



COMPANY INFORMATION

Date: 5/15/2017

Company:	Coaltec Energy USA		
Phone:	(618) 453-7324	Web Site:	http://www.coaltecenergy.com/
Address:	5749 Coal Drive	City:	Carterville
State:	Illinois	Zip Code:	62918

BUSINESS CONTACT

TECHNICAL CONTACT

Name:	Michael McGolden, CEO	Name:	Michael McGolden, CEO
Phone:	(618) 453-7324	Phone:	(618) 453-7324
Email:	Mike@coaltecenergy.com	Email:	Mike@coaltecenergy.com
Address:	5749 Coal Drive	Address:	5749 Coal Drive
City:	Carterville	City:	Carterville
State:	Illinois	State:	Illinois
Zip Code:	62918	Zip Code:	62918

BUSINESS HISTORY

How long have you been in business? 6 years

Are you part of a larger company? Yes No

Did you exist as another company before this company was formed? Yes No *If so, what was that company's name?*

Number of employees? 6 (include contractors)

What is your business structure? Limited Liability Company??

What types of insurance and or surety do you provide?
??

Describe your business service(s). *For example: consulting, development, engineering, equipment sales, finance, other.*
Full project development including pre-project studies, engineering design, construction, commissioning, start-up, operation and maintenance

Describe your area or region of operation.
North America and Europe

Does your company hold any patents or the rights to any patents? Yes No *If yes, please describe.*
The technology is patented,

Do you manufacture equipment? Yes No *If yes, please describe.*

Coaltec gasifier equipment is manufactured in Park Hills, MO

Do you integrate equipment manufactured by others? Yes No

If you integrate, please list the names of the companies you represent.

Depending on the project site, the gasifier can be integrated is a manure/biosolids dryer and materials handling equipment. The Coaltec system is designed to produce electricity using a CHP system.

How do you answer potential customer's questions about financial strength of your company?

Our company has been in business for 16 years.

Do you offer technical/service support? Yes No *If so, what methods?*

Project design, engineering and constructions, operations and maintenance.

Do you offer design services? Yes No *If yes, please describe.*

Each gasifier plant is designed according to the feedstock type, climate, and desired products for reuse.

Do you offer financing? Yes No *If so, what terms?*

We do not provide financing at this time

Are you a full stop shop? Design to construction to operate? Yes No *If so, please describe.*

We design, construct and operate each facility after completing pre-project studies on needs and requirements of the customer.

Do you have preferred partners? Yes No *If so, please list and provide contact information/identify partners by name.*

We have a preferred fabricator, supplier of refractory material, augers, gas burners, and dryers/cyclones.

Do you have any third-party verification/research that has been done on this technology? Yes No

If so, please describe.

Third-party lab results are available.

Do you provide a performance guarantee? Yes No *If so, what are you guaranteeing?*

For example: up time, methane production, biogas production, parasitic load, throughput, O&M cost, percent recovery, other. Please describe.

On full service contracts operated by Coaltec.

Are there any other aspects of your business that you feel should be included in this document?

Coaltec offers consultation on commercial opportunities to market biochar.

INITIAL TECHNOLOGY OVERVIEW

This information is to guide in the development of a more specific and detailed Technology Information Request.

Please answer the following questions for each Technology or Service Provided.

What is the name of the technology or service you provide?

Dairy manure gasification and biochar production

What unit process is the technology used in?

For example: initial collection/transfer manure storage, energy recovery, primary/coarse solids recovery, advanced suspended/fine solids recovery, drying, struvite production, nitrification denitrification, ammonia stripping, algae, vermi composting, membrane filtration, evaporation, other.

Drying and gasification; although some project designs include solid separation, steam and/or power production.

How many systems have you installed on dairy farms or other livestock operations?

4

Size of farm(s)?

Minimum of 30 tons/day of manure and bedding – volume of material can be lower, depending on the economics.

Location of farm(s)?

Midwest and Southeast

What's the smallest and largest farm using your system?

30 to 150 tons per day. But, we have potential projects that range from 10 tons per day to 500 tons.

Input material description and characteristics: *For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.*

Livestock manure and straw, corn straw or sawdust bedding, digestate, mortalities

Does the technology treat the full manure stream for a farm or a fraction of the stream?

The system treats livestock manure and bedding. No flush water.

Do you consider this a mature system or ongoing farm development?

The technology is mature for on-farm livestock manure management applications.

Any weather constraints? Yes No *If so, please describe.*

Any bedding constraints? Yes No *If so, please describe.*

Is this process scalable and to what extent (top and bottom limits)? Yes No *If so, please describe.*

Lower limit is 10 to 15 tons/day of livestock manure and bedding – depending on the economics. The gasifier system is modular to accommodate larger manure volumes. Large facilities will utilize multiple units rather than fabricating a larger machine.

Do you have a known scaling factor? Yes No *If so, please describe.*

Sizing and scaling factors are not a matter of technology but of economics

Input and output of your unit/system – do you have a mass balance analysis? Yes No *If so, please describe.*

A mass balance is available for each gasifier project

Do you consider this technology part of a larger system that you provide? Yes No *If so, please describe.*

The gasifier can be designed as a stand-alone system or can incorporate waste heat recovery, a manure dryer, electric power generation and a biochar bagging operation.

Has your technology been accepted by the NRCS? Yes No *If so, please describe.*

Would you be willing to provide information for a technical review? Yes No

Would you be willing to respond to a Request for Quotation (RFQ) on a generic project for comparison of your technology against other technologies in the same unit process? Yes No

REFERENCES

Please provide customers or colleagues with whom we can discuss your business and performance.

Please include a list with company name, location, contact name and contact information below.

Reference 1

Company Name:

Reference available upon request. We can supply references of both customers and suppliers, but prefer screening the contacts in respect to our customers/suppliers.

Company Location:

Contact Name:

Contact Information:

Reference 2

Company Name:

Company Location:

Contact Name:

Contact Information:

Reference 3

Company Name:

Company Location:

Contact Name:

Contact Information:

Reference 4

Company Name:

Company Location:

Contact Name:

Contact Information:

Are there any other facts about this technology that you feel should be included in this document? *If so, please describe below.*