



Blue Source

A Leading Climate Change Portfolio

AES-CARBON OFFSET PROVIDERS COALITION (COPC) OFFSET HILL BRIEFING

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Discussion Overview

- Introduction to Blue Source
- What is a Carbon Offset?
- Offset Projects
- Voluntary Carbon Market: Drivers and Buyers



Blue Source

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About Blue Source:

- Blue Source LLC, has developed North America's largest portfolio of Verified Emission Reductions (VERs).
- Founded in 2001, Blue Source has achieved this by being innovative and forward-thinking as well as employing high standards for project development.
- Together with its partner First Reserve Corp, Blue Source will invest up to \$1 billion in emission reduction projects – demonstrating our commitment to reversing the effects of climate change.
- Blue Source team wrote the first 15 protocols accepted by Alberta Offset System.

- Headquartered in Salt Lake City with offices in San Francisco, Denver, Houston, Raleigh, New York and Calgary.

- Operating in North American market

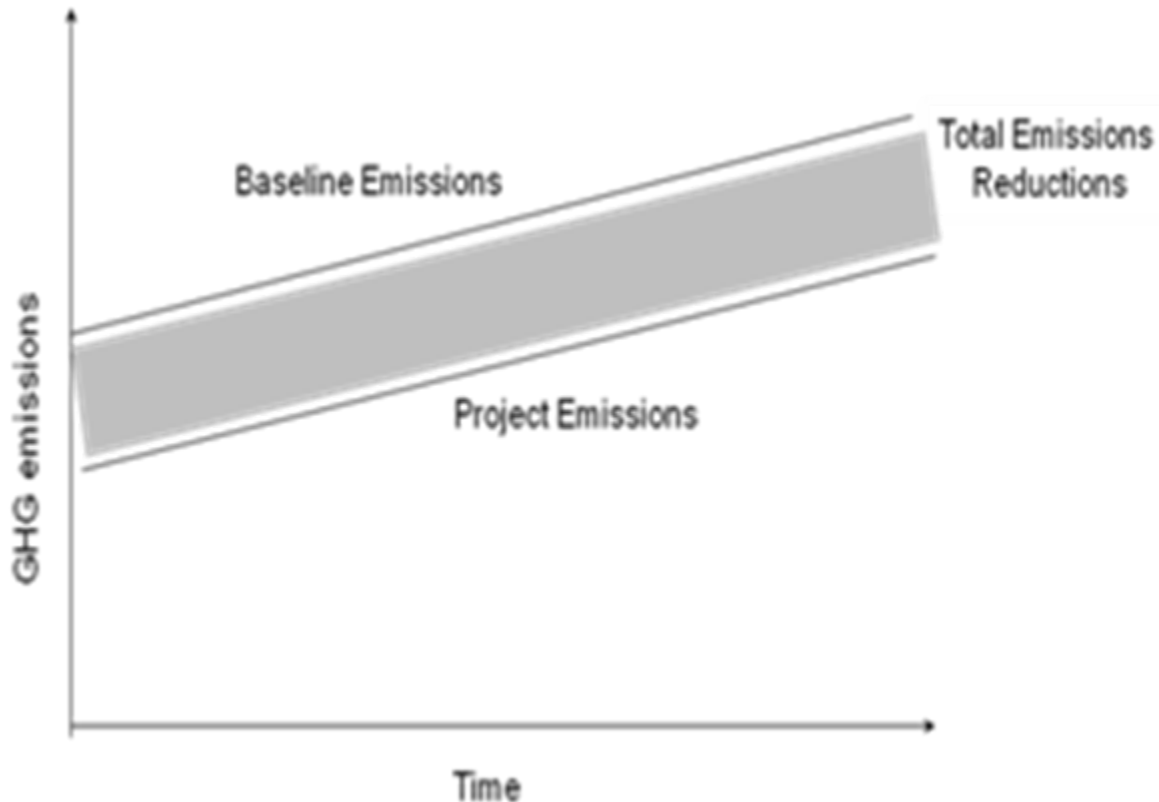
- 25 professionals engaged in portfolio development and project development.

Blue Source Portfolio Details

- Blue Source has been a leader in the carbon market developing the largest of voluntary offsets in North America, including some 270 million tons VERs (Through 2022) from 11 different project types in 50 states and provinces.
- The company's management team has led development of US-based CCS projects having developed, owned or operated all five such systems built in the last 20 years.
- New venture – Blue Strategies will identify geologic sinks for anthropogenic CO₂
- Blue Source has transacted over 15 million VERs in the voluntary market.
- Developing landfill gas, coal mine methane, animal waste, industrial gas, fuel switching, wastewater methane, afforestation and carbon capture projects
- Focused on serving the pre-compliance market more so than the voluntary market (buyers purchasing to meet CSR goals)

What is a Carbon Credit?

A carbon credit is created by a GHG emissions reduction /carbon offset project that achieves emission reductions beyond a business-as-usual scenario.



All projects must be:

- Real
- Verifiable
- Permanent
- Additional

In addition, projects must be approved according to rules and procedures of legislation or a voluntary standard.

Emission Reduction Project Types

- Fuel switching
- Renewable energy
- Methane capture
- Avoided methane
- Carbon capture and sequestration
- Forestry – afforestation and reforestation
- Gas recovery and utilization that would be vented
- Direct energy efficiency – boiler replacement
- Waste heat or gas utilization
- Transportation

Project Development Process

- ▣ Screening
- ▣ Documentation
- ▣ Validation/Pre-verification
- ▣ Registration
- ▣ Monitoring
- ▣ Verification
- ▣ Marketing/Commercialization

Carbon Credit Creation

Based on principles of ensuring Environmental Integrity & Sustainability

- Protocols are developed for each Emissions Reduction Project
- Projects rely on various standards including the EPA, WRI, CCAR, VCS (Steering Committee member) and CCX;
- Without exception, all VERs are third party certified and verified;
 - Verification done by Ruby Canyon, URS Corporation, First Environment, among others;
- All carbon offsets, once verified, are stored on public registries in North America including ERT Registry, and Canadian Standards Association (CSA).

Offset Projects

Example 1: Transportation Sector



J.B. Hunt

Project Description

JB Hunt Transportation Service, Inc. is one of North America's largest truck-load transportation and logistics companies. Based in Lowell, AK with operations that crisscross the United States, Blue Source worked with JB Hunt to decrease their carbon emissions by investing in and increasing intermodal transportation and fuel efficiency. The project decreased GHG emissions by almost 1,000,000 mtCO₂e.

Offset Projects

Example 1: Transportation Sector (cont.)



J.B. Hunt



Offset Projects

Example 1: Transportation Sector (cont.)

JB Hunt Transport Services, Inc. (JBI)

- Converted from over-the-road shipments to intermodal (truck and rail)
 - = 60% fuel (and emission) reduction. (Rail generates 1/3 of the emissions generated by truck transportation.)
 - Increased speed and reliability

- Initiated Idling Reduction Program
 - = fuel (and emission) reduction;
 - monetarily rewards drivers and managers for reducing unnecessary engine idling.
 - To date, driver bonuses total \$10 million have reduced idling by 10%-15%, saving millions of gallons of diesel.

Offset Projects

Example 1: Transportation Sector (cont.)

JB Hunt Transport Services, Inc. (JBI)

- Emission reduction program created about 975,000 Verified Emission Reductions (VERs) between May 2005 – Sept. 2006
- VERs were verified and registered on the Canadian Environmental Markets Association (CEMA)
- JBI Growth = 2X Industry Growth
- US, Canadian buyers purchased > 500,000 mt CO₂e
- Is Hunt now more sustainable?
 - Financial: increased revenue, market share and services
 - Environmental: reduced fuel dependence, carbon emissions
 - Social: reduced accidents, better driver retention

Net result: competitive advantage; member of EPA's Smartway Transport Partners program

Offset Projects

Example 2: Carbon Capture & Sequestration (CCS)

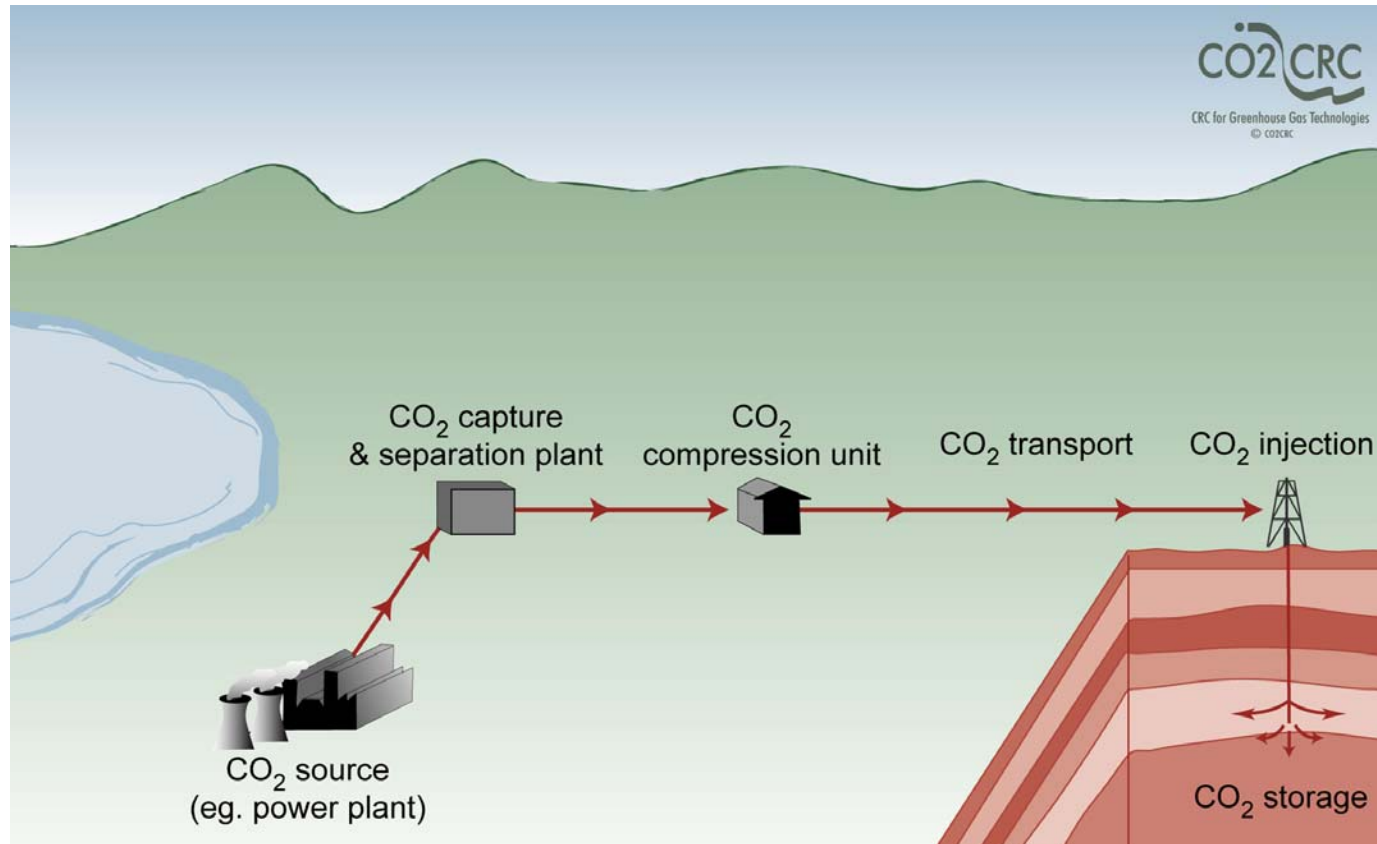


Val Verde

Project Description

A pipeline was built in West Texas to capture and transport anthropogenic CO₂ for eventual delivery to Enhanced Oil Recovery (EOR) markets. EOR projects inject CO₂ into mature oil producing fields both to increase the viscosity of the oil and to sweep the oil toward the producing wells. This Carbon Capture and Storage system Eliminates 2 Million Tonnes of CO₂ Emissions Each Year.

Carbon Capture Process



Offset Projects

Example 2: CCS (cont.)

Val Verde

- An 82 mile, 10-inch CO₂ pipeline in West Texas known as the Val Verde Pipeline was built to capture CO₂ from five natural gas processing plants, avoiding CO₂ venting to the atmosphere.
- The total initial capital cost of the project was \$17.6 million.
- As recently as 2007, additional incremental investments totaling \$10 million have been made to expand the pipeline system.
- To date, Blue Source has successfully marketed and sold over 2 million Verified Emission Reductions (VERs) from the Val Verde Pipeline project.
- The revenue stream from the sale of these VERs is now a significant factor in calculating returns for future project investments.

Offset Projects

Example 2: CCS (cont.)

Val Verde

- Permian Basin EOR projects typically consume an average of 1.5 billion cubic feet per day (BCFD) of “fresh” CO₂, which is primarily sourced from underground supplies.
- No new or incremental oil is produced as a result of capturing and utilizing anthropogenic CO₂, since underground sourced CO₂ would have been used in its place anyway. Despite the obvious environmental benefits of utilizing the anthropogenic CO₂, today the vent stack CO₂ does not always win the CO₂ sourcing contract due to unacceptable pricing and delivery interruptions. In such a case, anthropogenic CO₂ is then vented to the atmosphere.
- When anthropogenic CO₂ is utilized, however, emission reductions are created.

Offset Projects: CCS

Blue Source has developed, constructed and/or operated all commercial anthropogenic CO₂ pipelines in North America in the last 20 years.

□ Operating or Under Construction:

- Val Verde CO₂ Pipeline (West Texas, 1998)
- Weyburn CO₂ Pipeline (Canada 2000)
- Powder River CO₂ Pipeline (Wyoming, 2002)
- North Cross CO₂ Pipeline (West Texas 2000)
- La Veta CO₂ Pipeline (Colorado 2007)

□ Carbon Reduction Creation and Trading Experience

- Sold and delivered approx. 10 million tonnes of ghg VERs from geologic sequestration
- Sourcing approx. 700 MMCFD of geo-seq CO₂A injection

Market: Who's Buying & Why

- **Voluntary Buyers**
 - Corporations and retailers purchase to reduce carbon footprint and to achieve corporate social responsibility goals
 - Typically buy in small volumes, projects with additional benefits, projects that meet strict additionality, 'flavors of the month'
- **Pre-compliance Buyers**
 - Companies that recognize that legislation is coming and they may be in cap, speculators and market makers.
 - Typically buy projects that meet compliance in Kyoto or EU markets, emerging state regulations (CCAR, RGGI, WCI) and federal bills (Climate Security Act)
- **Buyers Include**
 - Dell, Delta, AEP, Google, Pacific gas & Electric, Yahoo, Nike, Sky, Origin Energy and various other major consumer-facing organizations have purchased or announced plans to buy carbon offsets from the voluntary markets.

Blue Source VER Marketing

- Blue Source will market the emission reductions credits for project partners to voluntary and pre-compliance buyers.
- Current relationships with buyers soliciting VCS approved projects at \$5 to \$8 per ton.
- Buyers include large investment banks, utilities and capped facilities, speculators and NGOs.
- Blue Source's large and diverse portfolio allows us to agree to stricter terms, such as guaranteed deliver, then a single project developer thereby increasing price.



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THANK YOU!

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