Skyonic Corporation

Presents

The SkyMine[™] Process

A proprietary technology that removes carbon dioxide (CO_2) and other flue gas pollutants – converting same into non-toxic, commercial chemicals

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Today

- Who We Are an overview
 The Promise of our Technology a "30,000 foot" view
 Development Status & Scaling Plans a detailed view
 Discussion of Thermodynamics a summary view
 How the Federal Gov't Could Help a candid view
 Some Thoughts on Strategy our personal musings
- Why hasn't this been done already?

Skyonic Overview

Sept 2004	 Filed initial patent application at USPTO
	 Broad, technology-defining basic method patent
	 100 pages, about 3-dozen claims, PCT filed
Oct 2004	 Retained Fulbright & Jaworski (Houston/Austin) as corporate counsel
Jan 2005	 Incorporated ("C" corporation, Delaware)
Mar 2005	 Entered work-for-hire contract with SouthWest Research Institute (SwRI)
	 San Antonio, TXworks with DOE often, large non-profit
April 2005	 Closed Series A preferred stock round
	Private investors
	"Silicon Valley" venture capital
May 2005	 Hired 1st employee
June 2005	 Retained Van Ness Feldman – Washington DC "energy" lobbyist firm

The Promise of Our Technology

Page 1 of 4



The Promise of Our Technology Page 2 of 4



...but what's in the black box?

The Promise of Our Technology

Page 3 of 4



The Promise of Our Technology Page 4 of 4

The SkyMine[™] Process

- Will work on coal, oil & gas power plants
- GHG removal happens *post-combustion*
- Can be *retrofitted* into existing power plants
- Supplement or replace:
 - Carbon-capture & sequestration
 - Traditional NOx & SOx scrubbers
- <u>80% 95%</u> GHG remission rates
- Produces no toxics ... uses no toxics



- Located on <u>or near</u> (<1mile) power plants
- Requires 1 to 5 acres of land
- Buildings with pipe-field, tanking & equipment
- Headcount in the few dozen range per plant
- Each 10% remission "costs" ~3% of electrical production ... <u>can be off-peak</u>
- Capital in the \$100M \$150M for a large plant
- Bricks & mortar facilities dependable cash flow

SkyMine[™] Process Development Status

- The SkyMine process has been fundamentally proven at lab-scale
 - >100 experiments over 6 months
 - All experiments performed on-site at Southwest Research
 - 80% + CO₂ absorption demonstrated (SOx & NOx much higher)
 - 3 solids-producing pathways proven
 - Thermodynamics of solution demonstrated (described later)
 - Rudimentary implementation of Skyonic's proprietary technology
- Plan to progressively scale to production-sized unit scale
 - Step 1: We're developing a 12' x 56' trailer to beta site with "real-life" flue gases

~200x scale-up vs lab throughput (~400 LPM)

Also to confirm capture of <u>elemental</u> mercury

Beta site successively at coal and gas plants in Texas (6 to 9 months, start 4Q2005)

• Step 2: Then do 10% to 33% size pilot scale plant (late 2006, early 2007)

Skyonic Timeline





How the Federal Government Could Help

Here's our plan:

- Raise \$10M to \$40M in capital for a SkyMine Pilot Plant (sizing it to funds raised)
- Staff up the company ...tell the world about us & seed conversion to our tech

The Federal government could help by:

- The Mobilab beta site experience (4Q2005 through ~2Q2006) will provide conclusive proof that the proven lab technology can be scaled to industrial-plant size.
- The Federal government presumably through the DOE could help by committing to fund the pilot plant; conditioning disbursement on the successful conclusion of the Mobilab trailer beta site experience.
- Skyonic would share the technical results with the DOE during the beta site period

Some Thoughts on Strategy...

The *SkyMine[™] Process* Could:

- Enable a USA carbon "stand-still"
- Support USA in exporting carbon-reducing technology to developing countries
- Position hydrogen "wells" at fossil-fuel power plants
- Provide a "sink" for off-peak renewable energy
- Allow the use of lower-grade fuels (coal) with <u>less</u> than status quo emissions
- Enable US companies to become much larger exporters of certain chemicals

... and we assume everyone remembers that the USA has 25% of the world's proven coal reserves?

The *Skyonic SkyMine*[™] Process

Why now? ... Why not earlier?

Outcry >Regulation >Improvement

- Particulates
- Smoke
- Carbon Monoxide (CO)
- SOx, NOx
- Now: CO_2

Recent enabling technologies

Proprietary Skyonic technologies

A *SkyMine*[™] plant is a new idea

- · Co-location must be done intentionally
- Chemical companies use other pathways
- Power companies aren't chemical companies

CO₂ cap/trade market is a new reality

- Began in 2004 (ahead of Kyoto)
- Kyoto presages carbon-based taxing of multinationals
- CO2 cap/trade exists in Europe