In general

Attached are the data sheets for the different biogas plants that were visited on the overview of biogas plants that utilise manure as feedstock (June 6-8, 2006). This type of summary was chosen to allow for an easy comparison between the different technologies. Each data sheet also has a section describing the technologies or approach that made that plant unique. Additional service providers have also been added to the list.

Note that the cost of the individual plants should only be used as a guideline. Canadian cost structures can be very different and even the cost from German plant to German plant can vary considerably. The report should be used as a technology review.

I have also added a data sheet for PlanEt. I had visited their plants on a previous occasion.

Pasteurisation Step

The EU requires pasteurisation or sterilisation of organic food or food processing waste, if it is to be on agricultural land. This includes such feedstock as slaughter waste, food processing waste and expired packaged food. The pasteurisation requires that the substrate is heated to 70C for one hour. The heated material can then be directly put into the digester. Agricultural byproducts such as crop residuals or energy crops (corn silage) do not need to be pasteurised.

Note almost all "farm-scale" plants require no more than 1 hour of maintenance a day. Mostly to fill feeder hopper and for a quick visible check. Exceptions are the Krieg & Fischer plant that, due to its size and industrial capacity, has two full time staff. The Lipp plant requires that the feeder hopper is filled once every two days!

Electricity Feed-in Tariffs for Germany

The Renewable Energy Law in Germany ensured the growth of the biogas sector because it guaranteed two key elements.

First it set a minimum price for the green electricity that was generated. This guaranteed a rate of return for the investors. The prices were guaranteed for a fixed period of time, so that the subsidies could not continue for an indeterminate period of time.
The second element was the guaranteed access of green electricity to the grid. It required that the electricity companies create the infrastructure to any property where green electricity was produced (on the property itself, the owner assumed responsibility). The law set prices for wind energy, biogas and solar cell-based electricity generation. The additional costs generated by the guaranteed minimum prices were to be paid for by the consumers and not subsidised by the state. Hence the electrical companies would divide the added costs among all consumers. The government regularly checks the books of the electrical companies to ensure fairness.

The Renewable Energy Law in Germany was modified in 2004 with improvements for the biogas industry. The original law in 2000 calculated the minimum price of biogas-electricity

at Euro 0.10 /kWh ($CDN 0.16 / kWh). This assumed that feedstock was free (e.g. liquid manure on a dairy farm or biomass waste). The modified version foresaw the additional costs of growing energy plants for biogas production. So bonuses were added for biomass. In Germany, the most popular energy plant grown for biogas feedstock is corn.

The following are the prices guaranteed by the Renewable Energy Law for electricity generated by biogas plants.

	Guaranteed Price Euro-cents/kWh	in CDN-cents/kWh
Base prices for biogas plants		
up to 150 kW	11.5	18.4
up to 500 kW	9.9	15.8
up to 5 MW	8.9	14.2
5 to 20 MW	8.4	13.4
use of waste wood	3.9	6.2
Biomass bonus for biogas plants		
up to 500 kW	6	9.6
500 kW to 5MW	4	6.4
up to 5 MW using wood	2.5	4
Co-generation Bonus	2	3.2
Technology bonus	2	3.2

The bonuses are cumulative and are added to the base prices. The price structure is set for 20 years, from 2004 to 2024. The base prices are reduced by 1.5% per annum so that in 2024 (the final year of the program), a 150 kW plant will receive 70% of the 11.5 Euro-cent price or 8.05 Euro-cents / kWh. The rates for the bonuses remain constant over the 20 year period. (For details in German see www.bmu.de). The operator of a typical small biogas plant using biomass receives approximately Euro 0.16/kWh ($CDN 0.256 / kWh).

Biogas plants that use a combination of manure and biomass receive the biomass bonus. Plants that also use slaughter waste, glycerine or food waste (expired food or canteen leftovers) do not receive the biomass bonus. They would be eligible for the technology bonus and the co-generation bonus.

See Berlin S&T Report 09/2005 for further details.

Bio Energy Biogas GmbH, (Fuechtorf)

Unique properties:	- Dry fermentation of turkey manure using a horizontal reactor
Contact:	Klaus Peter Hankel Bio Energy Biogas GmbH Loher Busch 52, 32545 Bad Oeynhausen, Germany Tel.: +49 (0) 5731 794-244 Fax: +49 (0) 5731 794-215 kape.hankel@bioenergy.de www.bioenergy.de

Plant and operational parameters	
Business plan:	To expand family business.
Type of plant:	Main reactor is a plug flow horizontal digester.
Feedstock:	Turkey manure, corn silage mixtures. Turkey manure ranges from 20 to 50%. Approx. 4,500 tons p.a.
Reactor dimensions:	- Horizontal reactor is made from concrete slabs that are held together by cables under tension along the length and width of the reactor - Heating cables and insulation are sandwiched between concrete slabs - Reactor: 5m80 high, 6m30 width and between 19m80 and 27m long (700 m^3) - Digestate storage is in a vertical reactor (appr. 1,500 m^3)
Feed rate:	48 doses a day (@ 260 kg) for a total of 12-13 tons a day
Operating temp.:	39 C (mesophillic)
Dry matter:	- 30-35% (greater than 30% defined as a dry fermentation) - Output has 8%
Retention time:	- 80 days (can be reduced to 50 days with balance of digestion occurring in a secondary digester)
Agitation:	- Slow horizontal paddle agitation that reaches to base of reactor and above level of material to break up floating layers. - Keeps sand in suspension so that no accumulation possible
Biogas production:	Stored in headroom of reactors under two flexible plastic sheets: 530 m^3 - top sheet serving as protection for the weather.

Methane content:	52%
Sulfur (as H_2S):	200 ppm; removed by the addition of air (wooden beams above reactor)
Cost of plant:	1.1 million Euro
Energy output:	350 kW (Scania and MAN) Heat used in turkey coops
End products:	Currently used as liquid fertilizer (plans to dry to pellets)
Comments:	- Construction of reactor takes 3 days - Low maintenance (1 hour a day to fill feeder hopper) - Current plant can be expanded to 1MW (work will start in the fall) - Also does slaughter waste (can show in PowerPoint presentation) - Recommend visiting generator refitting company, PRO-2 in Willich near Krefeld (Mr. Grundke)

Biogas Nord (Bueren-Ahden)

Unique properties:	- Plant utilises a co-fermentation process that uses hog manure (2,000 head operation) and food waste. Startup Nov. 2005.
Contact:	Reinhold Poier BIOGAS NORD GmbH, Werningshof 4 33719 Bielefeld, Germany Tel.: +49 (0)521 557 507 34 Fax: +49 (0)521 557 507 33 poier@biogas-nord.de www.biogas-nord.de

Plant and operational parameters	
Business plan:	Co-op of 3 farmers invested in a biogas plant to process hog manure and waste food. Heat to be sold to a nearby airport.
Type of plant:	Two-stage digestion plant using vertical reactors.
Feedstock:	- 4,000 tons / year hog manure - 10,000 tons / year waste food
Reactor dimensions:	Primary digesters: 2 vertical reactors each Ø 18m, height 6 m made of monolithic reinforced concrete tanks with floor and wall heating. Each contains 1,527 m^3 liquid and 406 m^3 gas storage. Secondary digesters: 2 vertical reactors each Ø 22m, height 7.5 m made of monolithic reinforced concrete tanks with floor and wall heating. Each contains 2,661 m^3 liquid and 741 m^3 gas storage. Final storage: monolithic reinforce concrete tank Ø 22m, height 7.5 m. Contains 2,661 m^3 liquid and 741 m^3 gas storage.
Feed rate:	38 m^3 per day divided into 20 doses
Operating temp.:	38-40 C (mesophillic)
Dry matter:	~15%
Retention time:	Primary digester: less than 48 days Secondary digester: less than 46 days
Agitation:	One diagonal propeller stirrer and a mounted horizontal propeller stirrer (can be raised and lowered). 2-4 cm floating layer is constantly present (causes no interference).
Biogas production:	Stored in headroom of the reactors under two flexible plastic sheets. Top sheet protects lower sheet from sun and the elements.

Methane content:	65-70%
Sulfur (as H_2S):	300 ppm (removed by naturally present bacteria through the addition of air over wooden beams)
Cost of plant:	Estimated at 2,500 to 3,300 Euro per installed kW for complete new plant. Hence this plant would have cost 2.1 million Euro.
Energy output:	750 kWh electrical from a rebuilt Jenbacher; co-gen heat is used for biogas plant, hog operation and to heat nearby airport (1 km).
End products:	Used as liquid fertilizer
Comments:	- Has mixed in glycerine from biodiesel plant and clay used to bleach vegetable oils. - Company that rebuilds generators: Storm (near Spelle) see www.a-storm.com - Sand buildup in the reactors requires that they are shut down and cleaned. (downtime: one day)

ARCHEA Plant (Suedhorsten)

Unique properties:	Uses a steel drum and plug-flow reactor. Methane output boosted 10-15% through heating of feedstock to 70C between primary and secondary digester (thermal disintegration).
Contact:	Matthias Wawra & Heidi Dubois ARCHEA Biogastechnolgie Hoher Kamp 7, 31840 Hessisch Oldendorf, Germany Tel.: +49 (0)5152 5271 60 Fax: +49 (0)5152 5271 61 Mobile: +49 (0)172 795 4403 & +49 (0)172 527 6152 matthias.wawra@archea.de & heidi.dubois@archea.de www.archea.de

Plant and operational parameters	
Business plan:	Electricity generation.
Type of plant:	Combination of horizontal mesophillic and vertical thermophillic reactors. Horizontal reactor works on plug flow principle.
Feedstock:	- 500 tons p.a. hog manure (with straw) - 500 tons p.a. green rye (harvested before ripening) - 3,000 tons p.a. silage
Reactor dimensions:	- Primary reactor: horizontal reactor Ø 4m, length 24 m made of coated steel interior, insulation layer and finished with zinc cladding. Contains 270 m^3 of liquid - Secondary reactor: vertical reactor 340 m^3 lined with stainless steel - Final storage: concrete tank containing 1,800 m^3
Feed rate:	10 tons per day divided into 30-35 doses
Operating temp.:	- Primary reactor 37 - 38C (mesophillic) - Between reactors liquid is heated to 70C for 1 hour to cause a thermal disintegration - Secondary reactor 50-53C (thermophillic)
Dry matter:	30%+ input ; 12% between reactors; 7-8% in final tank
Retention time:	Primary reactor: 15-20 days (45% conversion) Secondary reactor: 15-20 days

Agitation:	Primary reactor: slow rotating paddles attached to a cylinder that runs the length of the reactor. Support bearings in the middle of the reactor. Hence maximum length is 30m. Secondary reactor: Flygt agitator
Biogas production:	- up to 2,000 m^3 per day
Methane content:	52-56%
Sulfur (as H_2S):	under 100 ppm (air and wood desulfurisation)
Cost of plant:	800,000 Euro (±50,000 Euro) all inclusive
Energy output:	240 kW electrical (SEVA diesel co-fired generator); heat used as district heating and heating of the pig sties
End products:	Liquid fertilizer. Solids can also be separated and dried to pellets.
Comments:	- Modular construction permits installation of finished plant in under 4 weeks. - Maximum length of primary reactor is 30m (due to agitator), hence maximum volumes are for primary reactor: 325 m^3 and secondary reactor 1,000 m^3. - Sand is removed in first third of primary reactor, through openings in the base of the reactor. - Primary reactor is tilted up towards the rear to facilitate collection of biogas. - Slaughter waste biogas plant in Eastern Germany.

Lipp GmbH (Beesten)

Unique properties:	- Very low maintenance plant. Single reactor concept. Built in 2005
Contact:	Heinrich Schartmann Frerenerstr. 28 49832 Beesten, Germany Tel.: +49 (0) 162 133 1952 or Paul Graé (CEO) Tel. +49 (0) 5906 9300-13 grae@raiffeisen-emsland-sued.de

Plant and operational parameters	
Business plan:	Coop of 4 farmers. Goal is generate electricity and take advantage of the 20 year guaranteed feed in rate.
Type of plant:	Vertical reactor
Feedstock:	- 12,000 tons p.a. silage (50% dry weight) - 1 ton p.a. corn kernels - 12,000 tons p.a. manure (75% hog /2,000 hog/ and 25% cattle /100 bulls)
Reactor dimensions:	- Pre-reactor (Konservierung): 1, 200 m^3 (1:1 silage : water mixture and then allowed to hydrolyse) - Reactor: 1,300 m^3 and 400 m^3 gas head room (largest possible is 1,500 m^3 with 500 m^3 gas head room) built using a patented LIPP technology - Final tank: 2,400 m^3
Feed rate:	68 tons /day
Operating temp.:	40 C (mesophillic)
Dry matter:	29% (final 7-8%)
Retention time:	20 days (?)
Agitation:	2 shaft agitators (a pump pushes the material out of the bottom of a cylinder that pulls material in from the top of the tank)
Biogas production:	10,000 kWh per day (minimum) (or 70 m^3 / hour)
Methane content:	52%
Sulfur (as H_2S):	- less than 200 ppm (uses iron II chloride) - will add a second desulfurisation step as levels can rise to 350ppm

Cost of plant:	1,250,000 Euro
Energy output:	190 kW and 250 kW MAN gas generators (total 440 kW)
End products:	Liquid fertilizer (7-8% dry matter)
Comments:	- Plant uses a very low 4% of the generated electricity to operate the plant - No sand problems - Like most plants repairs are carried out by owner - Generator maintenance is the annual oil change - Rebuilt motors check 2-G in Gronau-Heek (www.2G.de) - Pork manure digests well with corn cobs and wheat (Monovergärung) - Cattle manure digests well with total plant material (Ganzpflanze-Vergärung)

Bersenbrueck Plant

Unique properties:	Self-built plant from different components.
Contact:	Mr. Hinkamp Zur Burg 6 49593 Bersenbrueck, Germany Tel.: +49 (0) 5439-92319 Cell: +49 (0) 172-534 9462

Plant and operational parameters	
Business plan:	Electricity generation using inexpensive feedstock.
Type of plant:	Vertical reactors.
Feedstock:	10,000 tons p.a. made out of 50:50 old vegetable oils from Holland and waste from a Haribo gummy bear plant (corn starch and sugar)
Reactor dimensions:	- 2 x 800 m^3 vertical reactors - 1 x 1,600 m^3 vertical reactor - final storage tank:1,600 m^3
Feed rate:	32 tons per day (no additional water)
Operating temp.:	39C (mesophillic)
Dry matter:	60% (oils and readily soluble carbohydrates) - can go up to 90% dry matter with these materials without pumping problems
Retention time:	100 days
Agitation:	Small reactors use Lipp shaft agitators (described above). Large reactor uses a propeller agitator at base of reactor.
Biogas production:	650 m^3 per hour
Methane content:	56%
Sulfur (as H_2S):	40-100 ppm (removed by iron II chloride sludge used in water purification)
Cost of plant:	estimated at 2.5 million Euro; first reactor was built in 2000 with many additions since then

Energy output:	1 x 550 kW Jenbacher gas generator and 2 x 345 kW MAN gas generators located off-site (in the middle of the town - 1.5 km away) with the biogas being pumped by pipeline to these generators (1.2 MW total) - Heat is used to heat swimming pool and public buildings all year round. 80% of total energy is used. - Heat also used to heat broiler chicken operation (90,000 chicks).
End products:	Liquid fertilizer
Comments:	- Rebuilding generators is done by Rollo in the Netherlands - Sand collects every 4-5 years. Reactor is shut down and sand is shovelled out. - Final storage tank (1,600 m^3) to be also converted to a reactor. New 8,000 m^3 final storage tank to be built. - As food waste from cafeterias can no longer be used as hog feed as of this year. The biogas plant will add a pasteurisation unit to be able to process this feedstock as well.

Krieg & Fischer Plant (Werlte)

Unique properties:	- Industrial plant for manure and slaughter waste
Contact:	Mr. Schwer Biogas Plant Werlte Loruper Str. 80 49757 Werlte, Germany Tel.: +49 (0) 4962 91 31 200 www.bga-werlte.de Mr. Schnieders (owner) +49 (0) 171 543 4165 or Thorsten Fischer +49 551 90 03 63 - 0 (Fischer@KriegFischer.de) or www.hese-umwelt.de

Plant and operational parameters	
Business plan:	Coop of 130 farmers use plant to process manure and slaughter waste.
Type of plant:	Large scale single stage digestion plant (vertical digesters)
Feedstock:	- 110,000 tons p.a. - 60% manure, 40% slaughter waste (food waste)
Reactor dimensions:	- Manure is stored in a 2,500 m^3 tank, slaughter waste in a 500 m^3 tank - Inputs are mixed and pasteurised at 70C for 1 hour in two 80 m^3 tanks (Nachgärer - Primary reactors: 2 x 3,200 m^3 - Secondary reactors: 2 x 2,400 m^3 (+ 2 x 1,700 m^3 gas head room) - Final storage: 2 x 5,000 m^3
Feed rate:	continuous feed totalling 300 tons per day
Operating temp.:	39 C (mesophillic)
Dry matter:	13% (input); 5.5-6% (in reactor); 5.2% (output)
Retention time:	- Primary digester 21 days - Secondary digester 16 days
Agitation:	- Primary reactors: vertical shaft with 2 propellers -located at the top and the bottom - Secondary reactors: 2 horizontal propellor agitators to circulate liquid

Biogas production:	1,000 - 1,100 m^3 / hour
Methane content:	60-65 %
Sulfur (as H_2S):	Uses an iron II chloride desulfurisation step, planning on adding an active charcoal filter as well.
Cost of plant:	approx. 6 million Euro
Energy output:	- 2 x 1.25 MW Deutz diesel co-fired generators (total 2.5 MW) - Heat used to heat tanks and run pasteurisation process.
End products:	Liquid fertilizer
Comments:	- Requires two full time staff to handle deliveries and check operation of plant - Sand is not a problem (no poultry manure or slaughter waste) - Plant was built in 2002 and required about 1 year to run properly

Bioconstruct Plant (Kaarssen)

Unique properties:	- A very large biogas plant situated next to a very large dairy cow operation. The excess heat is used to prepare a concentrated liquid fertilizer.
Contact:	Heinrich Warthorst Wellingstrasse 54 49328 Melle, Germany Tel.: +43 (0)5226 5932-19 Mobile: +43 (0)162 245 4488 h.warthorst@bioconstruct.de www.bioconstruct.de

Plant and operational parameters	
Business plan:	10 investors started up an energy plant based on locally available resources (basically manure).
Type of plant:	Two stage reactor design. Before digestate is put into the final tank, the solids are removed by a centrifuge and the liquid fraction is concentrated 2.5 times using the excess heat of the generators.
Feedstock:	100,000 tons of dairy cow manure (the biogas plant is obligated to use all the manure created by the neighbouring dairy operation) 30,000 tons of corn silage (delivered daily)
Reactor dimensions:	Primary reactors: 2 x 5,500 m^3 (no gas headroom) Ø 18m, height 20 m (made of enamel coated steel plates screwed together, lower plates 10 mm, upper plates 5 mm) Secondary reactors: 1 x 2,500 m^3 (800 m^3 gas headroom) & 1 x 5,200 m^3 (2,500 m^3 gas headroom) Storage tanks: 1 x 5,200 m^3 & 1 x 7,500 m^3
Feed rate:	Continuous parallel feed to both primary reactors: ~350 m^3 of manure (whatever is produced) & 80 - 100 tons of corn silage
Operating temp.:	40C (mesophillic)
Dry matter:	9-10% (in the primary reactor) Note: manure has a relatively high dry matter content (8-9%)
Retention time:	Primary reactor: 22 days Secondary reactor: 8 days

Agitation:	Primary reactor: vertical shaft with 2 propellers near the top and the bottom (generates currents of 5 m/s) Secondary reactor: height adjustable submersible propeller agitators (2 per reactor)
Biogas production:	1,200 m^3 / hour
Methane content:	51-52%
Sulfur (as H_2S):	2000 ppm (have a 15m column to remove sulfur through biological means), after treatment under 150 ppm
Cost of plant:	10 million Euros (this includes 1.5 million Euros to build solid separator and digestate concentrator) Took 9 months to build and started operation December 2005
Energy output:	2 x 1,416 kW Jenbacher gas motors (total output 2.8 MW) Heat is completely used internally to heat tanks and in the concentration of the digestate
End products:	- After the secondary reactor the digestate is run through a centrifuge to remove any solids. This tends to be undigested wood chips used for litter in the dairy operation and sand. This is returned to the dairy farm and used as litter. - Next the liquid fraction is run through three low pressure evaporators and condensers. The liquid is heated to facilitate the evaporation of the water. The evaporated/condensed water is sent to the local water treatment plant. The concentrated liquid fraction (2.5 times concentration) is stored and sold as concentrated liquid fertilizer. As the neighbouring farmland is poor in nutrients the fertilizer has a ready market.
Comments:	- Sand is expected to remain in suspension and removed in the centrifuge. - Operates 8,000 hours p.a. - Economics depends on a) heat usage and b) cost of feedstock (silage). Silage currently sells for 20-25 Euros / ton (higher price than for wheat!). - Typical Bioconstruct plant is 500kW (one sixth this size) and will build 10 of these this year.

Dairy Operation (Kaarssen - next to biogas plant)

Contact:	Mr. Siemke Kaarssen Milchhof eG Laaver Strasse 2 19273 Kaarssen, Germany Tel.: +43 (0) 38845 40220 Fax: +43 (0) 38845 449811 Mobile: +49 (0) 172 231 67182

Description:

This farm currently has 1,700 head of dairy cattle. There are also calves. The plant is currently undergoing expansion. When finished there will be about 5,000 head. I was told that there are only two other plants of this size in the world, New Zealand and Mexico).

The farm also has a carrousel (?) milking machine. This permits 80 cows to be milked at any given time. The process is semi-automated.

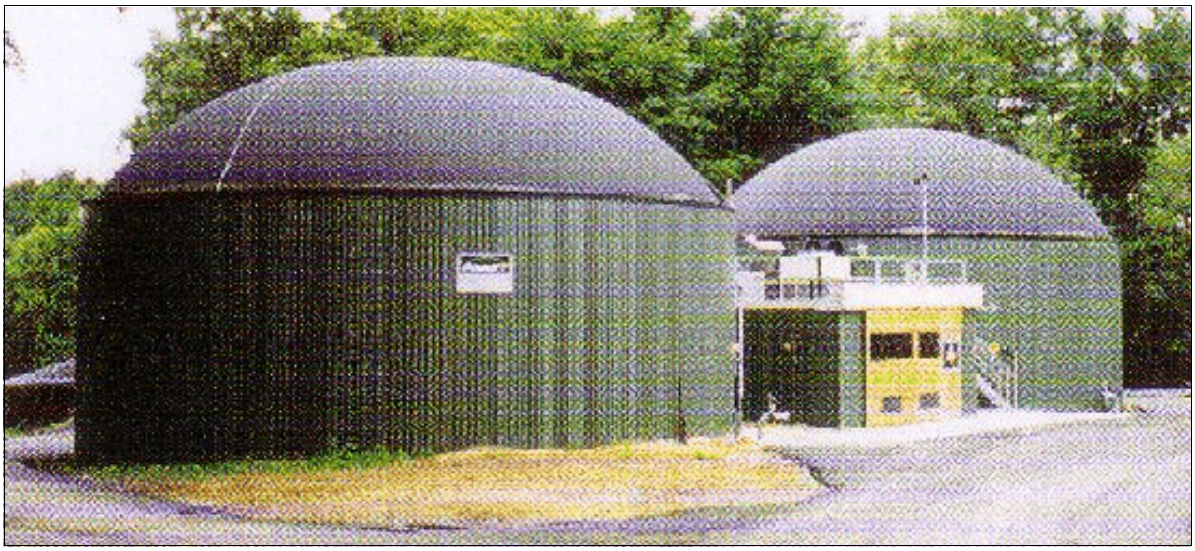
The operation was originally an East German coop that was bought by a Dutch investor after reunification.

PlanEt Biogas GmbH (visited separately)

Unique properties:	- Biogas plants built for farm waste solutions.
Contact:	Dietmar Epping PlanET Energietichnik GmbH Up de Hacke 26 48691 Vreden, Germany Tel: +49 (0)2564 3950-0 Fax: +49 (0)2564 3950-10 info@planet-biogas.com www.planet-biogas.com

Plant and operational parameters	
Business plan:	Using ag-waste to generate electricity.
Type of plant:	Two-stage digestion plants (farm scale)
Feedstock:	- Plants can use different agricultural feedstock. Silage corn (very popular), manure (hog, cattle or poultry), rye, wheat, vegetables (onions, potatoes etc.).
Reactor dimensions:	approximately 2,000 m^3 vertical reactors
Feed rate:	
Operating temp.:	up to 44 C (mesophillic) (limit for mesophilic is 45C)
Dry matter:	17 % (initial)
Retention time:	(up to) 65 days (primary) + 65 days (secondary)
Agitation:	Horizontal stirrer
Biogas production:	Stored in headroom of the reactors under a double flexible plastic sheets. (Reduces amount of biogas that is lost to atmosphere and reduces odours.)
Methane content:	55%
Sulfur (as H_2S):	Roof of secondary digester is made of wooden beams which acts as a home to the thiobacillus bacteria that remove hydrogen sulfide. Air is pumped in as a source of oxygen. Reduces sulfur to 10 ppm or less.
Cost of plant:	Depends on size

Energy output:	Depends on size
End products:	Used as liquid fertilizer
Comments:	- Some plants use enzymes to boost biogas production. (700 Euro / week) - Reactors must be cleaned of sand (every 3-4 years)



Haus Düsse (Bad Sassendorf)

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Description:

Haus Duesse is part of the state of North-Rhine Westphalia (NRW) Agricultural Chamber (*Landwirtschaftskammer*). This group is responsible for training farmers and farmhands and for carrying out research of interest to the state farmers. They are also responsible for implementing EU rules in the state of NRW.

The research carried out at Haus Duesse is on biogas plants and the care of hogs and cattle. The site in Ostinghausen has 3,000 to 3,500 hogs and 200 sows.

Biogas research is carried out on:
- different plant technologies
- biological tests
- gas yields from different substrates
- agitator technologies
- optimum feed rates (before the biology breaks down).

Haus Duesse is of interest because it is a good model to show how such a research centre can be set up. They also have an objective view on the different technologies commercially available. I would recommend putting them in the program for an afternoon visit and evening reception

The cattle and hog research may also be of interest. Some examples:
- Have testing facilities for breeding
- Test stall systems for keeping animals
- Testing and improving milking machines

Note: Currently the German farmer receives 100 Euros / ton for his wheat crop for food applications, whereas if he were to burn it and generate electricity he would earn 230 Euros / ton! Although, the legislation forbids the incineration of edible wheat, there are many ways of circumventing this legislation.

Haus Duesse is also looking at making straw pellets for stall litter. They can be digested in a biogas reactor with the manure. Wood chips, due to their lignin content, cannot be digested.

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Manufacturer of gas analyses units for biogas plants.
-Knows about different biogas plants, i.e. slaughter waste plants, paper industry plants, alcohol fermentation waste (distiller grains)
- Looking for North American partners