Leveraging Technology for Operational Excellence
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What We’ll Cover

• Overview of CONSOL Energy, Inc
• Our e-Procurement Solution
• Next Steps: Strategically Leveraging Technology
• Key Points to Take Home
  1. Don’t stop with standard functionality
  2. With each new challenge, ask how can I use my existing technology?
  3. Business processes fit with current technological solutions
Introduction & Overview

About CONSOL Energy, Inc

• Founded in 1860
• 2010 revenue $5.2 billion revenue
• 9,000 employees
• Member – Fortune 500; S&P 500
• Forbes – “Top 100 Most Trustworthy Companies”
• Leading diversified fuel producer in the Eastern US
Introduction & Overview

• 11 mining complexes in four states, including the largest underground mines in the world
• Among the largest exporters of coal in the U.S.
• Leading gas producer in Appalachia
• More Than 7 million acres of natural gas and coalbed methane control
• Only U.S. coal company with a privately funded R&D Department
A Diversified Energy Company

Coal

Transportation

R&D

Gas

Land

Industrial Supplies

CONSOL ENERGY
AMERICA'S ENERGY STARTS HERE
CONSOL Energy has chosen to diversify by producing energy from multiple formations within Appalachia.
CONSOL’s Energy Product Diversification Strategy

Thermal Coal
Reserves: ~3.8 billion
Production: 50 – 55mmt/yr

Low-vol Met Coal
Reserves: ~300 million
Production: 5.0mmt/yr

High-vol Met Coal
Reserves: ~400 million*
Production: 5.0 – 10mmt/yr

*Assumes 150mm tons of high quality thermal coal with met coal characteristics

Marcellus Shale
Proved Reserves: 0.24 Tcfe
Resources: 19.4 – 45.0 Tcfe
Production: 6.7 Bcf**

Coalbed Methane
Proved Reserves: 1.64 Tcfe
Resources: 0.8 – 1.2 Tcfe
Production: 91.1 Bcf**

Conventional/Other
Proved Reserves: 1.06 Tcfe
Resources: 3.5 – 6.5 Tcfe
Production: 29.5 Bcf**

**Expected 2020 gas production
Stacked Pay Zones of Value

Surface
Sewickley Coal Seam - 900 Ft
Pittsburgh Coal Seam - 1,000 Ft
Freeport Coal Seam - 1,650 Ft

Upper Devonian Sands - 1,750 - 5,500 Ft
Marcellus Shale - 7,000+ Ft
Oriskany Tight Sands, Utica and Trenton Black River Shales - 8,000+ Ft
Safety Is Job One

We are committed to working completely injury-free. Our Absolute ZERO safety effort sets zero accidents as the only acceptable result.

One fatality or one serious incident is one too many for our industry.
Pittsburgh’s Rich Energy History

1760: Coal mined in Pittsburgh to supply Fort Pitt
1859: First commercially productive oil well drilled in Titusville, PA
1865: First crude oil pipeline built in Titusville, PA
1872: First long distance pipeline for natural gas completed from Newton Wells to Titusville, PA
1885: First practical transformer built in Pittsburgh by Westinghouse engineer William Stanley, Jr.
1910: Pittsburgh Experiment Station, precursor to the National Energy Technology Laboratory (NETL) opened by U.S. Department of the Interior to develop innovative coal-mining safety equipment and practice
1957: First commercial nuclear power plant built by Westinghouse in Shippingport, Pennsylvania
1973: First installation of wet scrubbers in a power station to remove sulfur dioxide from air emissions by Duquesne Light outside of Pittsburgh, PA
2000: Pittsburgh achieves status as city with the largest number of certified green buildings in the U.S.

Slide courtesy of the Allegheny Conference
Example: Greene County, PA

- CONSOL extracts, through its coal and natural gas operations, the equivalent of 96 million barrels of oil ("boe") per year in Greene County alone.

- By 2014, when BMX and Marcellus are fully operational, extraction will grow to over 143 million boe.

- This would power 25% to 38% of Pennsylvania’s total electric demand annually.

Greene County is the continental U.S. equivalent of Prudhoe Bay.
The Global Economy Runs on Fossil Fuels

Energy Demand 2006
- 100 QBtu / Year
- 85% Fossil Energy
- 465 QBtu / Year
- 81% Fossil Energy

Energy Demand 2035
- 111 QBtu / Year
- 78% Fossil Energy

+ 9% United States
+ 49% World
Where Were We When We Started in 2007?

Situation

• Value driven was one-sided
• High transactional volumes
• Multiple system solutions
• Paper-based processes
• Identified potential improvement areas in A/P, A/R, SCM, MM, PM, etc…
• Broken chain of source to pay process
Capability Maturity Model

Where Did We Want to Go?

- Value was defined by both supplier and buyer benefits
- Lower transactional duties
- Single system solution
- Electronic processes
- Complete, integrated procure-to-pay process
- Strategically focused, operationally driven, with sustainable and measurable savings
Our Approach

• With Senior Management, including our controller’s, support

• Implemented e-Procurement system
  - Hubwoo’s Supplier Network Solution
    - Electronic order to invoice processing
    - Electronic catalogs integrated with SAP MM module
  - Electronic Funds Transfer

• Concurrent implementation of SAP SRM (tied to ROI)
  - Electronic bidding & auctions
  - Shopping cart integration with Hubwoo catalogs
Results

• 25 million dollars in “controller approved” ROI in 2 ½ years → Named Best in Class for Fastest ROI by Hubwoo’s User Group, 2011

• ROI generated from Hubwoo Supplier Network (now sold by SAP)
  o Manually posted invoice reduction
  o Increases in auto POs
    o Savings of a strategic buyer group that was formed → due to decreases in transactional work associated with manual processing
  o Manually entered service entry reduction
  o Increases in discounts taken

• Current (Aug 2011) ROI = $44 million dollars in 4 years
Benefits: Electronic POs

Purchase Orders thru Hubwoo
Benefits: Electronic Invoices

Electronic Invoices through Hubwoo

The line chart shows the growth of electronic invoices through Hubwoo from 2007 to 2011, with a significant increase in the latter years.
Benefits: Blocked Invoice Reduction

Percentage of blocked invoices over time.
Leveraging Tech: Migrating CNX Gas to SAP

• Roll-out of Hubwoo continued…
  o Q3, 2008 we implemented electronic services invoicing combined with service entry
  o Due to services complexity
    ▪ Work with suppliers
    ▪ Work with our plants
    ▪ Work with our buyers
    ▪ Process refinement
Leveraging Tech: Dominion E&P Acquisition

• Dominion was on SAP
  - 5-week Project (Q2, 2010)
  - They had SAP but used it differently
  - Town Hall Meetings (Supplier Buy-in)
  - Training

• These 2 projects converged within the year once the potential of services and the resource demand being faced by CNX & DOM E&P was realized
Timeline of Critical Events

**TIMELINE**

- **Q2/07**: Testing Phase, Load Low N = 5
- **Q3/07**: Began Loading MATS Suppliers
- **Q3/08**: Loaded 1st Group for SVCS N=30
- **Q4/08**: Monitored SVCS/Worked on processes/CNX converted to SAP
- **Q3/09**: Focused on-boarding of CNX SVCS suppliers
- **Q2/10**: Acquired Dominion, loaded 60 of their largest SVC suppliers
- **Q3/11**: Joint Ventures with Noble Energy, Inc. and Hess Corporation → loading additional suppliers

![Graph showing onboarding of suppliers over time with key events marked](Image)
Gas Invoice Volume Increases

![Invoice Volumes Graph](image)

- **Coal & Affiliates Only**: Represents 37% increase.
- **CNX**: Represents 50% increase.
- **DOM**: Represents significant increase.
Manual Service Entry Reduction

Service Entry at All Gas Locations

Year

Count

Manual

Hubwoo

60.45%
EOY 2011: Projections

• Projection to end of this year using current average rates
• Includes a 2% increase of e-suppliers while targeting our Joint-Venture suppliers
• Allows us to continue increasing invoices with little to no impact on AP
So What Now???

- Noble Energy, Inc/Hess Corporation
  - New projects
  - Huge transactional volume increases expected
- COPUS
  - New way of identifying and handling different materials
  - Greater need for reporting

- Start with the old plan
  - Identifying locations and expected increases
  - Reviewing Marcellus vendors and loading to Hubwoo

- Look at other touch points
  - Reviewing catalogs to see if they will help with managing controllable materials
  - Identifying different “low touch” areas and ways to mitigate
Current Endeavors: Hubwoo Buyer Dashboard

- Electronic attachment of invoice backup documents
- Extends control of invoicing to integrated suppliers
  - 3-way matching
  - Auto approvals with different types of IVs and different % of dollars
- Allows for invoice rejection
  - prior to invoice hitting SAP
- Provides auditable dispute resolution communication for invoicing issues
- Provides multiple release capabilities for collective service entry/invoice approvals
Current Endeavor: Punchout to Contract Catalog

• Major problem with service work = Compliance with Contract Pricing

• Implementing Hubwoo’s Punchout to Contracts
  o Allows for LIMIT PO creation in SAP but capability of using Service Masters for reporting
  o Service Masters used in Contract Creation (not required to invoice from contract, just makes reporting easier across similar generic services)
  o Mandates contractor to invoice/service entry directly from SAP contract information
Take Aways: Before Roll-Out of E-Procurement

• Get it right
  o BEFORE roll-out

• Volume can be your
  o BEST FRIEND (capitalize)
  o ARCH NEMESIS (will bury you)

• Monitor suppliers
  o USE AN EYE NOW vs. HAVING A BROKE BACK LATER
  o INPUT IS INVALUABLE
    ▪ Recall, their savings can also be yours…
  o THEY DO TALK

• Be mindful of the LAG
Take Aways: Continuous Improvement

• Once standard processes become comfortable
  ▪ STRETCH…
  ▪ STRATEGIC…
  ▪ SYSTEM…

• S/he who does the work
  ▪ SHOULD GET THE WORK…
  ▪ Correct ROUTING saves time
  ▪ REMOVE THE MIDDLEMAN
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