



*Prepared For:*  
**ND Oil & Gas Research Council**  
**Natural Gas Flaring Alternatives**  
**January 3, 2013**



- North Dakota Based Company
- Founded in 2008
- Mission: Provide market-based solutions to monetize stranded gas through distributed gas processing solutions.



# Agenda:

- **Update**
- **Gas Monetization Solutions**
- **Lessons Learned**
- **Going Forward - What Makes Sense**
- **Alternative Uses - Remaining Grant Funds**



# Blaise Energy

## Gas Monetization Solutions

1

Grid Power

2

Site Power

3

Micro-Grid / Private Electrical Grid

4

NGL Recovery

5

Gas to Liquids - Methanol

## Grid Power

Blaise initially launched a distributed generation service producing electricity directly at the flaring source for sale into the electrical grid (“Grid Power”).

Blaise is the 1st company in North America to generate externally verified RECs (Renewable Energy Credits) from recycling flared gas.



“Grid Shack” – All electronics & breakers to parallel to grid



Blaise paralleled generators, switch gear and custom gas processing equipment in operation



## Site Power

- Expertise with Gas Engines
- Faster to Deploy
- Easier to Deploy

Diesel Generation



Gas-Powered Generation

Two primary forces are driving this:

### Economics

- More affordable source of site power
- Eliminates the need to truck in diesel

### Emissions

- Emissions from natural gas generator is lower than diesel.
- Increasing state and federal pressure on the oil and gas industry to reduce emissions



Paralleling Expertise – Size Generation to Load

## Micro Grid

Blaise quickly expanded into larger site power requirements by powering larger private electrical loads.

Blaise is supplying all power requirements from natural gas for a newly constructed gas processing plant in North Dakota.

Blaise is actively pursuing additional industrial Micro-Grid applications



## Natural Gas Liquids

Blaise participated in a pilot project with a strategic partner to deploy our first NGL service

Blaise Energy is partnering with a strategic partner to deploy our first NGL service. Blaise Energy is partnering with a strategic partner to deploy our first NGL service. Blaise Energy is partnering with a strategic partner to deploy our first NGL service.



Having participated in a successful pilot project, Blaise is in active discussions with additional Operators to launch a more mobile micro-processing service

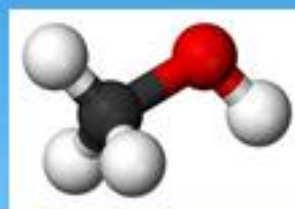
## Gas to Liquids - Methanol Production

Blaise Energy is partnered with the University of North Dakota's (UND) Institute for Energy Studies (IES) to develop a polygeneration facility that will turn residue gas from NGL knockout to produce Methanol

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- Together with its partners, Blaise will produce a mobile, trailer-mounted equipment to make the gas to Methanol conversion
- Site Identified – Access to large volume of methane from post NGL knockout

### Gas to Methanol





# Lessons Learned

G-020-043

Updated: 8/12/2011 3:14 PM

## "Flare Gas - Power Generation Commercial Viability Pilot"

*To demonstrate the commercial viability of using otherwise wasted associated gas as fuel for on-site electrical power generation and its subsequent sale to the grid of the electricity as an alternative to flaring.*

Submitted By: Blaise Energy, Inc.

Program Funding: \$375,000.00

Total Project Costs: \$7,475,000.00

## Conclusion:

- Generation of Electricity is Commercially Viable
- Going into the Grid IS NOT Commercially Viable

## Why?:

- Price of Electricity in ND
- Variable Price
- Interconnection Costs
- Bureaucracy



# Lessons Learned

## Interconnection Costs:

SHERIDAN ELECTRIC COOPERATIVE, INC.  
 BLAISE ENERGY - DG INTERCONNECTION  
 COST ESTIMATE SUMMERY - PRELIMINARY

7/18/2012

Group		Total
A - DG interconnection - Wolter		\$ 38,928.97
B - Recloser update - Fortuna		\$ 24,210.00
C - Recloser update - Alkabo		\$ 22,810.00
D - Communication		\$ 27,500.00
Network Studies & Permits		\$ 15,000.00
Subtotal		\$ 128,448.97
Mobilization	2.0%	\$ 2,568.98
Contingency	5.0%	\$ 6,422.45
Inflation	0.0%	\$ -
Construction Engineering	5.0%	\$ 6,422.45
Design Engineering	7.5%	\$ 9,633.67
Overhead	5.0%	\$ 6,422.45
		<b>\$ 159,918.97</b>

### Blaise Expenses

Switchgear	\$ 60,000.00
Generation - 800kW @ \$450-\$500/kW	\$ 400,000.00
Engineering	\$ 15,000.00
Electrical - Equipment/Electrical	\$ 50,000.00
Total	<b>\$ 684,918.97</b>

### Revenue:

200 MCFd Flare = ~800kW

4¢ / kWh less .5¢ to Coop = 3.5¢ / kWh

3.5 kWh x 800kW x 24 hours x 30 days = \$20,000/ mo

\$685,000 ÷ \$20,000 = ~35 month payback\*

\*Does not include Installation, Maintenance, Support, etc.

# Going Forward – What Makes Sense

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- Site Power
- Micro-Grid
- NGL's
- Gas to Liquids – Methanol – Syngas - Hydrogen

## Alternative Uses – Remaining Grant Funds

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**Grant: \$375,000**

**First Site: ~~\$250,000~~**

**Second Site: \$125,000**

- 1. Y-Grade NGL Engine**
- 2. Expanded Micro-Grid**
- 3. Portable NGL System**

# Thank You!



## For More Information

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