gas dryers, appliances for pressure increase and the grid pipelines from Nätbolaget AB. Biogas Brålanda AB upgrades the raw gas in its upgrading plant and then distributes the vehicle fuel to filling stations or other outside parties.

4.3 Financial Plan

4.3.1 Pre-requisites for Calculation

The calculations span over 20 years and are made at current price levels with an assumed price and cost inflation of 2% per year. As a prerequisite for the calculation estimates, a hypothetical sale price of the vehicle fuel been used. With this sale price as a starting point, the IRR has then been calculated for investments including the farmers own companies. This IRR has then been applied to the different modules in order to determine the input and output prices between modules, Figure 2. This is to see which inputs and output prices you get if all the modules provide the same return. Depending on the different levels of risk for the different modules the IRR can, within the context of the overall internal rate of return, be divided between the different modules.

It should be noted that the following figures on investment, revenues, expenses and profitability is not a final costing and only shows the size of these at a certain stage in the project Biogas Brålanda. The commercialization of the project Biogas Brålanda is currently ongoing by the three formed companies.

4.3.2 Investment

The different modules investment costs and accepted lifespan can be seen in the table below.

For investments with shorter lifespan than 20 years reinvestment occurs. When IRR is calculated, investments with lifespan that goes beyond the calculations assigned span of 20 years, a residual value corresponding to the investment module's residual-bearing life in relation to the life span occurs.

The calculation is based on the assumption that you can borrow up to 70% of the investment amount.

	Investment	Lifespan
Module	MSEK	years
Digesting Plant	50,4	20
Local gas grid	8,1	30
Measuring instruments/pressure elev	ation 3,6	10
Gas Dryer	2,7	15
Main stem pipeline	17,5	30
Upgrading Station	12,0	10
Filling Station	9,2	10
Project Leading	2,0	-
Totalt ¹	105,5	



1) Investments before state funding

4.3.3 Incomes

When calculating the total cost estimate, the revenue of the produced gas quantity is multiplied by the assumed price of the vehicle fuel. Figure 4 shows a 20 year period of revenues, variable costs, depreciations, interests and results.

When allocating the total cost estimates for the three companies, an assessment over how the volumes developed at the beginning of the project has also been done. When calculating the revenues for the three different companies, the modules in and out prices are used to determine the income and costs.

Attachment 1 shows an example of an income statement and balance sheet with a cash flow statement for the operating company that later comes to be Biogas Brålanda AB. Corresponding income statement, balance sheet and cash flow statement exists for the farmers and the Nätbolaget AB.

4.3.4 Expenses

For all the modules, the types of costs for management, human resources, environmental measurements, substrate costs, maintenance costs, running costs, electricity and heating demand have been included and have been assigned a value, where relevant. For the different companies, also other types of costs occur.

4.3.5 Profitability

Profitability is calculated here as IRR for 20 years and amounts to about 12%. The cumulative cash flow for the three companies becomes positive after about 9 - 14 years. The state contribution is 30% of the investment costs. Contributions are not obtained for project management and commercial filling stations. The grants are used to direct depreciation of investment costs.

4.3.6 Risk Analysis

To get a better grasp of the economic risks in the project, it was examined how IRR was affected by changes in various parameters both at the overall level and also for the various companies.

Simulation of Biogas Brålanda AB (operating company) shows how the IRR is affected by different values of the volume and level of investment in Figure 5. Examples of simulations conducted at the overall level and for the various companies were of the type:

The IRR's influence of changes in:

- price of raw gas and the price of the vehicle fuel
- volume and administration and general expenses
- volume and level of investment
- volume and price increases beyond inflation for energy related products

enercoa

• administrative and other general costs



INNOVATUM TEKNIKPARK

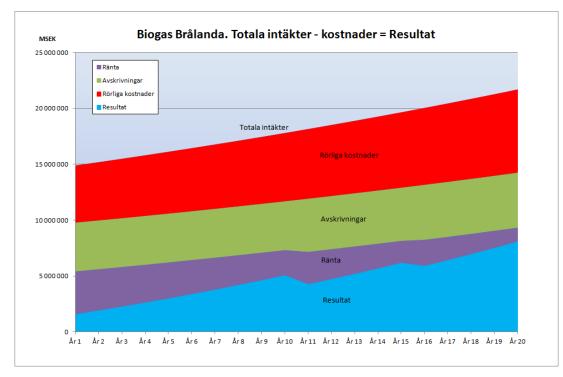
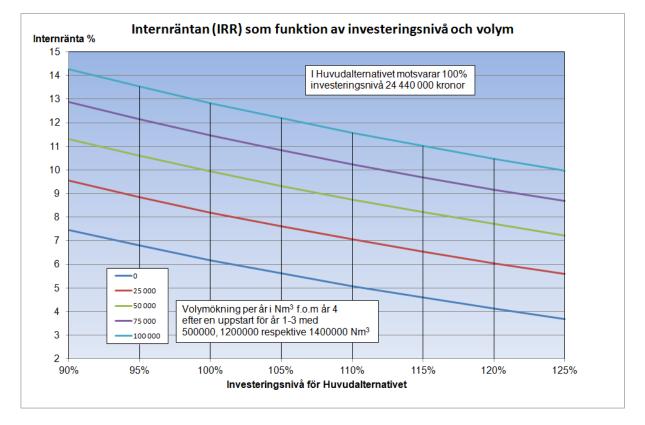


Figure. 4







Attachment 1

DRIFTBOLAG AB.																					
Pris- och kostnadsinflation	2,0%		Försäljningspris,	gae personbil	Pris exkl moms 8.59 kr	Pris inkl moms 10.74 kr		Andel försåld up	paraderad ase	0,0%											
Prisökning biogas utöver inflation	0,0%		Försäljningspris,	gas, Bussar	7,78 kr	9,73 kr		Antal år som för	saljning pågår	0											
			Försäljningspris,	uppgrad. Gas	6,17 kr	7,71 kr		Andel gas till pe	rsonbilar	15,0%											
RESULTATRÄKNING	År 0	År 1	År 2	År 3	År 4	År 5	År 6	År 7	År 8	År 9	År 10	År 11	År 12	År 13	År 14	År 15	År 16	År 17	År 18	År 19	År 20
Intäkter Försäljning gas																					
Omgång 1, 2, 3 och 4 (4, 9, 14 och 18)		3 258 516	7 478 294	12 050 864	15 803 848	16 119 925	16 442 323	16 771 170	17 106 593	17 448 725	17 797 700	18 153 654	18 516 727	18 887 061	19 264 803	19 650 099	20 043 101	20 443 963	20 852 842	21 269 899	21 695 297
Försäljning Uppgraderad gas Summa intäkter	0	0 3 258 516	0 7 478 294	0 12 050 864	0 15 803 848	0 16 119 925	16 442 323	0 16 771 170	0 17 106 593	0 17 448 725	0 17 797 700	0 18 153 654	0 18 516 727	0 18 887 061	0 19 264 803	19 650 099	20 043 101	20 443 963	0 20 852 842	0 21 269 899	21 695 297
Rörelsens kostnader																					
Inköp, Uppgradering	0	-455 467	-1 045 298	-533 102	7 400 000	7 000 700	7 100 010	7.550.000	7 707 004	7 004 177	0.040.707	0.470.004		0.500.540	0.070.700			0.040.070	0.005.400	0.500.007	
Inköp, Rågas Administration	0	-1 491 043 -400 000	-3 421 944 -408 000	-5 429 485 -416 160	-7 120 382 -424 483	-7 262 790 -432 973	-7 408 045 -441 632	-450 465	-459 474	-7 861 477 -468 664	-8 018 707 -478 037	-8 179 081 -487 598	-8 342 662 -497 350	-8 509 516 -507 297	-8 679 706 -517 443	-8 853 300 -527 792	-9 030 366 -538 347	-9 210 973 -549 114	-9 395 193 -560 097	-9 583 097 -571 298	-9 774 759 -582 724
Kostnader, rörliga Nätavgifter	0	-687 896	-285 963 -1 578 721	-1 024 075 -2 504 905	-1 809 737 -3 285 004	-1 845 932 -3 350 704	-1 882 851 -3 417 718			-1 998 096 -3 626 909	-2 038 058 -3 699 448	-2 078 819 -3 773 437	-2 120 396 -3 848 905	-2 162 804 -3 925 883	-2 206 060 -4 004 401	-2 250 181 -4 084 489	-2 295 184 -4 166 179		-2 387 910 -4 334 492	-2 435 668 -4 421 182	-2 484 381 -4 509 606
Avskrivningar Summa rörelsens kostnader	0	-428 400 -3 462 807	-428 400 -7 168 327	-1 011 024 -10 918 751	-1 694 442 -14 334 048	-1 694 442 -14 586 840	-1 694 442	-1 694 442	-1 694 442	-1 694 442 -15 649 588	-1 694 442 -15 928 691	-1 821 154 -16 340 089	-1 821 154 -16 630 467	-1 821 154 -16 926 654	-2 023 296 -17 430 905	-2 023 296 -17 739 058	-2 023 296 -18 053 373	-2 023 296 -18 373 974	-2 159 681	-2 159 681 -19 170 927	-1 604 569 -18 956 040
	U																				
RÖRELSERESULTAT		-204 291	309 968	1 132 114	1 469 800	1 533 085	1 597 635	1 663 477	1 730 635	1 799 137	1 869 008	1 813 565	1 886 259	1 960 408	1 833 897	1 911 041	1 989 728	2 069 988	2 015 469	2 098 972	2 739 257
Finansiella intäkter o kostnader		45.000	02.004	44 500	05.440	5 700	22.44	CO 010	00.501	402.054	00.000	75 000	05.044	co. 004	20.020	50.000	04.003	11 000	2.000	21.010	64.000
Ränteintäkter, 4% Räntekostnader, 5%	-35 000	15 823 0	23 004 -287 028	-11 588 -691 090	-25 146 -937 716	5 762 -870 510	33 414 -799 944	-725 850		103 854 -566 363	89 502 -480 590	75 230 -390 528	95 811 -573 519	62 221 -479 899	32 530 -824 378	59 863 -730 211	84 503 -631 337	41 603 -527 518	3 251 -957 766	34 249 -860 414	51 360 -758 195
Finansiellt resultat ARETS RESULTAT	-35 000	15 823 -188 468	-264 024 45 943	-702 677 429 436	-962 862 506 938	-864 748 668 337	-766 530 831 105	-666 802 996 675	-565 488 1 165 147	-462 508 1 336 628	-391 088 1 477 920	-315 298 1 498 267	-477 708 1 408 551	-417 678 1 542 729	-791 848 1 042 049	-670 349 1 240 692	-546 834 1 442 894		-954 515 1 060 954	-826 165 1 272 806	-706 835
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BALANSRÄKNING	År 0	År 1	År 2	År 3	Ár 4	År 5	År 6	År 7	År 8	År 9	År 10	År 11	År 12	År 13	År 14	År 15	År 16	År 17	År 18	År 19	År 20
TILLGÅNGAR																					
Anläggningstillgångar Anläggning, anskaffn.värde	4 200 000	4 200 000	12 939 360	19 773 540	19 773 540	19 773 540	19 773 540	19 773 540	19 773 540	19 773 540	25 324 663	25 324 663	25 324 663	34 180 259	34 180 259	34 180 259	34 180 259	44 965 400	44 965 400	44 965 400	44 965 400
-ack. avskrivningar Summa Anläggningar	4 200 000	-428 400 3 771 600	-856 800 12 082 560	-1 867 824 17 905 716	-3 562 266 16 211 274	-5 256 708 14 516 832	-6 951 150 12 822 390	-8 645 592 11 127 948		-12 034 476 7 739 064	-13 728 918 11 595 745	-15 550 072 9 774 591	-17 371 226 7 953 437	-19 192 381 14 987 879	-21 215 677 12 964 583	-23 238 973 10 941 287	-25 262 269 8 917 991	-27 285 565 17 679 835	-29 445 246 15 520 154	-31 604 927 13 360 472	-33 209 496 11 755 903
	4 200 000	3771000	12 002 500	17 303 7 10	10 211 214	14 510 052	12 022 330	11 127 540	5455 500	1155 004	11 333 743	5774 551	1 333 431	14 301 013	12 304 303	10 541 207	0 517 551	11 013 033	13 320 134	13 300 472	11755 505
Omsättningstillgångar Kundfordringar		271 543	623 191	1 004 239	1 316 987	1 343 327	1 370 194	1 397 597	1 425 549	1 454 060	1 483 142	1 512 804	1 543 061	1 573 922	1 605 400	1 637 508	1 670 258	1 703 664	1 737 737	1 772 492	1 807 941
Kassa/Bank Summa omsättningstillgångar	205 000 205 000	786 159	564 024 1 187 215	-943 403 60 836	-113 895 1 203 092	602 007 1 945 334	1 268 701 2 638 895	1 883 721 3 281 318	2 444 476 3 870 026	2 948 249 4 402 309	1 726 846 3 209 988	2 234 657 3 747 461	2 755 904 4 298 964	555 153 2 129 075	1 271 330 2 876 731	1 921 815 3 559 323	2 503 316 4 173 575	-223 164 1 480 499	585 727 2 323 464	1 326 715 3 099 207	1 441 285 3 249 227
SUMMA TILLGANGAR	4 405 000	4 829 302	13 269 775	17 966 551	17 414 366	16 462 166	15 461 285	14 409 266	13 303 531	12 141 373	14 805 733	13 522 052	12 252 401	17 116 954	15 841 313	14 500 610	13 091 566	19 160 334	17 843 618	16 459 679	15 005 130
EGET KAPITAL och SKULDER																					
Eget Kapital Aktiekapital	1 500 000	1 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000
Balanserat Aktieägartillskott	0	223 468	177 524	-251 912	-758 850	-1 427 187	-2 258 292	-3 254 967	-4 420 114	-5 756 743	-7 234 663	-8 732 930	-10 141 481 8 732 930	-11 684 210 10 141 481	-12 726 259	-13 966 952	-15 409 846	-16 993 919	-18 054 872 16 993 919	-19 327 679 18 054 872	-21 360 101
Balanserat resultat Årets vinst	-35 000	-35 000 -188 468	-223 468 45 943	429 436	251 912 506 938	758 850 668 337	1 427 187 831 105	996 675	1 165 147	4 420 114 1 336 628	5 756 743 1 477 920	7 234 663 1 498 267	1 408 551	1 542 729	11 684 210 1 042 049	12 726 259 1 240 692	13 966 952 1 442 894	1 584 073	1 060 954	1 272 806	19 327 679 2 032 422
Summa Eget Kapital	1 465 000	1 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000
Skulder Leverantörsskulder	0	389 302	950 641	1 397 332	1 786 024	1 821 744	1 858 179	1 895 343	1 933 250	1 971 915	2 011 353	2 051 580	2 092 612	2 134 464	2 177 153	2 220 696	2 265 110	2 310 412	2 356 621	2 403 753	2 451 828
	U																				
Lân, 70% av investeringar -ack. amorteringar	2 940 000	2 940 000 0	9 057 552 -238 418	13 841 478 -772 259	13 841 478 -1 713 136	13 841 478 -2 701 056	13 841 478 -3 738 372		13 841 478 -5 971 196	13 841 478 -7 172 019	17 727 264 -8 432 884	17 727 264 -9 756 792	17 727 264 -11 067 475	23 926 182 -12 443 692	23 926 182 -13 762 021	23 926 182	23 926 182 -16 599 726		31 475 780 -19 488 782	31 475 780 -20 919 853	31 475 780
Summa Låneskulder Summa Skulder	2 940 000 2 940 000	2 940 000 3 329 302	8 819 134 9 769 775	13 069 219 14 466 551	12 128 342 13 914 366	11 140 422 12 962 166	10 103 105	9 013 923	7 870 282	6 669 458 8 641 373	9 294 380 11 305 733	7 970 472 10 022 052	6 659 789 8 752 401	11 482 490 13 616 954	10 164 160 12 341 313	8 779 914	7 326 456 9 591 566	13 349 922 15 660 334	11 986 997 14 343 618	10 555 926 12 959 679	9 053 302
SUMMA EGET KAPITAL och SKULDER		4 829 302	13 269 775	17 966 551	17 414 366	16 462 166	15 461 285	14 409 266		12 141 373	14 805 733	13 522 052	12 252 401	17 116 954	15 841 313	14 500 610	13 091 566			16 459 679	15 005 130
KASSALIKVIDITET	Âr 0	År 1	Âr 2	År 3	Âr 4	År 5	År 6	År 7	År 8	År 9	År 10	År 11	År 12	År 13	År 14	År 15	År 16	År 17	År 18	År 19	År 20
Rörelsen																					-
Årets resultat Avskrivningar	-35 000	-188 468 428 400	45 943 428 400	429 436 1 011 024	506 938 1 694 442	668 337 1 694 442	831 105	996 675 1 694 442	1 165 147 1 694 442	1 336 628 1 694 442	1 477 920 1 694 442	1 498 267 1 821 154	1 408 551 1 821 154	1 542 729 1 821 154	1 042 049 2 023 296	1 240 692 2 023 296	1 442 894 2 023 296	1 584 073 2 023 296	1 060 954 2 159 681	1 272 806 2 159 681	2 032 422 1 604 569
Förändring Kundfordringar Förändring Leverantörsskulder	0	-271 543 389 302	-351 648 561 339	-381 048 446 691	-312 749 388 691	-26 340 35 720	-26 867 36 435	-27 404 37 164	-27 952	-28 511 38 665	-29 081 39 438	-29 663 40 227	-30 256 41 032	-30 861 41 852	-31 478 42 689	-32 108 43 543	-32 750 44 414	-33 405	-34 073 46 208	-34 755 47 132	-35 450 48 075
Rörelsens Cash Flow	-35 000	357 692	684 034	1 506 104	2 277 323	2 372 159	2 535 115		2 869 544	3 041 224	3 182 719	3 329 985	3 240 481	3 374 875	3 076 556	3 275 424	3 477 853	3 619 266	3 232 770	3 444 865	3 649 616
Externt tillförda medel																					
Insatt aktiekapital Insatt(+)/Uttaget(-), aktieägare	1 500 000	0 223 468	2 000 000 -45 943	0 -429 436	0 -506 938	0 -668 337	-831 105	0 -996 675	0 -1 165 147	0 -1 336 628	0 -1 477 920	0 -1 498 267	0 -1 408 551	0 -1 542 729	0 -1 042 049	0 -1 240 692	0 -1 442 894	0 -1 584 073	0 -1 060 954	0 -1 272 806	0 -2 032 422
	0.010.011	223 400			500 530	300 331	001100	-550 075	1 105 147	, 330 020		1 400 201	. 400 001		, 042 043	, 240 032	. 442 034		, 000 534	1 212 000	2 052 422
Upptagna lån Amorteringar	2 940 000	0	6 117 552 -238 418	4 783 926 -533 841	0 -940 877	0 -987 920	-1 037 316	0 -1 089 182	0 -1 143 641	0 -1 200 823	3 885 786 -1 260 865	0 -1 323 908	0 -1 310 683	6 198 917 -1 376 217	0 -1 318 330	0 -1 384 246	0 -1 453 459	7 549 598 -1 526 131	0 -1 362 925	0 -1 431 071	0 1 502 625-
Använda medel																					
Investeringar	-4 200 000	0	-8 739 360	-6 834 180	0	0	(0	0	0	-5 551 124	0	0	-8 855 596	0	0	0	-10 785 140	0	0	0
KASSAFÖRÄNDRING/AR	205 000	581 159	-222 136	-1 507 427	829 508	715 902	666 694	615 019	560 755	503 773	-1 221 403	507 811	521 247	-2 200 750	716 177	650 485	581 501	-2 726 481	808 892	740 988	114 570
KASSA/BANK (Ack. Kassaförändring)		786 159		-943 403	-113 895	602 007	1 268 701	1 883 721	2 444 476	2 948 249	1 726 846	2 234 657	2 755 904	555 153	1 271 330	1 921 815	2 503 316	-223 164		1 326 715	1 441 285
																					Inkl Restvärden
CASH FLOW BERÄKNING	År 0 -4 200 000	År 1 224 109	År 2 -8 000 992	År 3 -4 691 042	År 4 3 164 242	År 5 3 227 527	År 6 3 292 077	År 7 3 357 919	År 8 3 425 077	År 9 3 493 579	År 10 -1 987 673	År 11 3 634 719	År 12 3 707 414	År 13 -5 074 034	År 14 3 857 193	År 15 3 934 337	År 16 4 013 024	År 17 -6 691 856	År 18 4 175 150	År 19 4 258 653	År 20 16 183 729
Ack. Cash Flow IRR FÖR 10 AR	1.7%	-3 975 891		-16 667 925	-13 503 683	-10 276 157	-6 984 080			3 292 495	1 304 822	4 939 541	8 646 955	3 572 920	7 430 113	11 364 450	15 377 474			17 119 421	33 303 150