



## Experiences with Emissions Trading

Electric Power Research Institute

October 28, 2010

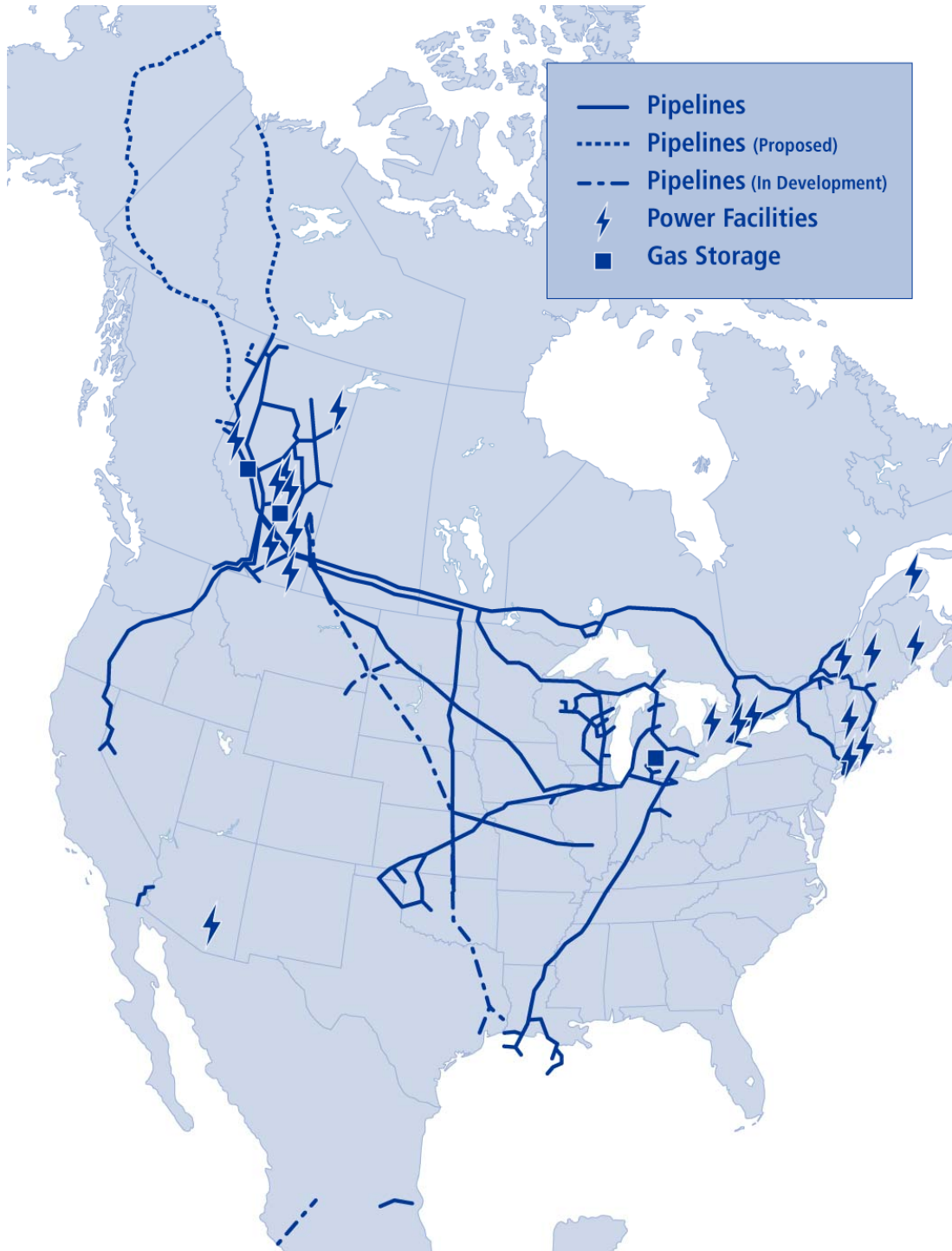
Washington, DC



## Discussion Topics



- **Who is TransCanada?**
- **Canadian regulatory context**
- **Our environmental trading team**
- **Internal governance**
- **Business management process**
- **Offsets procurement process**
- **Lessons learned**



## TransCanada Corporation (TSX/NYSE: TRP)

### •Gas Pipelines

- 59,000 km wholly owned
- 7,800 km partially owned
- 250 Bcf of regulated natural gas storage capacity
- Average volume of 15 Bcf/d

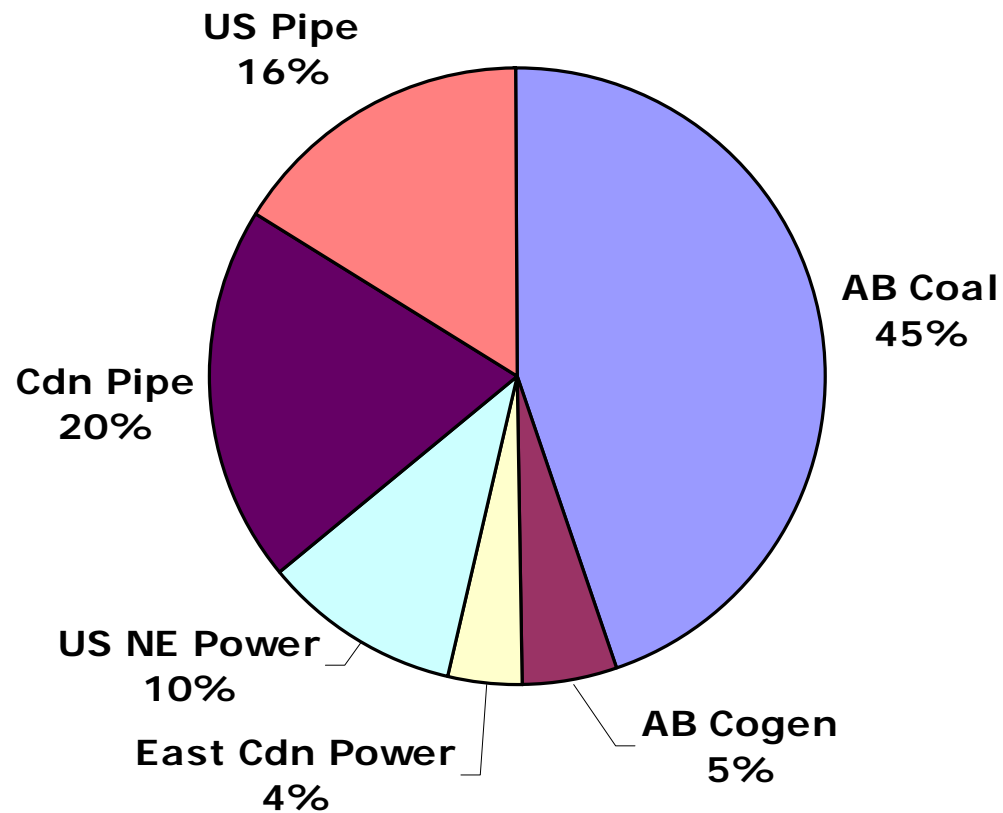
### •Oil Pipelines

- Keystone 1.1 million Bbl/d
- Expandable to 1.5 million Bbl/d

### •Energy

- 19 power plants, 10,900 MW
- Diversified portfolio, primarily low-cost, base-load generation
- 120 Bcf of non-regulated natural gas storage capacity

# GHG Emissions Profile



- Annual GHG emissions 30 MtCO<sub>2</sub>e
- Approximately 70% from power/energy and 30% from pipe

## Environmental Market Experience



- Active in compliance and voluntary markets, Alberta, RGGI, NOx, RECs, CAR, etc.
- Have established an “Environmental Risk & Trading” department with origination, commercial transaction and analytic functions
- Currently spending millions/yr on GHG compliance, expecting costs to increase
- Some assets can recover costs through contracts and markets, while others have less cost recovery potential

# Canadian Regional Regulatory Landscape



- BC – Carbon tax, cap & trade regulations drafted & WCI Member
- AB – Specified Gas Emitters Regulation in place since 2007
- SK – Bill passed, regulations drafted, WCI Observer
- MB – WCI member
- ON – WCI member, drafted cap and trade guidelines
- QC – Carbon Royalty in place, WCI member and drafted cap and trade guidelines
- Atlantic Provinces – Waiting for Canadian Federal Plan

# Canadian Federal Regulatory Landscape



- **Federal Government working with electricity sector on coal plant shutdown policy**
  - Coal plants forced to meet a physical NGCC standard after they reach 45 year anniversary, no offsets, no trading, meet standard or shut down
- **Cap and trade system may overlay coal policy**
- **Initial discussions with electricity sector:**
  - Generous level of free allocation (>80%)
  - Aggressive targets of 30% by 2020 from 2006 levels
  - Normalized Baseline
- **Waiting for US and then align**

# Alberta Greenhouse Gas Regulations



- Under the *Climate Change and Emissions Management Act (2007)* regulations were put in place to address greenhouse gas emissions (GHG's) in Alberta
- *Specified Gas Emitters Regulation (SGER)* falls under the *Climate Change and Emissions Management Act* and lays out the GHG targets for regulated entities and the guidelines for achieving compliance.
- The specified gases included under the regulation are CO<sub>2</sub>, CH<sub>4</sub>, SF<sub>6</sub>, HFC
- A regulated entity is a facility that emits over 100,000 tonnes of GHG's per year. Under the SGER, these facilities are required to reduce their emissions intensity by 12% annually from their baseline emissions (=average of 2003, 2004 & 2005 emissions intensity for the facility).



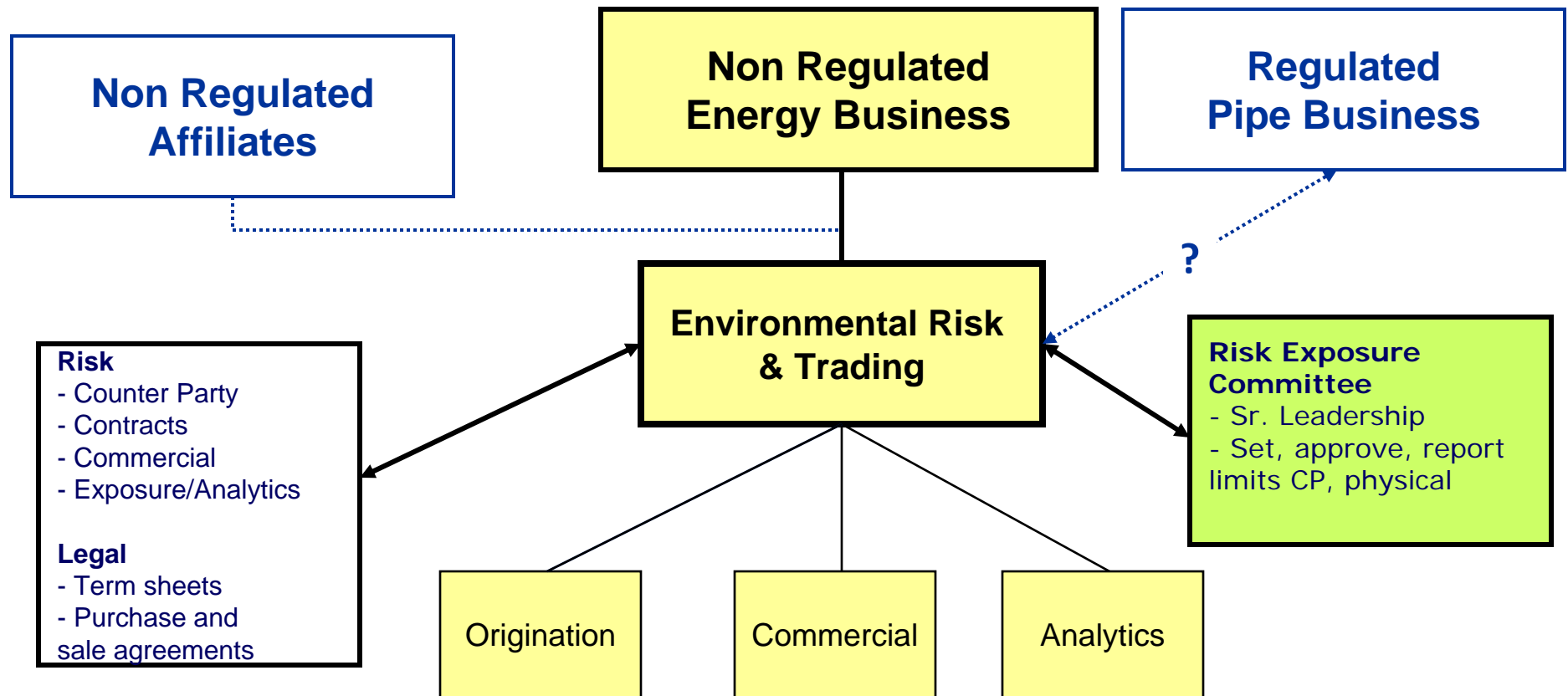
# Compliance Options under SGER



- Under SGER, there are four ways that a regulated facility can meet its reduction target:

|                                         |                                                                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1). Internal Abatement                  | Reduce Emissions at the facility by changing processes and/or equipment                                                                                        |
| 2). Technology Fund                     | Purchase fund credits for \$15 per tCO <sub>2</sub> e.<br><i>NOTE: 100% of a facilities compliance can be met through this option</i>                          |
| 3). Offset Credits                      | Voluntary actions from non-regulated activities which reduce emissions can be sold to regulated facilities to use to meet its compliance obligation            |
| 4). Emission Performance Credits (EPCs) | A regulated facility that reduces its emissions below their target, can sell these reductions to a regulated facility to use to meet its compliance obligation |

# Organization and Governance



# Leadership and Internal Governance



- **Executive/Senior Management Champion**
  - Supports, advocates the mission and the execution of the business strategy
- **Internal Authorities and Approvals**
  - Authorities to bind contracts
  - Authorities to execute deals
- **Internal Governance and Process**
  - Physical trading limits (domestic, international, voluntary markets)
  - Counterparty exposure limits (DCEL, finance, budget, spending)
  - Accounting (hedge, MTM, capitalized costs, expense, revenue)
  - Deal execution (risk, credit, legal, regulatory, corporate secretariat, evaluations)
- **Offsets procurement and Greenfield development**
  - Procurement (products that are registered and serialized)
  - Greenfield development (risk, internal capacity)

# Portfolio Risk Management



1. Screening (risk matrix)
2. Initial evaluation
3. Project selection
4. Project development/execution

## Risk Matrix Components

- Volume
- Regulatory
- Delivery
- Counterparty
- Commercial
- Price

Procurement

Greenfield  
development

Internal  
Abatement

Swaps

Brokered  
Transactions

OTC  
Spot

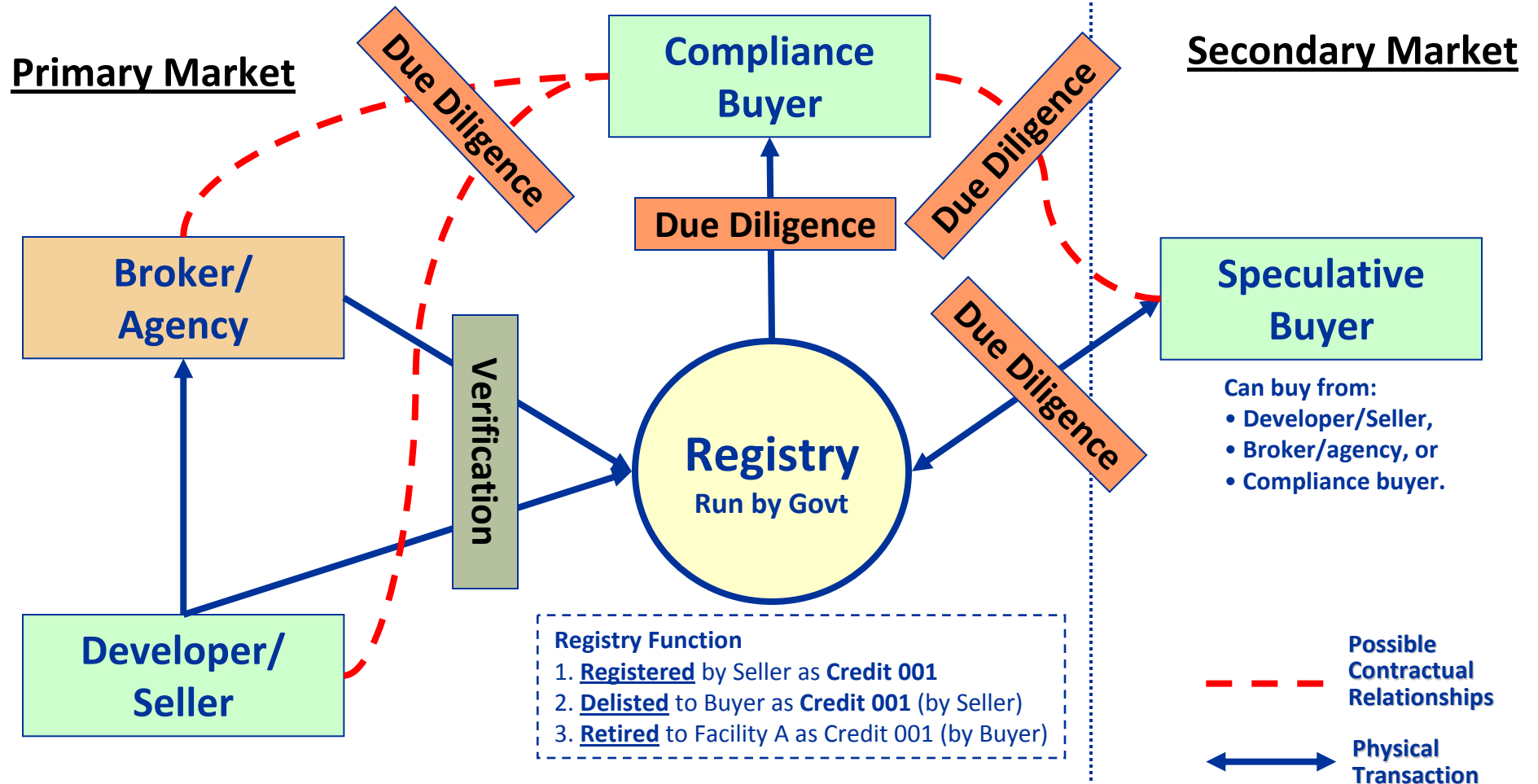
OTC  
Futures

Funds/JVs

Auction

Bi-laterals

# External Transaction Process: Physical & Contractual



# Due Diligence Process



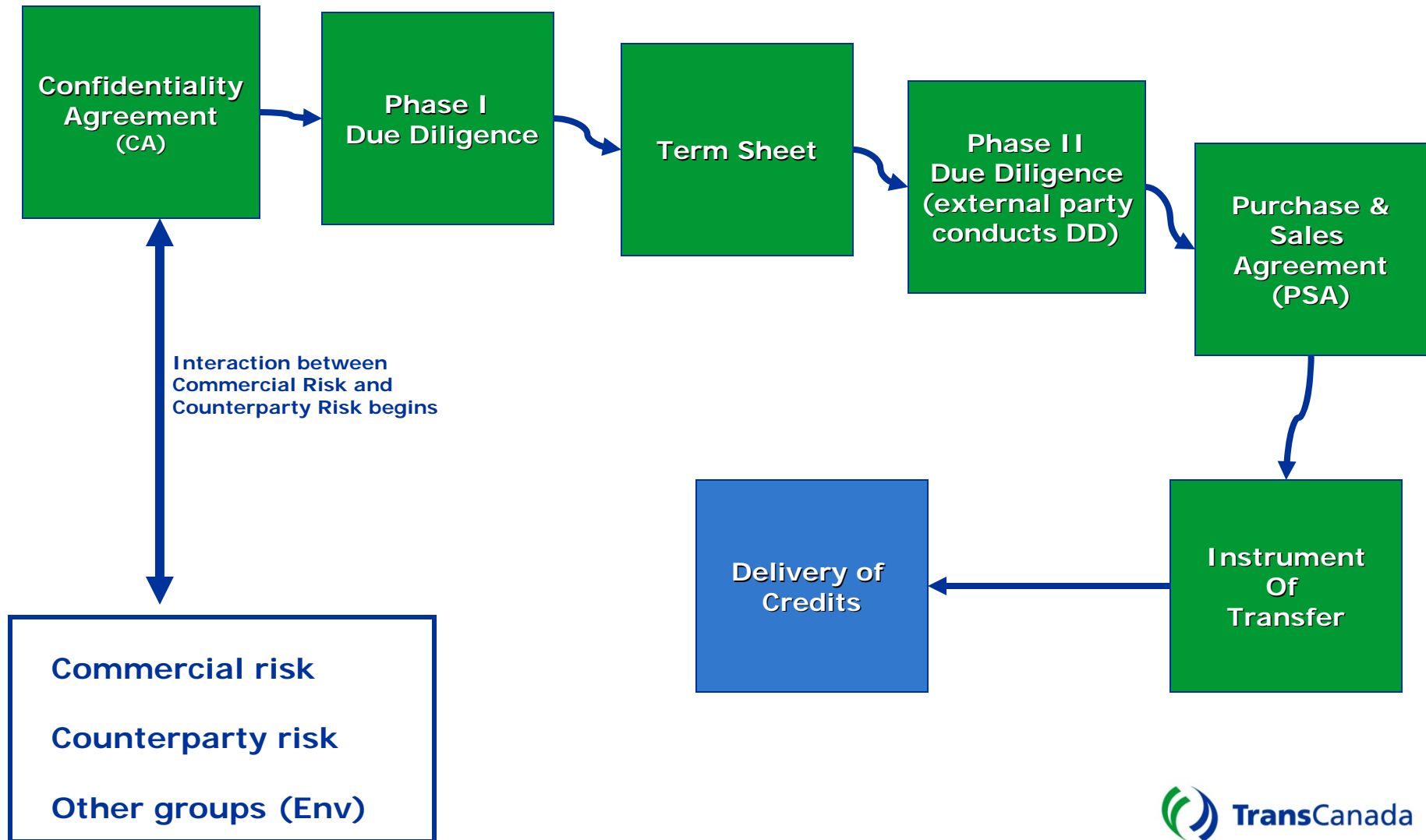
- Adapted from TransCanada's internal procedures for any type of acquisition
- **PHASE I: Initial Due Diligence**
  - Review Project Documents
  - Ownership Clearly Outlined
  - Basic Requirements Met
  - Review by Legal Team
- **PHASE II: Forensic Due Diligence**
  - Review Data
  - QA/QC
  - Monitoring and Measurement Process Review
  - Site Visit
  - Update Legal Team

Due diligence is not re-verification

# Internal Transaction Process



Senior Management Support and Involvement in Decision Making and throughout the Transaction Process



## Lessons Learned



- ✓ Have executive leadership support
- ✓ Have a clear mission and business strategy
- ✓ Understand all the risks
- ✓ Understand the regulations
- ✓ Understand the market
- ✓ Develop solid business practices
- ✓ Create reliable data collection procedures
- ✓ Open and transparent internal processes
- ✓ Create reliable record retention practices
- ✓ Pay attention to detail