



VALLEY AGPOWER...

**ENERGY FROM BIOGAS...
WHAT S IT ALL ABOUT...
WHAT S IN IT FOR THE FARMER? ©**



VALLEY AGPOWER...

VALLEY AGPOWER...

IS A NEW COMPANY, BASED IN CHILLWACK, THAT WILL INVOLVE ITSELF IN THE DESIGN, CONSTRUCTION AND FINANCING OF WASTE-TO-ENERGY PROJECTS IN THE AGRICULTURAL SECTOR THAT INCLUDES MANURES AND MORTALITIES...

FURTHER, IT WILL BECOME INVOLVED IN THE COMPOSTING AND VERMICOMPOSTING OF THE RESIDUES, IN ORDER TO VALUE-ADD TO THE PROCESSED MATERIALS OBTAINED IN THE ABOVE ENERGY PROJECTS...

WE DONT SELL ANY PRODUCTS... WE HAVE NOTHING TO *PUSH*... WE WILL PROMISE THE BEST TECHNOLOGY FOR YOUR REQUIREMENTS...

WE MAY JUST BECOME A PRIVATE UTILITY COMPANY TOO...

THE FARMER...

THIS BROCHURE WILL DESCRIBE THE POTENTIAL OF GENERATING ENERGY (HEAT AND ELECTRICAL) FROM AGRICULTURAL MANURE PRODUCED BY DAIRY, HORSE, FEATHER AND SWINE FARMS (TOGETHER WITH OTHER ORGANIC WASTES, MAYBE)...

AND ALSO WE CAN REDUCE GREENHOUSE GASES AND AMMONIA, NOT TO MENTION RETURNING A BETTER LIQUID *MANURE* FOR YOURS AND YOUR NEIGHBOURS FIELDS... BETTER FOR THE SOIL AND THE WATER BENEATH IT...

...AND IT COULD GENERATE ADDED INCOME FOR YOU, AND MAYBE ALLOW YOU TO INCREASE YOUR ANIMAL QUANTITIES AS WELL...

IT IS FEASIBLE FOR SINGLE FARMERS TO GO IT ALONE, HOWEVER, IF SEVERAL NEIGHBOURS GET TOGETHER, THE POTENTIAL IS MUCH GREATER THAN THE INDIVIDUALS...

WE WILL IDENTIFY TWO OR THREE DIFFERENT OPTIONS OPEN TO YOU...

OPTIONS THAT VALLEY AG WILL BE ABLE TO HELP YOU WITH...

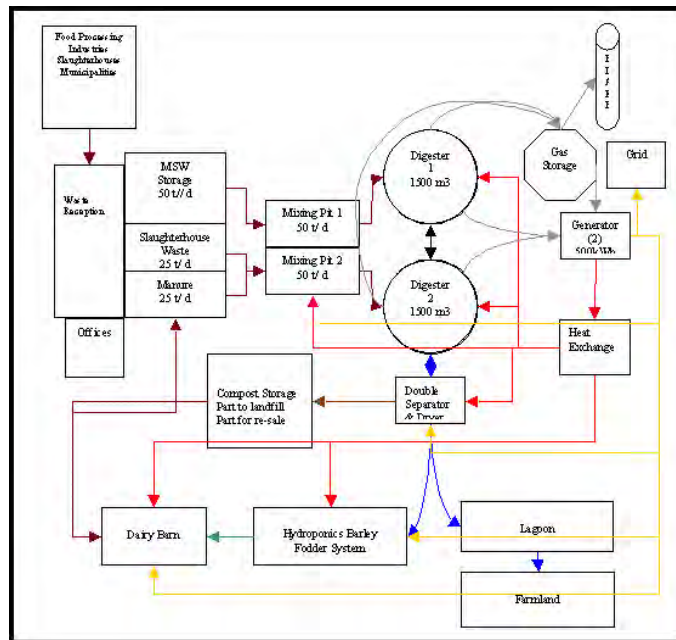
WE CAN SHOW YOU HOW TO DO IT ALL BY YOURSELF... OR WE CAN DO THE WHOLE THING FOR YOU... OR ANYTHING IN-BE-TWEEN, DEPENDING WHERE YOUR THINKING IS AT...

THERE IS A HUGE POTENTIAL FOR A MANURE TO ENERGY INDUSTRY IN THE FRASER VALLEY AND BEYOND, THAT WILL UTILIZE DAIRY, HORSE, CHICKEN AND SWINE MANURES AND MORTALITIES, SEPARATE FROM OR TOGETHER WITH MUNICIPAL AND ICI ORGANIC WASTES TO GENERATE HEAT AND POWER...

PRESENTLY, WE EITHER COMPOST IT OR SPREAD IT ON THE FIELDS...



NOW, THERE ARE WHOLE NEW THOUGHT PROCESSES THAT CAN OCCUR THAT WILL HELP US PROTECT THE ENVIRONMENT, DEAL WITH A WASTE PRODUCT AND PROVIDE US WITH ADDITIONAL INCOME...



IT S ALL TO DO WITH IMPROVING THE QUALITY OF LIFE ...

IT S TO DO WITH GREENHOUSE GASES AND THE ENVIRONMENT ...

BETTERING THE AIR... THE SOIL... THE WATER...

FIRST THINGS FIRST (WHAT IS IT?):

"....BACTERIA ARE THE PRIMARY DECOMPOSING ORGANISM. OTHER ORGANISMS INCLUDE FUNGI, ACTINOMYCETES, WORMS AND BEETLES"

"....COMPOSTING IS THE (NATURAL) BIOLOGICAL DECOMPOSITION OR BREAKDOWN OF ORGANIC MATERIAL (IN OUR CASE, ANIMAL MANURES AND USED OR SPENT MUSHROOM SUBSTRATE) BY BACTERIA AND OTHER ORGANISMS. THESE ORGANISMS BRING ABOUT DECOMPOSITION BY FEEDING ON ORGANIC MATERIAL. THE RESULT IS COMPOST OR HUMUS, A DARK, NUTRIENT RICH SOIL CONDITIONER....."

GVRD DEFINITION

...DIGESTION IS A PROCESS THROUGH WHICH BACTERIA, CHEMICAL ACTION AND/OR HEAT UTILIZE THE *FOOD VALUE* IN A GIVEN ORGANIC MATERIAL TO CONVERT IT INTO OTHER PRODUCTS.. (IT CAN OCCUR IN AEROBIC OR ANAEROBIC CONDITIONS)...

...GREENHOUSE GASES ARE (AS LISTED IN THE KYOTO PROTOCOL) CARBON DIOXIDE (CO₂), METHANE (CH₄), NITROUS OXIDE (N₂O), HYDRO FLUOROCARBONS (HFCs), PER FLUOROCARBONS (PFCs) AND SULPHUR HEXAFLUORIDE (SF₆)...

....ORGANIC MATERIAL IS EVERYTHING THAT LIVES, GROWS AND DIES...."

"....THE SCIENCE OF COMPOSTING CONCERNS ITSELF WITH STUDYING THE FACTORS THAT ENABLE DECOMPOSITION TO PROCEED MORE QUICKLY AND EFFICIENTLY AND BY MANAGING OR CONTROLLING THE REQUIRED ENVIRONMENTS....."

"....FEEDSTOCKS ARE THE VARIOUS ORGANIC MATERIALS THAT ARE ABLE TO BE COMPOSTED AND/OR USED AS SUBSTRATES...."

"....THERMOPHILIC COMPOSTING IS THE ACCELERATED BIOOXIDATION OF ORGANIC MATERIALS"

"....VERMICOMPOSTING IS THE PROCESS OF USING SPECIFIC (MANURE) WORMS TO TRANSFORM THE ORGANIC MATERIAL INTO 'CASTINGS', A PRODUCT RICH IN SOIL NUTRIENTS. IT IS NOT *COMPOSTING* AND DOES NOT INVOLVE A PROCESS OF THERMOPHILIC DEGRADATION....."



EISENIA FETIDA

FACT: MANY REAMS OF VOLUMES HAVE BEEN WRITTEN ABOUT AEROBIC AND ANAEROBIC DIGESTION, AND THE WAY IT WORKS... THIS IS NOT NEW SCIENCE... IF IT'S NEW TO YOU, JUST TRY HITTING "ANAEROBIC DIGESTERS" ON YOUR GOOGLE WEB BROWSER!!!...ALSO, LOOK UP BIOCYCLE (www.biocycle.net)

FACT: MANY REAMS OF VOLUMES HAVE BEEN WRITTEN ABOUT COMPOSTING, BACTERIA AND METHODOLOGIES... THIS IS NOT NEW SCIENCE EITHER.... IT'S JUST A NEW APPROACH TO USING IT.. IF IT'S NEW TO YOU, JUST TRY HITTING "COMPOSTING" OR "RECYCLING" OR "VERMICOMPOSTING" ON YOUR GOOGLE WEB BROWSER!

OBJECTIVES:

WE ARE A COMPANY THAT WILL ALLOW PRIVATE ENTERPRISE TO BECOME INVOLVED IN A LOCALLY OWNED AND OPERATED COMPANY WITH A TREMENDOUS GROWTH POTENTIAL...

WE WANT THE FARMER TO TAKE THE LEADERSHIP ROLE IN THIS WORK... WE RE THERE TO HELP HIM... TO DESIGN AND BUILD FOR HIM... MAYBE TO OPERATE THE PLACE FOR HIM... BUT IT S HIS MANURE THAT COMES IN AT THE FRONT END OF THE PROCESS, SO WHY SHOULDN T HE TAKE A LEADERSHIP ROLE...

SINCE IT MAKES SENSE TO REDUCE GREENHOUSE GASES,
IT MAKES ECONOMIC SENSE TO GET INVOLVED WITH THAT...

SINCE IT MAKES SENSE TO PROVIDE OUR CHILDREN AND THEIR CHILDREN WITH A
BETTER PLANET IN WHICH TO LIVE, BY IMPROVING SOIL AND WATER QUALITY,
IT MAKES ECONOMIC SENSE TO GET INVOLVED WITH THAT...

SINCE THERE IS AN EVER INCREASING DESIRE TO PRODUCE BETTER QUALITY NURSERY, GREENHOUSE
AND FIELD CROPS, TO REDUCE MAN S DEPENDANCE ON CHEMICAL FERTILIZERS AND TO PROVIDE A
PRODUCT FOR THE RETAIL MARKET FOR THE NOW RETIRING BABY BOOMERS,
IT MAKES ECONOMIC SENSE TO GET INVOLVED WITH THAT...

SINCE THE EVER EXPANDING MARKET FOR "ORGANIC" AND "SPECIALTY" FOOD
IS NOT BEING MET (AND WILL NOT BE IN THE NEAR FUTURE),
IT MAKES ECONOMIC SENSE TO GET INVOLVED WITH THAT...

SINCE THERE ARE NO OTHER COMPANIES (AS IN NONE) THAT HAVE TAKEN ANY POSITION IN THIS
MARKET IN THE FRASER VALLEY (OR CANADA FOR THAT MATTER),
IT MAKES ECONOMIC SENSE TO GET INVOLVED WITH THAT...

WE WERE FORMED TO OFFER THE FOLLOWING SERVICES:

AS A CONSULTING COMPANY:

WE WILL PROVIDE CONSULTING SERVICES TO OTHERS IN THE DESIGN AND SET-UP OF WASTE-
TO-ENERGY FACILITIES...

AS A DESIGN-BUILD CONTRACTOR:

WE WILL OFFER DESIGN-BUILD SERVICES FOR ANY PARTIES INTERESTED IN DEVELOPING
THEIR OWN FACILITIES...

WE WILL HAVE THE ABILITY TO PERFORM RESEARCH ON THE USE AND VALUE OF A
DIVERSIFIED RANGE OF VALUE ADDED END PRODUCTS...

AS A FACILITY OPERATOR:

WE WILL PROVIDE OWNER OPERATOR SERVICES TO OTHERS BY MEANS OF SELF FINANCING
THE DESIGN, CONSTRUCTION AND OPERATION OF WASTE-TO-ENERGY AND COMPOSTING
FACILITIES...

AS A FINANCIAL PARTNER:

WE WILL BE ABLE TO OFFER FINANCIAL HELP, ASSISTANCE OR PARTNERSHIP TO THOSE
PEOPLE WHO NEED IT...

OUR MISSION:

WE WANT TO OFFER AN INVESTOR AN ABILITY TO PARTAKE IN A LOCALLY MANAGED OPPORTUNITY IN A VARIETY OF SYMBIOTIC AGRICULTURAL ENTITIES THAT (IN ONE WAY OR ANOTHER) CONVERTS WASTE-TO-ENERGY AND CAN DEVELOP VALUE-ADDED PRODUCTS FOR AN EVER INCREASING MARKET DEMAND...

WE INTEND TO MAINTAIN A 'KEEP IT SIMPLE' APPROACH TO OUR WORK.

KEYS TO FUTURE SUCCESS:

THE KEYS TO OUR FUTURE SUCCESS WILL BE BASED ON OUR TOTAL COMMITMENT TO OUR OBJECTIVES AND MISSION...

WE WILL MAKE PROMISES AND KEEP THEM... EXISTING MANAGEMENT HAS A TRACK RECORD OF EXCELLENCE IN A SERVICE INDUSTRY... WE ARE CONFIDENT, RELIABLE AND TRUSTWORTHY...



...THE WAY TO THE FUTURE

WHAT WE WANT TO DO:

WE WANT TO DO A FEW THINGS:

WE WANT THE FARMER TO CONVERT MANURE TO POWER (HEAT, HYDRO AND MAYBE ETHANOL) AND TO MAKE MONEY AT THE SAME TIME...

WE WANT HIM TO GET INVOLVED IN THE COMPOSTING OF MANURES AND MORTALITIES AND MAYBE MUNICIPAL AND OTHER WASTE AS WELL...

WE WANT TO BE ABLE TO RAISE FINANCING FOR EACH OF OUR FARMER CUSTOMERS, IF REQUIRED...

WE WANT TO PURSUE THE POSSIBILITY OF BECOMING A PRIVATELY OWNED UTILITY... AS ALLOWED BY THE BCUC...

COMPETITIVE COMPARISON:

IN ALL THE RESEARCH WE HAVE CARRIED OUT TO DATE,
WE ARE NOT AWARE OF A SINGLE ENTITY THAT EITHER HAS THE SAME CONCEPTS,
ASPIRATIONS OR DESIRES AS WE DO...

ALSO...

IN THE LAST THIRTY YEARS OF THE WRITER'S INVOLVEMENT IN THESE FIELDS, NOT A SINGLE SOURCE HAS COME TO LIGHT, THAT CAN OFFER CLIENTS SUCH A UNIFIED, SYMBIOTIC RELATIONSHIP BETWEEN COMPLEMENTARY AGRICULTURAL BUSINESSES AND THE GENERATION OF HEAT AND POWER...

...WE CAN HELP YOU TOO...



FULFILMENT:

IN THE FULFILMENT OF OUR ASPIRATIONS, WE INTEND TO DO THE FOLLOWING:

1. WE WILL COMMUNICATE EFFICIENTLY AND EFFECTIVELY BETWEEN OUR *PARTNERS*, AND MAINTAIN THE HIGHEST LEVEL OF SERVICE EXCELLENCE POSSIBLE... WE WILL HAVE THE LATEST VERSIONS OF HARDWARE AND SOFTWARE AVAILABLE TO US... WE WILL HAVE EMAIL AND INTERNET CAPABILITIES... WE WILL HAVE DESKTOP PUBLISHING... WE ARE SOFTWARE LITERATE... WE ARE FRIENDS WITH OFFICE TECHNOLOGY...
2. WE WANT TO FORM STRATEGIC ALLIANCES WITH OTHERS IN RELATED FIELDS (THIS PROCESS HAS ALREADY COMMENCED)...

WE WANT TO SOURCE MATERIALS AND SELL PRODUCTS LOCALLY AND INTERNATIONALLY. WE WANT TO PROMOTE AND INVOLVE EMERGING TECHNOLOGIES IN OUR DAY TO DAY OPERATIONS.

THE KEY TO OUR FULFILMENT, WILL BE IN THE HANDS OF OUR PARTNER FARMERS...
THE CORE VALUE IS OUR EXPERTISE, PROVIDED BY OUR EDUCATION, EXPERIENCE,
HARD WORK AND DEDICATION...

FUTURE VISION:

OUR VISION OF THE FUTURE, MAY INCLUDE THE EXPANSION OF OUR BUSINESS *FAMILY* INTO SPECIALTY AGRICULTURE EQUIPMENT, RESEARCH, ENHANCED DESIGN/BUILD, COMPOST AND VERMICOMPOST INDUSTRIES, AND TO WORK IN OTHER AREAS WITHIN THE PROVINCE, IN OTHER PROVINCES, THE USA AND THROUGHOUT THE WORLD...

WE WANT TO SPEND MORE TIME IN THE RESEARCH AND DEVELOPMENT OF THE BYPRODUCTS OF OUR PROCESSES. THE OBVIOUS ADVANTAGES TO THE DEVELOPMENT OF THE AGRICULTURAL AND HORTICULTURAL INDUSTRIES, IS HIGH ON OUR LIST, AND THE EDUCATION OF OTHERS IN WHAT WE ARE DOING IS OF PRIME IMPORTANCE...

WE WANT TO BETTER THIS PLANET, BY PROVIDING CLEANER, HEALTHIER, AIR, LAND AND WATER...

THE STORY:

WE ARE THE FOREFRONT OF THE NEXT WAVE IN ENVIRONMENTAL CONCERN...

THERE ARE COUNTLESS STUDIES AND REPORTS THAT HAVE BEEN COMPLETED, NOT ONLY ON THE TECHNOLOGY OF MANURE STORAGE AND TREATMENT, BUT ON THE DETRIMENTAL EFFECTS OF AGRICULTURAL WASTES TO THE ENVIRONMENT...WE ARE NOT GOING TO CITE THEM ALL AT THIS TIME, HOWEVER, REFERENCES TO THEM ARE AVAILABLE ON REQUEST...

WE WISH TO FOCUS ON FINDING AND ESTABLISHING FARMER GROUPS WHOSE OPERATIONAL CONCEPTS INCLUDE THE REDUCTION OF GREENHOUSE GASES, IMPROVING THEIR VALUE OF LIFE, PROVIDING ADDITIONAL INCOME TO THEMSELVES AND PRODUCING HIGH QUALITY, EARTH FRIENDLY, VALUE ADDED PRODUCTS...

- " THERE IS ALSO A TREND FOR ALL FARM BUSINESSES TO BECOME MORE "GREEN"...TO DEVELOP A BETTER "SUSTAINABLE" OUTLOOK ON LIFE... FOR EXAMPLE, IT MAY BE TO A RESTAURANT'S ADVANTAGE TO USE 'ORGANICALLY GROWN' AS PR AND A HIGHER INCOME GENERATOR...
- " BY THE SUSTAINABLE REMOVAL OF ANIMAL MANURES AND MORTALITIES FROM THE ENVIRONMENT, IT MAY BE POSSIBLE FOR THE FARMER TO INCREASE HIS HEAD COUNT AND QUOTA, THEREBY MULTIPLYING UPON THE PRODUCT THAT HE IS ORIGINALLY IN BUSINESS FOR...



THE ISSUE AND THE REMEDY:

BY REFERENCE TO THE FOLLOWING SECTIONS OF A REPORT ENTITLED *AN ACTION PLAN FOR REDUCING AGRICULTURALLY GENERATED GREENHOUSE GASES AND OTHER EMISSIONS, IMPROVING LAND AND WATER QUALITY AND GENERATING HEAT AND POWER*... THAT I RESEARCHED AND WROTE WHILE ENERGY MANAGER AT THE CITY OF ABBOTSFORD, WE SEE THE ISSUE AND THE REMEDY...

The City of Abbotsford has approximately 74% of its land mass within agricultural zoning...

In that land mass, there are approximately 10% of its buildings, and all of its dairy, poultry, horse and pig populations...

It is a matter of fact that animals, their manure and mortalities are major contributors to the production of greenhouse gases (and ammonia) and the degradation of air, land and water resources...

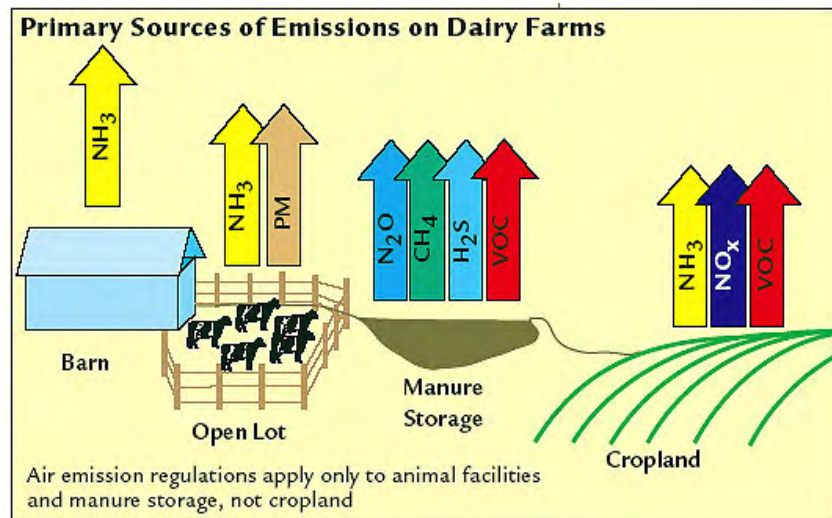
It has been shown that heating and electric energy can be provided by animal wastes...

Additional well documented processes can convert the remaining compost into a valuable soil amendment, both in solid and liquid forms... These value added products are sought after by the nursery, greenhouse, turf and viticulture industries...

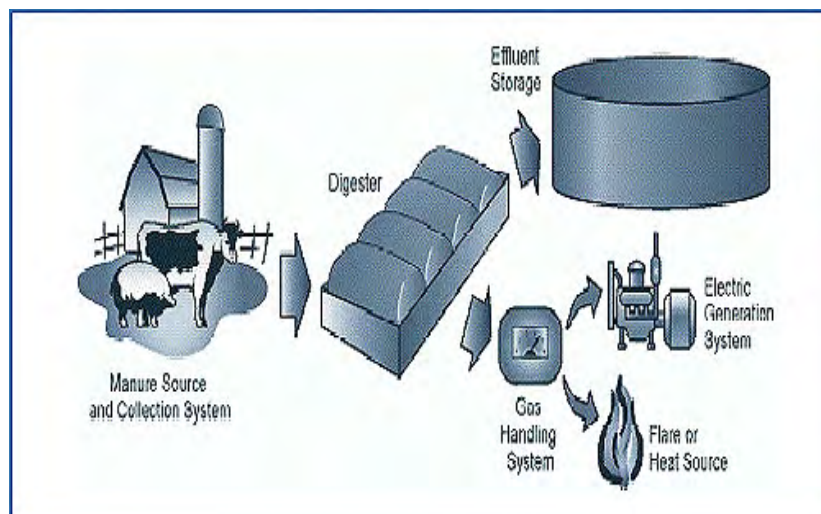
We believe that as a City, Abbotsford can take a leadership role by promoting the locally centralized collection of animal manures and the treatment thereof, such that the local and global community will directly benefit...

What we would like to do is to look (initially) at the existing scenario...

This is where the farmer provides housing, warmth, water, feed and sawdust to their animals in return for their milk, meat or eggs...



And what we need to do to get to the new scenario...



WE WISH TO HELP THE FARMER BECOME A LEADER IN
THE REDUCTION OF GREENHOUSE GASES &

WE WISH TO SIGNIFICANTLY IMPROVE OUR AGRICULTURAL LAND BASE...

AND THE WATER QUALITY THEREUNDER &

WE WISH TO SAVE AND MAKE ENERGY &

Since approximately 74% of our land base is zoned agricultural, and since (along with our immediate neighbours in the Fraser valley) we are the breadbasket of the lower mainland of BC, wherein we contain the majority of dairy, poultry and pork producers... and equine facilities...

... our desire is to provide a leadership role in the reduction of greenhouse gases and ammonia produced and an improvement of the land and water quality caused over the last several decades...

THE REPORT CONTINUES:

We are proposing a 3P approach for the removal of animal manures and mortalities at localized, decentralized facilities, such that:

- i) the offending gases can be removed and used to generate Heat and power (Electricity),*
- ii) the liquid residues can be removed from the Environment, reducing the detrimental effect on Wildlife, Streams and Groundwater, and*
- iii) the solid residues can be Composted for returning to the soil in a more beneficial manner or further converted into value added products.*

Our present best estimate of Dairy Cattle on our land base is 50,000... there are approximately 20,000,000 Chickens, 20,000 Hogs... and 30,000 Horses, Sheep and other ruminants... Based on the present-day production of 3,000,000 tonnes of manure per annum (from Timmenga & Associates, 2003), our estimates of existing outputs are:

The target Air pollutants (CH₄ and NH₃)...

- i) CH₄: 550,000 tonnes... 350,000 tonnes (from Enteric Fermentation) plus 200,000 tonnes (from Manure Management)*
- ii) NH₃: 9,000 tonnes*

Reductions of 35% are sought...

The target Soil and Water pollutants (N₂O and BOD's together with manure-borne bacteria, chemicals and pathogens)...

- i) N₂O: 1,000,000 tonnes...*
- ii) BOD's etc: n/a*

Reductions of 50% are sought...

From the standpoint of (available to be had) Heat and Electricity...

i) 1,400,000,000 (one point four billion) kwh (equivalent to 5,000,000 GJ/yr)

Target deliverance is 50%...

From the standpoint of Compost and Byproducts...

i) 1,000,000 tonnes that can be spread on the land, VermiComposted and made into Compost Tea for greater value...

Target deliverance is 100%...

The Benefits are:

Reduced Greenhouse Gases

Reduced Ammonia (providing Increased Air Quality, Reduced Odour)

Improved Land Chemistry (Cleaner Environment)

Improved Water Quality (Less Treatment Required)

Perhaps Fewer Animal Diseases (BSE, AI etc &)

Energy Savings

Cost Effective Heat and Hydro Generation

Financial Benefits to Farmers and Stakeholders

Financial Benefits to City

Availability of over US\$5.5 /tonne on Sale of CO2 Credits

Availability of "Clean" Compost to return to the Land

Availability of Value Added Compost Products

Additional Jobs Created

Press and Media Attention

AND WHAT WILL IT GET FOR VALLEY AGPOWER?:

A LEADERSHIP POSITION AS TO THE SCIENCE AND VALUE OF HELPING FARMERS TO REDUCE GHG s AND ENERGY SAVINGS IN THE AGRICULTURAL INDUSTRY...

ASSISTANCE IN THE REDUCTION IN THE AMOUNT OF AMMONIA RELEASED TO THE ATMOSPHERE AND ITS ASSOCIATED ODOUR...

HELPING TO SOLVE THE PROBLEMS ASSOCIATED WITH MORTALITY DISPOSAL...

HELPING TO PROVIDE CLEANER DRINKING WATER... HELPING TO ADD LESS HARMFUL BACTERIA ON OUR LAND...

BECOMING A SUPPLIER OF DESIGN AND CONSTRUCTION IDEAS TO OTHERS INTERESTED IN THE SAME PROCESS... AND BECOMING A SUPPLIER OF OUTSTANDING, HIGH QUALITY COMPOST, VERMICOMPOST AND COMPOST TEA TO THE LOCAL NURSERY AND GREENHOUSE INDUSTRIES...

A MOVE TOWARDS A BECOMING A *GREENER* VALLEY WITH PROPERTIES THAT ARE MORE VALUABLE, SUSTAINABLE AND EARTH FRIENDLY...

FACT: THIS DOES NOT INVOLVE NEW TECHNOLOGY...

FACT: THE FARMERS WANT TO DO SOMETHING ABOUT IT (RATHER THAN BEING LEGISLATED).. AND THE BONUS IS THAT THEY WILL MAKE GREATER INCOME FROM THEIR EXISTING BUSINESSES...

WHAT IT S ALL ABOUT?... ANAEROBIC DIGESTERS:

IN RECENT YEARS, A LOT OF RESEARCH HAS BEEN CARRIED OUT ON THE TECHNOLOGY,
DESIGN, UPGRADING AND IMPROVEMENT OF ANAEROBIC DIGESTERS..
REMEMBER, THEY VE BEEN AROUND FOR A VERY LONG TIME...

THE FUTURE IS EVEN BRIGHTER

FACT: THERE ARE NO FULL TIME DAIRY (OR OTHER ANIMAL) MANURE DIGESTERS IN BRITISH COLUMBIA...

FACT: WE ARE SUBSCRIBERS TO *BIOCYCLE*, (www.biocycle.net) A TRADE MAGAZINE FOR THE COMPOSTING INDUSTRY. THERE ARE NO REFERENCES AT ALL, TO INDEPENDENT CONSULTING COMPANIES, EXCEPT THOSE STAFF MEMBERS AFFILIATED WITH A PRODUCT OR PROCESS MANUFACTURER.

FACT: THE WRITER HAS BEEN TO SEVERAL COMPOSTING TRADE SHOWS AND CONVENTIONS AND WAS ASTONISHED AT THE LACK OF REPRESENTATION OR INTEREST ABOUT TALKING ABOUT THE PROBLEM.... BUT THINGS ARE CHANGING ...

WHAT WE ARE AWARE OF IS THAT THE TECHNOLOGY EXISTS... THAT THE FARMERS ARE WILLING AND THAT THE TIME IS RIGHT TO DEVELOP THIS ON A LOCAL AND COUNTRY WIDE LEVEL...

THE CREATION OF RENEWABLE POWER IS AN IMPORTANT GROWTH INDUSTRY FOR THE FUTURE, AS WELL AS THE REDUCTION OF WASTE MATERIALS AND IMPROVEMENTS TO OUR ENVIRONMENT...

WE DON T MIND IF WE PROVIDE YOU WITH THE KNOW-HOW... OR IF YOU PROMISE US ALL YOUR *POOP* AND GME, RENT, LEASE OR SELL US A FEW ACRES OF YOUR LAND TO PUT THE FACILITY ON...

WE RE TALKING ABOUT WIN-WIN FOR THE BOTH OF US...



..SILOS OR DIGESTERS ?

THE MIND SET:

WE WANT THE FARMERS TO BECOME LEADERS IN THE REDUCTION OF GREENHOUSE GASES &

WE WISH TO SIGNIFICANTLY IMPROVE OUR AGRICULTURAL LAND BASE...

AND THE WATER QUALITY THEREUNDER &

WE WISH TO SAVE AND MAKE ENERGY &

AND WHAT WILL IT GET FOR VALLEY FARMERS?

ANY AND ALL OF THE FOLLOWING:

A LEADERSHIP POSITION IN THE SCIENCE AND VALUE OF GHG REDUCTION AND ENERGY SAVINGS IN THE AGRICULTURAL INDUSTRY...

ASSISTANCE IN THE REDUCTION IN THE AMOUNT OF AMMONIA RELEASED TO THE ATMOSPHERE AND ITS ASSOCIATED ODOUR...

A SOLUTION TO THE PROBLEMS ASSOCIATED WITH MORTALITY DISPOSAL...

CLEANER DRINKING WATER...

LESS HARMFUL CHEMICALS AND BACTERIA ON OUR LAND...

BECOMING A SUPPLIER OF DESIGN AND CONSTRUCTION IDEAS TO OTHERS INTERESTED IN THE SAME PROCESS...

BECOMING A SUPPLIER OF OUTSTANDING, HIGH QUALITY COMPOST, VERMICOMPOST AND COMPOST TEA TO THE LOCAL NURSERY AND GREENHOUSE INDUSTRIES...

A MOVE TOWARDS A BECOMING A *GREENER* VALLEY WITH PROPERTIES THAT ARE MORE VALUABLE, SUSTAINABLE AND EARTH FRIENDLY...

ADDITIONAL INCOME...

QUESTION: DOES THIS INVOLVE NEW TECHNOLOGY...

ANSWER: NO...

QUESTION: DO WE WANT TO DO SOMETHING ABOUT IT? (RATHER THAN BEING LEGISLATED TO)... AND THE BONUS IS THAT IT WILL INCREASE INCOME FROM MY EXISTING BUSINESS...

ANSWER: YES...

QUESTION: HOW DO I GET STARTED?

ANSWER: START WITH THE QUESTIONNAIRE ... BELOW, LATER...

THE AVAILABLE TECHNOLOGIES:

ANAEROBIC DIGESTION (aka AD)

ANAEROBIC DIGESTERS HAVE BEEN IN USE FOR CENTURIES ...

IN CHINA AND INDIA, THEY ARE A MATTER OF FACT...

IN EUROPE, THEY RE LEGISLATE D...

IN RECENT YEARS, A LOT OF RESEARCH HAS BEEN CARRIED OUT ON THE UPGRADING AND IMPROVEMENT OF ANAEROBIC DIGESTERS ...

FACT: THERE ARE NO FULL TIME DAIRY (OR OTHER ANIMAL) MANURE DIGESTERS IN BRITISH COLUMBIA.. ONLY FIVE IN CANADA.. WHAT WE ARE AWARE OF IS THAT THE TECHNOLOGY EXISTS... THAT THE FARMERS ARE WILLING AND THAT THE TIME IS RIGHT TO DEVELOP THIS INDUSTRY...

FACT: THE CREATION OF RENEWABLE POWER IS AN IMPORTANT GROWTH INDUSTRY FOR THE FUTURE, AS WELL AS THE REDUCTION OF WASTE MATERIALS AND IMPROVEMENTS TO OUR ENVIRONMENT...

THERE ARE DIFFERENT AD TECHNOLOGIES EACH ONE SUITED FOR A PARTICULAR INPUT MATERIAL MIX.. IN GENERAL TERMS, WE USE PLUG FLOW FOR DAIRY, COMPLETE MIX FOR SWINE.. FOR POULTRY, DEPENDING ON THE BIRD AND IF ITS A BROILER, BREEDER OR LAYER, WE CAN EITHER MIX WITH SWINE... OR USE IN A NON-AD TECHNOLOGY (COMPOSTING) FOR COMBINED HEAT AND POWER (aka CHP)... A LOT DEPENDS ON THE BEDDING AND WHETHER YOU HAVE A SCRAPE, FLUSH OR USE A PIT METHOD FOR MANURE COLLECTION...

WE HAVE TO LOOK AT THE SCIENCE OF THE MIX.. THE VOLATILE SOLIDS (aka VS) CONTENTS, MASS BALANCES, TEMPERATURE AND HYDRAULIC RETENTION TIME (aka HRT) REQUIREMENTS, SINGE OR TWO PHASED TECHNOLOGY AND THE OVERALL ECONOMIC AND BUSINESS ASPECT...

WE RE LOOKING FOR PAYBACK (RETURN ON INVESTMENT) OF LESS THAN 5 TO 6 YEARS...

BEDDING OR LITTER MAY NEED TO BE SEPARATED BEFOREHAND... MAYBE NOT...

WE MAY NEED TO LOOK AT TOXIC MATERIALS THAT INHIBIT DIGESTION... WE MAY NEED TO CHANGE THE ANIMALS DIET, IF WE FIND A PROBLEM...

SYSTEMS ARE NOT SMELLY, UGLY, NOISY OR POLLUTING...

GO TO GOOGLE AND TYPE IN *ANAEROBIC DIGESTION*.. SOME OF YOUR OTHER QUESTIONS MAY BE ANSWERED BY WHAT YOU FIND... IF YOU DON T HAVE TIME, ASK US... WE HAVE REALMS OF LINKS AND INFORMATION TO SHARE WITH YOU...

PYROLYSIS:

THIS IS A GASIFICATION TECHNOLOGY WHEREBY VERY DRY ORGANIC MATTER (LIKE BROILER POULTRY MANURE) CAN BE CONVERTED (BURNED) CREATING HEAT AND POWER.. AD PROCESSES DON T WORK, SO UNLESS YOUR NEIGHBOUR IS A SWINE GUY (MEANING YOU CAN MIX YOUR DRY STUFF WITH HIS WET STUFF), YOU WILL NEED ANOTHER METHOD OF SOLVING YOUR WASTE ISSUES AND GENERATING SOLUTIONS...

THE TWO MOST COMMONLY USED PYROLYSIS SYSTEMS USE EITHER VERY HIGH TEMPERATURE BURNERS OR PLASMA FLAMES TO PROVIDE A BIO-OIL OR CHARCOAL, DEPENDING ON THE SYSTEM...

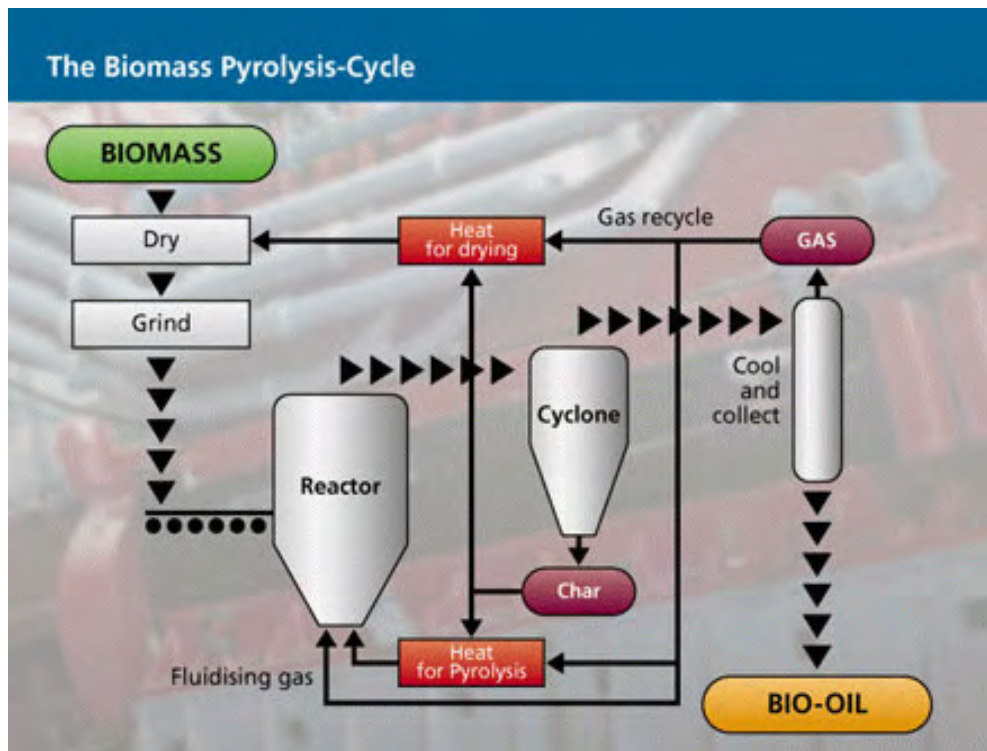
THE HEAT CAN BE:

USED TO DRIVE A TURBINE OR STIRLING CYCLE ENGINE TO MAKE GENERATORS TURN CREATING ELECTRICITY...

OR...

BE SOLD TO YOUR NEIGHBOUR WITH THE GREENHOUSE... HE NEEDS HEAT...

ONE OF THE GREATEST ISSUES WE HAVE (IN THE FRASER VALLEY) WITH ANY TYPE OF *BURNING* TECHNOLOGY IS TO CONVINCING THE VARIOUS GOVERNMENT LEVELS THAT THERE WILL BE NEXT TO ZERO EMISSIONS...REMEMBER, WE ARE TALKING ABOUT OUR NEIGHBOUR, SE2" IN SUMAS...NOT IMPOSSIBLE... JUST TIME CONSUMING...



FERTILIZATION:

THERE ARE COMPANIES THAT WILL SIMPLY TAKE YOUR MANURE, FOR A FEE (TIPPING CHARGE) AND YOU'LL NEVER SEE IT AGAIN... THEY WILL CONVERT IT INTO FERTILIZER, WHICH THEY SELL FOR A HIGH PROFIT...

THIS IS A SOMEWHAT HIGH TECH OPERATION, HOWEVER IT WORKS FOR SOME PEOPLE... AS WE READ THIS, THERE IS A COMPANY EXPLORING OPTIONS IN THE ABBOTSFORD AREA...

IF THIS IS YOUR ONLY OPTION, VALLEY AGPOWER WILL HELP YOU SET THIS UP...

BUSINESS OPTIONS... WHATS IT WORTH?:

IT COULD BE WORTH LOTS ... BUT *LOTS* IS A RELATIVE TERM...

REMEMBERING THAT WE ARE LOOKING FOR A ROI OF LESS THAN 5 TO 6 YEARS, AND WE DONT WANT TO KNOW WHAT YOUR FINANCIAL RESOURCES ARE...

BASED ON EITHER A SINGLE FARM OR CO-OP GROUP, WE HAVE THE FOLLOWING OPTIONS AVAILABLE TO CONSIDER:

1) SELF FINANCE:

YOU CAN HIRE VALLEY AGPOWER TO DESIGN OR DESIGN/BUILD THE FACILITY FOR YOU... WE CAN PREPARE A FEASIBILITY STUDY FOR YOU AND A BUSINESS PLAN IF YOU REQUIRE IT... WE CAN ARRANGE FOR THE REQUIRED LAB TESTS (WE NEED TO KNOW EXACTLY WHAT IT IS THAT YOU HAVE)... WE CAN OBTAIN THE PERMITS AND SELL YOUR HEAT AND POWER FOR YOU... WE GIVE YOU THE KEY TO THE PLACE... THEN WE WALK AWAY...

YOU RUN IT, OPERATE IT AND MAINTAIN IT... SIMPLE...

WE WOULD DO THIS WORK FOR A FIXED FEE...

2) PARTNERSHIP:

AS IN 1) ABOVE, VALLEY AGPOWER WILL NEED TO DO THE SAME *PRE-CONSTRUCTION* AND *CONSTRUCTION* THINGS... HOWEVER, THIS TIME WE ARE ABLE TO RUN, OPERATE AND MAINTAIN THE FACILITY AS WELL... AND WE CAN DO THAT AS A TEAM...

WE WILL STILL NEED TO BE PAID FOR OUR TIME AND WORK, SOMEHOW, BUT IT WOULD BE SET UP AS A SHARED RESPONSIBILITY, EITHER BY CONTRACT OR PART OWNERSHIP OPTIONS...

3) NO INVOLVEMENT:

WE HAVE A CONTRACT TO RENT, LEASE OR BUY 4 OR 5 ACRES OF YOUR (OR SOMEBODY ELSE S) FARM, AND FOR YOU (AND THEM) TO SUPPLY US WITH YOUR *POOP*...

WE RUN IT, OPERATE AND MAINTAIN IT... SIMPLE...

DOESNT COST YOU A DIME... YOU MIGHT ACTUALLY MAKE SOME MONEY, AND ITLL MAYBE GET RID OF A *PROBLEM* FOR YOU...

WHERE DO WE GO FROM HERE?:

THE INFORMATION SHEET

HAVE A LOOK AT THE ATTACHED INFORMATION SHEET... ANSWER IT HONESTLY, AND IT WILL TELL US ABOUT YOU... AND WHAT YOUR AIMS AND DESIRES ARE...

PHOTOCOPY OR REMOVE IT, FILL IT IN AND FAX OR MAIL IT TO US... (WE CAN EVEN EMAIL YOU A COPY IF YOU CONTACT US FIRST WITH YOUR EMAIL ADDRESS)... IT MIGHT TAKE A BIT OF TIME TO COMPLETE... BUT THIS IS VERY IMPORTANT TIME... IT DOCUMENTS THE GROUND RULES... WHERE DO WE START FROM ?

CALL US, WE CAN EVEN DROP BY AND HELP YOU WITH IT...

THEN WE LL GET TOGETHER AND DISCUSS THE OPTIONS AND HOW WE CAN HELP EACH OTHER...

WE LL START WITH A LETTER OF INTENT AND/OR A MEMORANDUM OF UNDERSTANDING, SO THAT WE START ON A LEVEL, BUSINESS RELATED, PLAYING FIELD ...

SO WHAT THE OPTIONS?:

(IT S NOT JUST ABOUT THE VALUE OF ELECTRICITY IN BRITISH COLUMBIA ...)

BASE THE NODE ON 1,500 COWS THAT PRODUCE 115 LBS MANURE/DAY EACH,
PROVIDING OVER 75 TONS/DAY IN TOTAL...

EVERY 4 COWS CAN PRODUCE 1KW/HR OF ELECTRICITY (*check biogas nord*) FROM THE METHANE
GENERATED BY THEIR MANURE, THUS PRODUCING 9,000 KWH/DAY...

(*Compare to Lynden, WA (designed by GHD from Wisconsin) where 1,500 cows generate an income of
US\$15/hour through the sale of Electricity, meaning 3,000 cows would generate an income of
C\$720 per day... at 8 cents/KWh... being paid by BC Hydro for Green Energy...*)

THERE IS ALSO HEAT PRODUCED (IN ADDITION TO ELECTRICITY)... OF 150 GJ/DAY...
THAT CAN BE USED IN AN ABSORPTION CHILLER FOR MILK COOLING OR FOR
SLAB OR SPACE HEATING ...

(*or for on-site greenhouse for growing hydroponic fodder... fresh feed supplement... more weight gain...
more milk... or sold for specialty animal rearing...*)

(*If we use a value of \$8/GJ, this heat is valued at C\$1,200/day...*)

AFTER SEPARATION, THE SOLIDS CAN BE USED FOR BEDDING... ELIMINATING THE COST OF
SHAVINGS OR SAND... NO DISEASE OR PATHOGENS... NO MASTITIS...
CLEAN UDDERS... COW COMFORT... MORE MILK...

(*Compare to Vir-Clar Farm, Fond-du-Lac, Wisconsin...1,100 cows
save owners US\$80,000/yr for shavings...
translates to Farm Node to C\$135,000 annual savings for 1,500 head...*)

THE TREATED LIQUID MANURE HAS NO PHOSPHORUS IN IT, AND THE NITROGEN IS REDUCED BY
OVER 50%... BETTER FOR THE SOIL... BETTER FOR THE AQUIFER... MUCH LESS ODOUR... HAPPY
NEIGHBOURS ...

(*Check Vander Haak Dairy in Lynden, Washington...*)

THE EXISTING METHOD OF COLLECTING MANURE MAY NEED TO BE MODIFIED IN ORDER TO USE A HOULE (OR OTHER) SCRAPER SYSTEM(S) TO CAPTURE MANURE ON A DAILY BASIS... WASH DOWN WATER FROM THE DAIRY IS NOT ADDED TO THE MANURE SLURRY, BUT TREATED SEPARATELY... AND COPPER SULPHATE OR OTHER USED CHEMICALS ARE DISCARDED...



THE MANURE SLURRY IS PUMPED INTO A COVERED, INSULATED, ANAEROBIC DIGESTER.. TYPE TO BE DISCUSSED... ALLOW AN INSTALLED COST OF \$1.5 MILLION, HOWEVER, WE MAY HAVE THE OPTION TO USE ANY EXISTING GENERATOR FOR A REDUCED FIRST COST...



...Vir-Clar Farms, Wisconsin

THE GENERATED METHANE CAN BE PIPED AND SOLD TO A LOCAL GREENHOUSE FOR THEIR OWN HEAT GENERATION AND CO2 PRODUCTION... OR USED ON-SITE TO PRODUCE HEAT AND ELECTRICITY... THE GREENHOUSE COULD (SHOULD) BE A MEMBER OF THE NODE GROUP...



THE SOLIDS ARE REMOVED, DEWATERED AND CAN BE COMPOSTED FOR VALUE-ADDED BENEFITS OR SOLD, AS-IS TO THE NURSERY OR GREENHOUSE INDUSTRIES AS REPLACEMENT FILLER FOR PEAT... OR THEY CAN BE USED FOR ANIMAL BEDDING SAVING FURTHER COSTS...OR A COMBINATION OF EACH...



THE RESULTING LIQUID, CONTAINING LESS THAN 50% OF THE ORIGINAL NITROGEN CAN BE USED TO RETURN TO THE LAND AS A FERTILIZER... IN CERTAIN CASES, IT HAS BEEN CLASSIFIED AS INORGANIC MAKING IT POSSIBLE TO SPREAD ON GROWING PLANTS...

...OR THE SOLIDS AND THE LIQUIDS CAN BE USED TO CREATE FURTHER *VALUE ADDED* PRODUCTS...

AVAILABLE OPTIONS?:

THERE IS AN OPTION OF CREATING UP TO 4 (FOUR) TIMES MORE METHANE !!!



IT IS KNOWN AS MICROSLUDGE AND IT'S A SYSTEM THAT WAS DESIGNED AT UBC AND BEING BUILT BY PARADIGM ENVIRONMENTAL IN VANCOUVER...IT IS VERY EXPENSIVE, HOWEVER, IT PROVIDES A REAL, PROVEN METHOD OF INCREASING INCOME BY A LARGE MAGNITUDE...

WE HAVE SPOKEN WITH THE OWNERS OF PARADIGM, AND THEY ARE PREPARED TO ENTER INTO AN AGREEMENT WHEREBY THEY PAY FOR THE INSTALLATION OF THEIR EQUIPMENT (\$1.5 MILLION), AND THAT THEY GET A PORTION OF THE INCREASED REVENUE ONLY (NOT THE BASE INCOME GENERATED PRIOR TO THE INSTALLATION OF THEIR SYSTEM)...

PLEASE REFER TO THEIR WEBSITE AT WWW.MICROSLUDGE.COM FOR TECHNICAL INFORMATION... THIS EQUIPMENT WAS TESTED LAST YEAR AT THE CHILLIWACK WASTE WATER TREATMENT PLANT (SO INFORMATION AND A FULL REPORT BY CH2MHILL IS AVAILABLE) AND IS ABOUT TO COMMENCE A TRIAL INSTALLATION AT THE ABBOTSFORD WWTP...

WE BELIEVE THAT IT SHOULD BE GIVEN SERIOUS CONSIDERATION...

THERE IS AN OPTION TO TAKE ADDITIONAL WASTE FROM POULTRY, SWINE OR MUNICIPAL AND INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) ORGANICS...

By adding (offal, pre or post consumer food, spent birds and deceased animals) to the manure mix , additional high generation Methanogens can be established to provide a greater amount of Methane...

THERE IS THE OPTION OF THE FARMER GETTING ADDITIONAL MILKERS...

If all the manure is being taken and treaded and not returned to the land in damaging quantities, then the farmer would be able to have additional cows, since their manure will be treated too, and not spread on the land...

THERE IS THE OPTION OF SELLING THE BIOGAS TO A NEIGHBOUR OR NODE PARTNER, FOR USE IN HIS GREENHOUSES...

Greenhouses use heat and CO2 (BioGas is approx 65% Methane and 35% CO2)... and it would be a relatively easy task to install underground piping to take Bio Gas to his farm...

PLEASE NOTE

WE HAVE HAD MEETINGS WITH BOTH THE FARM CREDIT CORPORATION AND THE ROYAL BANK (AGRICULTURAL DIVISION) IN ABBOTSFORD... BOTH HAVE RESPONDED THAT THEY WILL ABSOLUTELY SUPPORT THE FUNDING OF A LOCAL BIOGAS PROJECT...

WE MET WITH THE AGRICULTURAL LAND COMMISSION, AND IF THE FARMER CONSTRUCTS A BIOGAS FACILITY ON HIS OWN PROPERTY, AND USES HIS OWN MANURE THEY WILL HAVE NO OBJECTIONS... HOWEVER, IF MIXED WASTE ARE BROUGHT IN, THEN AN APPLICATION FOR A NON-FARM USE ON ALR LAND WILL NEED TO BE MADE... HOWEVER WITH THE CITY'S SUPPORT, THEY SEE NO PROBLEMS IN THE APPROVAL THERE OF...

THE SIMPLE MATH:

BASED ON A TURN-KEY BUDGET OF \$1.5 MILLION FOR CONSTRUCTION COST... WITH FINANCING OF \$1 MILLION...

EXPENSES:

ANNUAL FINANCE REPAYMENT	\$ 100,000
OPERATION COSTS	60,000
FIXED COSTS	40,000
EQUIPMENT MAINTENANCE	50,000

TOTAL \$ 250,000

REVENUE:

VALUE (SALE) OF ELECTRICITY	\$ 235,000	
VALUE (SALE) OF HEAT	393,000	
VALUE OF SELF-BEDDING	135,000	
VALUE (SALE) OF BEDDING	135,000	
VALUE (SALE) EXISTING LAND	() YOU FILL IT IN
VALUE OF EXISTING MANURE HAULING	() YOU FILL IT IN
VALUE OF ADDITIONAL ANIMALS	() YOU FILL IT IN
VALUE TO THE ENVIRONMENT	PRICELESS	

TOTAL \$ 898,000 (MINIMUM)

AND IF WE LOOK AT THE ADDITION OF A MICROSLUDGE SYSTEM, WE GET:

EXPENSES:

ANNUAL FINANCE REPAYMENT	\$ 120,000	(A REDESIGNED FACILITY WILL BE REQUIRED)
OPERATION COSTS	60,000	
FIXED COSTS	40,000	
EQUIPMENT MAINTENANCE	50,000	
MICROSLUDGE EQUIP LEASE	100,000	
MICROSLUDGE EQUIP O + M	60,000	

TOTAL \$ 430,000

REVENUE:

VALUE (SALE) OF ELECTRICITY	\$ 635,000	
VALUE (SALE) OF HEAT	455,000	
VALUE OF SELF-BEDDING	135,000	
VALUE (SALE) OF BEDDING	135,000	
VALUE (SALE) EXISTING LAND	() YOU FILL IT IN
VALUE OF EXISTING MANURE HAULING	() YOU FILL IT IN
VALUE OF ADDITIONAL ANIMALS	() YOU FILL IT IN
VALUE TO THE ENVIRONMENT	PRICELESS	

TOTAL \$1,360,000 (MINIMUM)

FINANCING OPTIONS:

SELF FINANCE

THE FARM NODE, AND ANY OTHER FARM OR NON-FARM PARTNERS
PAY FOR THE TOTAL PROJECT THEMSELVES...

VALLEY AGPOWER CAN OFFER AN FEASIBILITY STUDY/BUSINESS PLAN AND DESIGN-BUILD LUMP
SUM PACKAGE(S)... AND ALSO BE ABLE TO OFFER OPERATION AND MAINTENANCE SERVICES (APPROX
2 HOURS/DAY) FOR THE EQUIPMENT...

THE NODE WILL BE RESPONSIBLE USE OR SELL THE HEAT AND POWER AS THEY WISH... OR VALLEY
AGPOWER CAN ASSIST WITH THAT AS WELL...
PARTNERSHIP

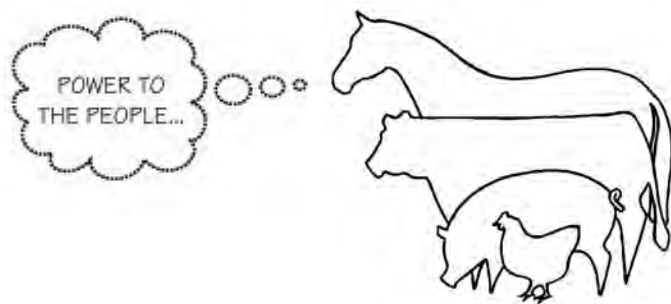
THE FARM NODE AND THE VALLEY AGPOWER FINANCIAL TEAMS WOULD PREPARE
A LETTER OF INTENT TO DEVELOP THE FEASIBILITY STUDY/BUSINESS PLAN TOGETHER
FOR A PERCENTAGE OF THE COSTS EACH, AND TO CO-OWN /OPERATE THE FACILITY FOR A SPECIFIC
TERM...

NO INVOLVEMENT

THE FARM NODE WOULD WRITE A SECURE CONTRACT TO LEASE LAND TO THE VALLEY AGPOWER TEAM
AND PROVIDE THEM WITH MANURE FOR A FIXED NUMBER OF YEARS.

VALLEY AG WOULD DESIGN-BUILD-FINANCE THE COMPLETE PROJECT AND
SELL THE RESULTING PRODUCTS BY ITSELF...

AT THE END OF THE TERM, EVERYTHING WOULD REVERT TO THE OWNER OF THE FARM...



...LET S MAKE THIS HAPPEN...

(THE WORLD IS READY)



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INFORMATION SHEET

Your Name: Date:

Farm Name:

Address: City:

Province/State: Zip:

Tel: Fax:

email: Cell:

Farm Type Dairy: Milkers: Dry: Calves:
+ Numbers:

Swine: Sows: Boars: Other:

Fowl: Breeders: Broilers: Layers

Other: Farm size:

Potential Animal Expansion:

When:.....

Manure Collection Flush: Scrape:
+ Frequency:

Deep Pit: Pull Plug:

Solids Storage

Existing Bedding:

Other Available Food/Veg: Municipal:
Wastes:

Why install a digester?: **Good idea:** **Environment:**
Financial: **Odour Control:**
Energy: **Community:**
Self or Cooperative:

Input from other Farms available: **Name:** **Location:**
Animals: **Distance:**
(If more than 1, please use a separate sheet)

Local use for Gas, Hydro and CO2: **Self:** **Neighbour:**
Greenhouse: **Sell to others:**

Local use for Digested Solids: **Self:** **Neighbour:**
Nursery: **Sell to others:**

Local use for Digested Liquids: **Self:** **Neighbour:**
Nursery: **Sell to others:**

Existing Equipment: **Lagoon(s):** **Tank(s):**
Digester: **Capacity:**
Separator: **Style:**
Generator: **Size:**
Composter: **Style:**

Financial (annual): **Hydro Cost:** **Gas Cost:**
Manure Trucking:
How many acres do you presently spread on?:

Business Approach: **Self Finance:** **Partnership:**
Others Own/Operate: **Grants required:**

Tax Depreciation Advantage: **Use:** **Partial:**
Entirely:

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