Ruby: the First Carbon Neutral Pipeline

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Agenda

- Introduction
- Ruby Overview & Milestones
- Roadmap to “Compliance”
This presentation includes certain forward-looking statements and projections. The company has made every reasonable effort to ensure that the information and assumptions on which these statements and projections are based are current, reasonable, and complete. However, a variety of factors could cause actual results to differ materially from the projections, anticipated results or other expectations expressed in this presentation, including, without limitation, our ability to implement and achieve objectives in our 2010 plan and updated guidance, including achieving our earnings and cash flow targets, as well as targets for future years; the effects of any changes in accounting rules and guidance; our ability to meet production volume targets in our Exploration and Production (E&P) segment; our ability to comply with the covenants in our various financing documents; our ability to obtain necessary governmental approvals for proposed pipeline and E&P projects and our ability to successfully construct and operate such projects on time and within budget; the risks associated with recontracting of transportation commitments by our pipelines; regulatory uncertainties associated with pipeline rate cases; actions by the credit rating agencies; the successful close of our financing transactions; credit and performance risk of our lenders, trading counterparties, customers, vendors and suppliers; changes in commodity prices and basis differentials for oil, natural gas, and power; general economic and weather conditions in geographic regions or markets served by the company and its affiliates, or where operations of the company and its affiliates are located, including the risk of a global recession and negative impact on natural gas demand; the uncertainties associated with governmental regulation, including future regulation resulting from the oil spill in the Gulf of Mexico or financial reform legislation; political and currency risks associated with international operations of the company and its affiliates; competition; and other factors described in the company's (and its affiliates') Securities and Exchange Commission (SEC) filings. While the company makes these statements and projections in good faith, neither the company nor its management can guarantee that anticipated future results will be achieved. Reference must be made to those filings for additional important factors that may affect actual results. The company assumes no obligation to publicly update or revise any forward-looking statements made herein or any other forward-looking statements made by the company, whether as a result of new information, future events, or otherwise.
El Paso Corporation provides natural gas and related energy products in a safe, efficient, and dependable manner.
Our Pipelines

- 19% of total U.S. interstate pipeline mileage
- 26 Bcf/d capacity (15% of total U.S.)
- 19 Bcf/d throughput (30% of gas delivered to U.S. consumers)
- 1st “Carbon Neutral” pipeline
El Paso Exploration & Production
Asset Overview & Core Programs

Wolfcamp (emerging)

Altamont

Eagle Ford

Haynesville
the place to work
the neighbor to have
the company to own
El Paso’s GHG Leadership Credentials

- GHG Team Established with Oversight by Board and Executive Committee (2005)
  - EPA Natural Gas Star Award recipient (2005-fourth consecutive year)
  - Corporate GHG Inventory Goals (2006)
  - “Pre-certified” 2005 GHG Inventory—1605(b) Standards (2006)
  - Climate Action Leader™ (2007 - 2009)
  - Southern Gas Association (SGA) Environmental Excellence Award for GHG Leadership (2008)
  - Committed to developing the $3 billion proposed Ruby Pipeline as a carbon-neutral project (2008)
Ruby Pipeline Project
http://www.rubypipeline.com/
Overview of Ruby Pipeline Project
Ruby Project Milestones

1. Ruby Team Begins Project Evaluations
   Jan 2008
2. FERC Filing
   Jan 27, 2009
3. FERC Certificated
   April 5, 2010
4. Construction Start Approved
   July 31, 2010
5. Estimated In-Service Date
   Spring 2011
Ruby’s Carbon Strategy

**Carbon Impact Assessment**
- Assess HP requirements based on pipe without internal coating
- Evaluate gas vs. electric compression
- Reliability = key issue
- Estimate Scope 1, 2, and 3 GHG emissions

**GHG Mitigation Review**
- Assess other measures to minimize emissions
- Assess offset/allowance options
- Complete cost benefit analysis
- Assess recovery of GHG mitigation costs as capital/operating and fuel costs

**Finalize Carbon Strategy**
- Communicate project costs and benefits to Upper Mgmt
- Demonstrate environmental stewardship
- Minimize potential impacts of future GHG regulation
- Align interests of Ruby Shippers by optimizing capital costs in an evolving regulatory environment

**Execute**
- Carbon neutral products sourced to mitigate construction emissions
- Track and purchase available products for complete neutralization of emissions
- Develop compliance tools
Ruby Scope 1 GHG Emissions

Thousand MT CO₂e

**Business As Usual Design**
- Combustion Emissions: 521
- Fugitive Emissions: 41
- Vented Emissions: 20

**Final Design**
- Combustion Emissions: 206
- Fugitive Emissions: 20
- Vented Emissions: 41

Emissions based on 1.4 Bcf design @ annual avg ambient conditions
BAU design assumes all gas compression, no internal pipe coating
Final design assumes gas & electric compression, internal pipe coating
Benefits of Internal Pipe Coating

HP Requirements & GHG Emissions for Coated vs. Non-Coated Pipe

- Reduced HP → Reduced Fuel → Reduced Emissions → Internal Corrosion Mitigation

- 471,462 MT CO₂e
- 494,053 MT CO₂e
- 493,840 MT CO₂e
- 494,053 MT CO₂e
- 505,891 MT CO₂e

-11,838 MT CO₂e
-22,378 MT CO₂e

Summer Ambient Conditions
Winter Ambient Conditions

Total Horsepower
106,000 108,000 110,000 112,000 114,000 116,000 118,000 120,000 122,000 124,000 126,000 128,000

1.4 Bcf Final Design
Achieving Carbon Neutrality

- Basis of emission estimates
  - EPA MRR combustion factors & estimated fuel use
  - Vented and fugitive factors from INGAA GHG guidelines
  - E-GRID factors for indirects

- Mitigation w/in 1 yr of verification

- Design mitigation measures
  - Leadership in Energy and Environmental Design (LEEDs)
  - Reduced valves/flanges
  - Turbines equipped w/dry gas seals & electric starting system

- Offset /Allowances “Portfolio” Approach

**Scope 1 and 2 Emissions—Annual Operation**

- 57% Direct Emissions
- 39% Indirects - Electric Compression
- 4% Indirects - Electric Usage @ Facilities
Achieving Carbon Neutrality

- **Mobile emissions**
  - Construction equipment based on EPA non-road factors
  - Gasoline fueled vehicles based on EPA factors
  - Diesel fueled vehicles based on WRI’s GHG Protocol/Mobile Guide

- **Combustion emissions based on EPA MRR factors**

- **Mitigation w/in 1 yr of verification**

- **Offset/Allowances “Portfolio” Approach**
  - 175K MT CO₂e purchased to date
    - Reforestation
    - The Climate Action Reserve
    - Regional Greenhouse Gas Initiative
GHG Cost Recovery

FERC Gas Tariff

- Shipper will pay for voluntary GHG costs
  - Recovery through electric power cost (EPC) surcharge, annual limit applies
    - Costs from RECs, GHG offsets or allowances
    - Includes cost to offset all annual GHG emissions
  - Quarterly adjustment filings will be made

- Future mandatory costs resulting from climate change policy are subject to tariff revision and approval
Roadmap to “Compliance”
Ruby ➔ Carbon Neutral
Achieving Carbon Neutrality

1. Manage activity data
2. Monitor leak data
3. Complete actual emission estimates
4. Complete verification
5. Purchase carbon offsets
Ruby’s Roadmap to Compliance

Step 1 – Data Management

Scope 3 emissions
✓ Evaluate existing data management
  • Implement process to track missing activity data
  • Identify verification requirements – activity data, support documentation, site visits

Scope 1 and 2 emissions
✓ Determine if current processes are sufficient to track pipeline related activity data
✓ Determine if current and/or near-term processes are sufficient to track facility related activity data
✓ Identify verification requirements – PL and facility activity data, support documentation, site visits

Step 2 – Scope 1 Emissions Monitoring

✓ Complete cost benefit analysis based on estimated emissions & current $/CO₂e tonne

Develop monitoring plan for project commissioning
  • Evaluate PL DOT leak survey requirements & assess if fugitive emissions monitoring of PL components is warranted
  • Incorporate Subpart W monitoring methods and define other monitoring methods as needed
  • Define procedures for QA/QC, instrument calibrations, measurement methodology, etc.
  • Pre-survey of component inventory

Resources, schedule, budget planning
Ruby’s Roadmap to Compliance

**Step 3 – Actual Emission Estimates**

**Scope 3 emissions**
- Develop monthly reporting platform for actual emissions

**Scope 1 and 2 emissions**
- Evaluate and adapt existing data management and reporting platform for facility activity data and direct emissions per EPA MRR methods
- Evaluate and adapt existing data management for PL related activity data to complete comprehensive reporting
- Develop reporting platform for PL related activity data to complete comprehensive reporting requirements

**Verification of Scope 1-3 Emissions**
- Coordinate kick-off verification meeting

**Step 4 – Purchase Carbon Offsets**

**NLT December 2012**
- Purchase offsets/allowances as needed based on verified Scope 3 emissions

**NLT December 2013**
- Purchase offsets/allowances as needed based on verified Scope 1 and 2 emissions
Questions?

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Thank you for your time!