

Carbon Offset Market Opportunities in the Forest Sector

May 11, 2010



Objectives

1

Climate Change 101

Explain the basic science and background information that drives climate change and energy policy.

2

PCT

Introduce Pacific Carbon Trust and its mandate within the provincial climate change framework.

3

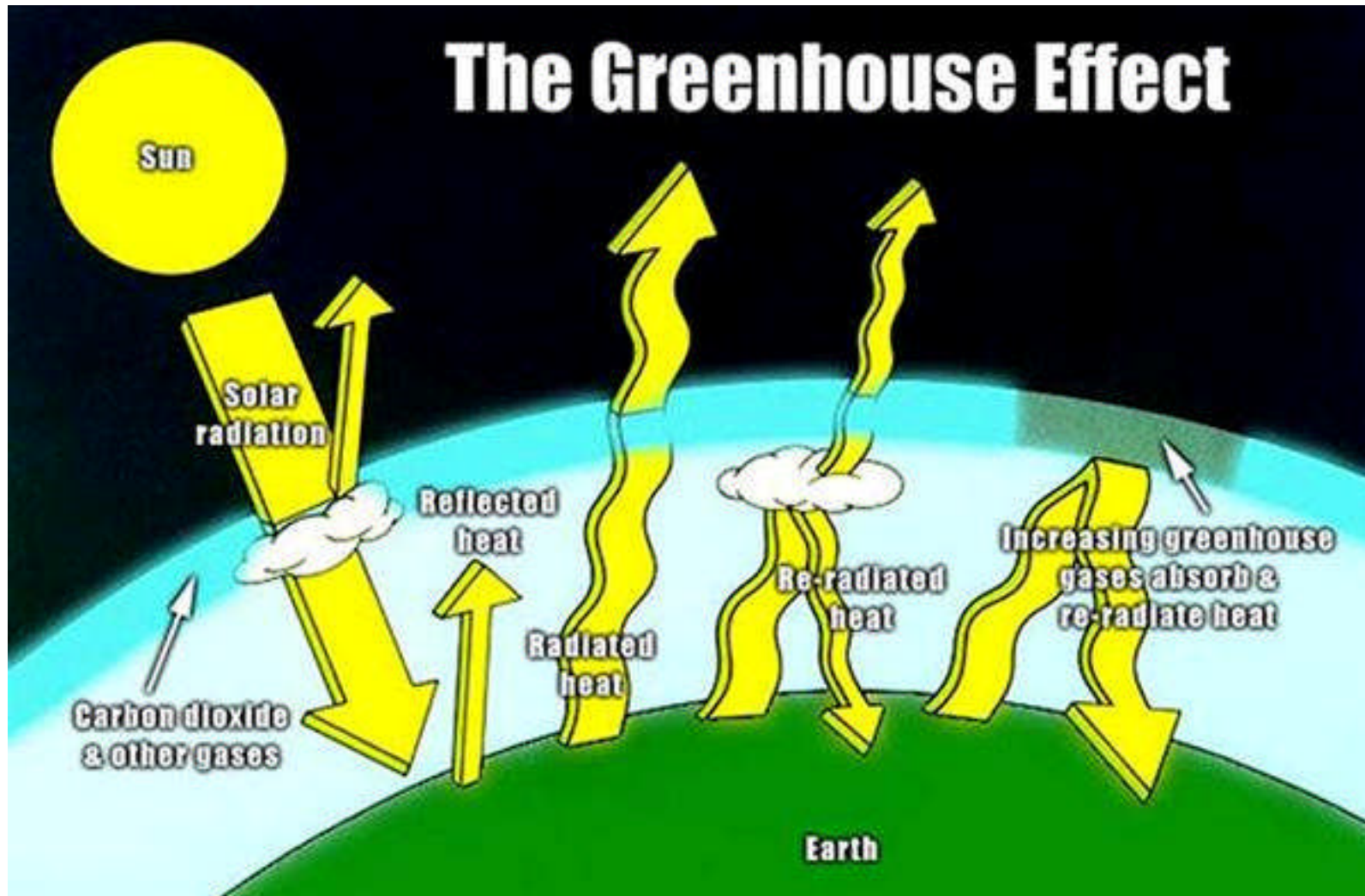
Forest Carbon Offsets

Provide an overview of potential offset projects within BC's forest sector.

4

Early Action

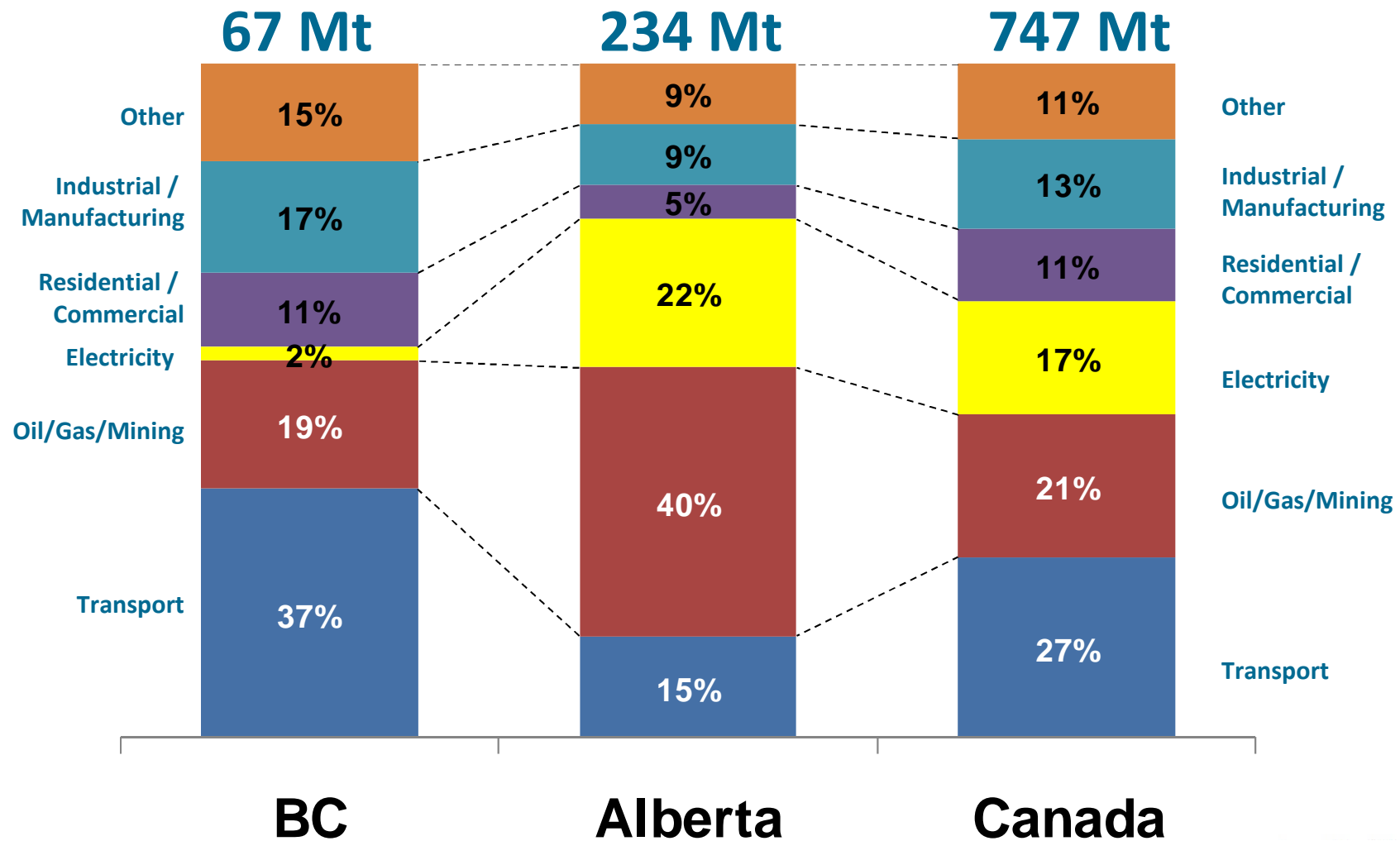
Outline the benefits of early action.



Carbon Emissions

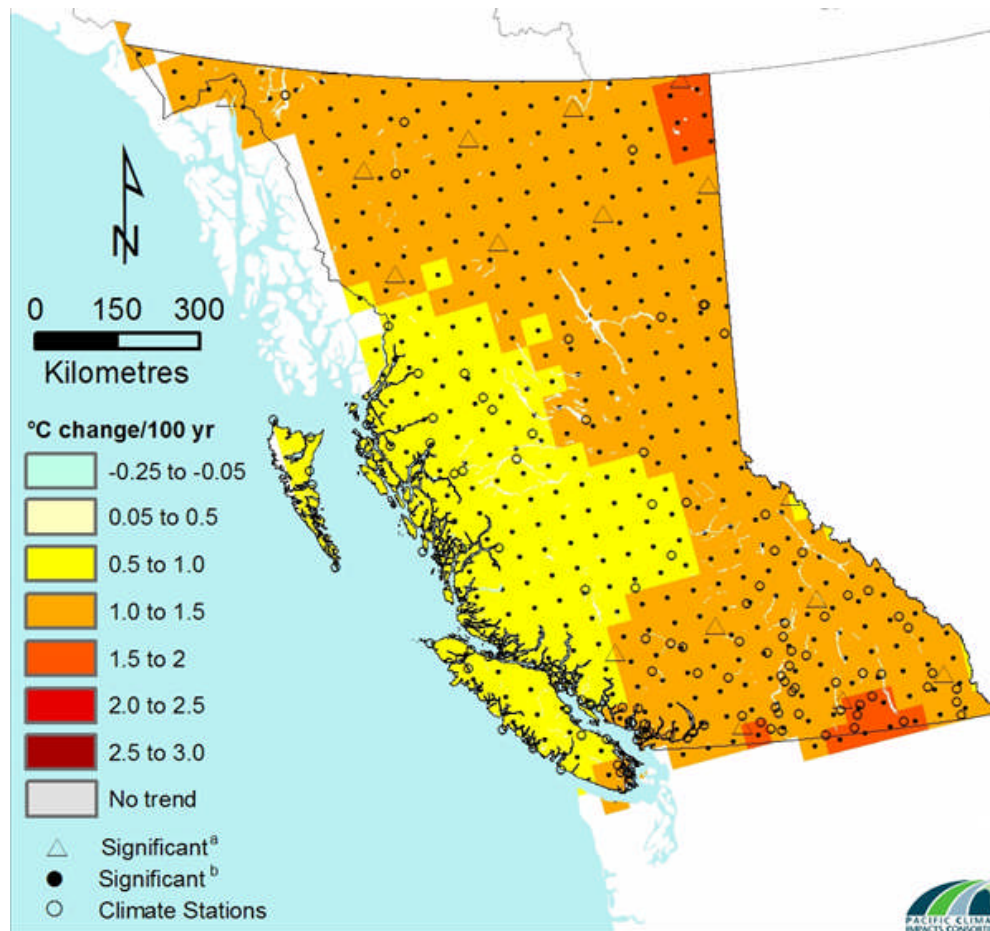


BC's Unique Emissions Profile



Source: Environment Canada
2007 GHG Emissions by Sector

Warmer BC



B.C. is exceeding
global trends

1900 to 2003

- Interior: 1 to 1.5°C
- Coast: 0.5 to 1.0 °C

Climate Action Plan

Standards

Regulation

Greenhouse Gas Reduction Act
Vehicle Emissions Standards
Regulate Landfill Gas

Investments

Programs

Anti-idling policies, LiveSmart
Innovative Clean Energy (ICE) Fund
Pacific Institute for Climate Solutions

Price on Carbon

Fiscal Measures

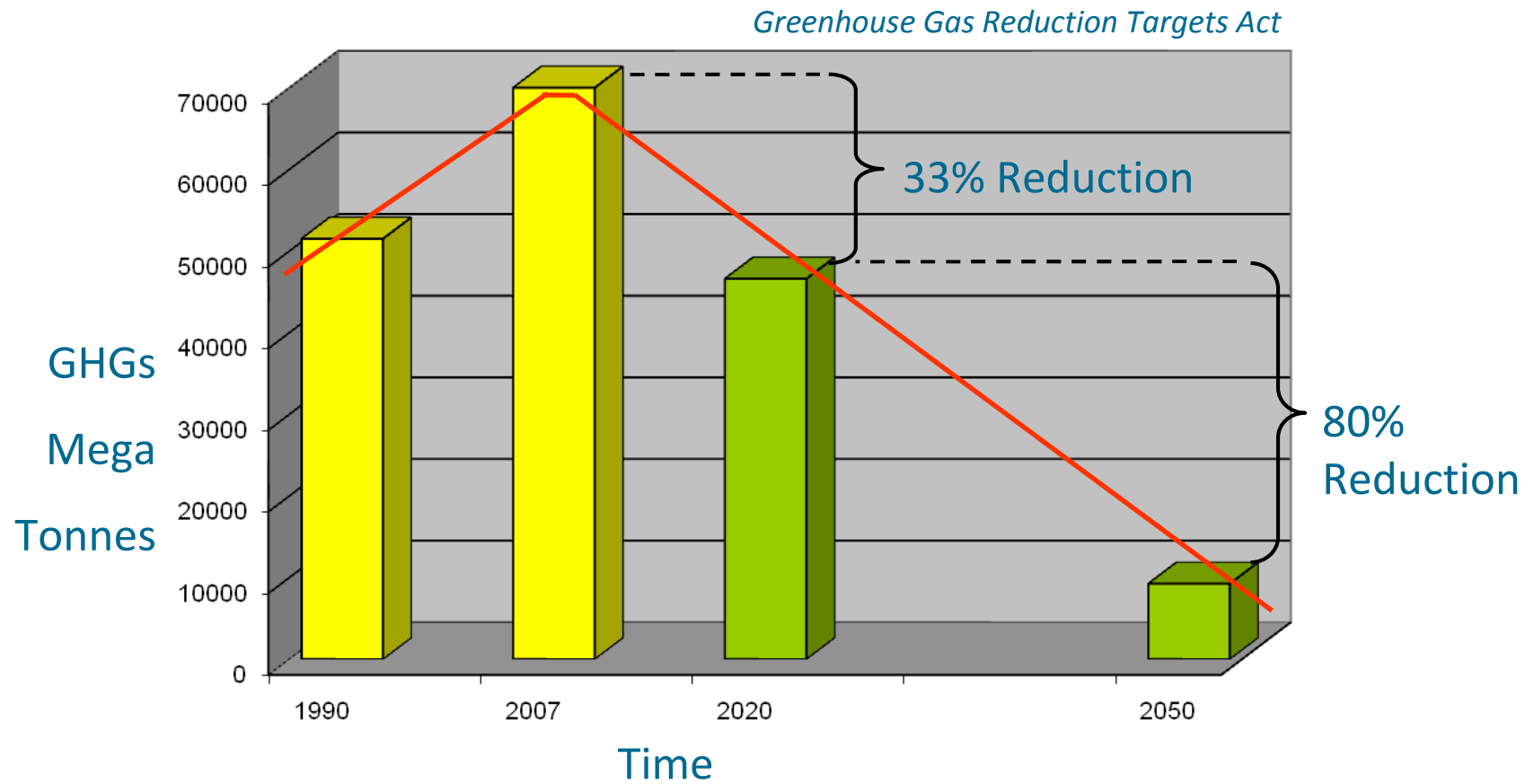
Carbon Tax Act
Hybrid Car Sales Tax Exemption

Market Mechanisms

North American Carbon Trading
Pacific Carbon Trust



Legislated Targets



Lead by Example

Carbon Neutral Public Sector

Core Government

Boards of Education

Health Authorities

Universities/Colleges

Crown Corporations

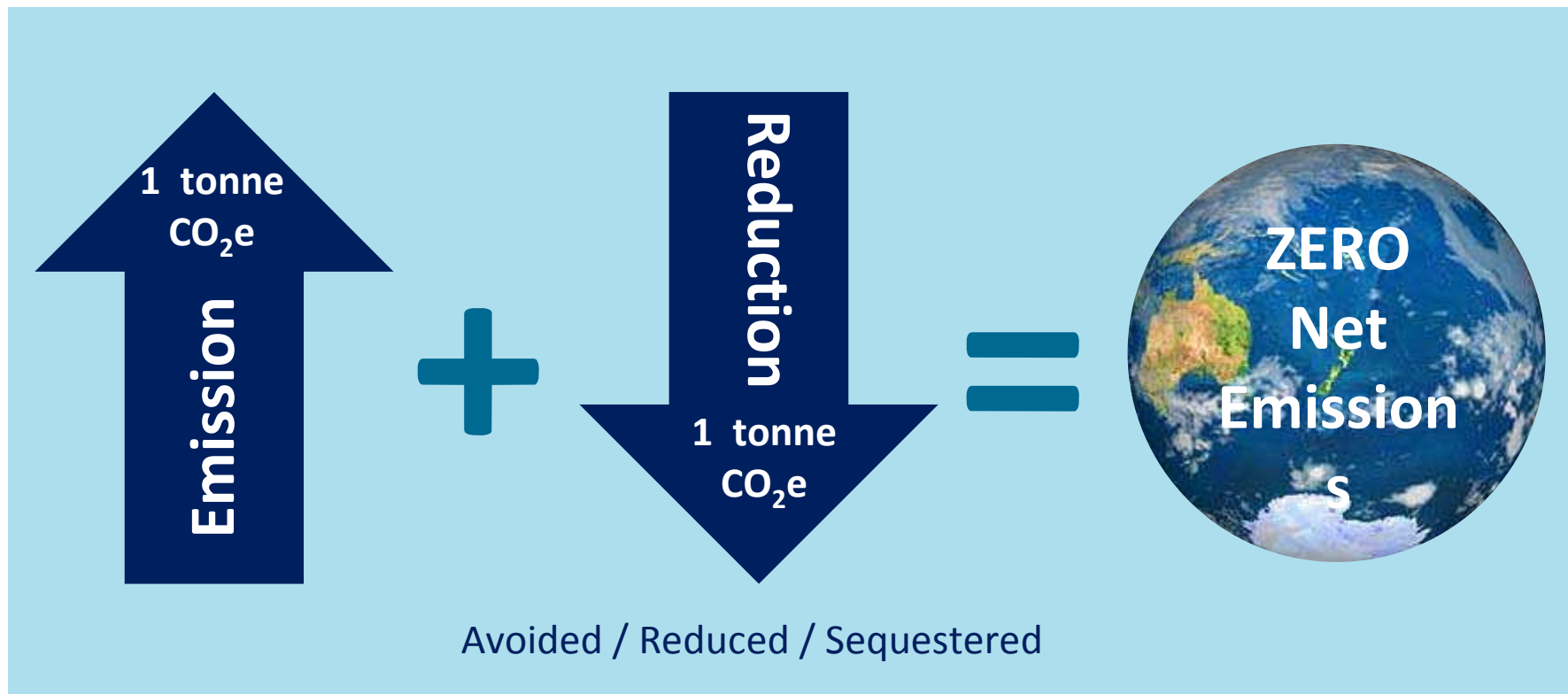


What is Carbon Neutral?

1. Measure emissions
2. Reduce emissions
3. Offset remaining emissions
4. Report out



Carbon Offset

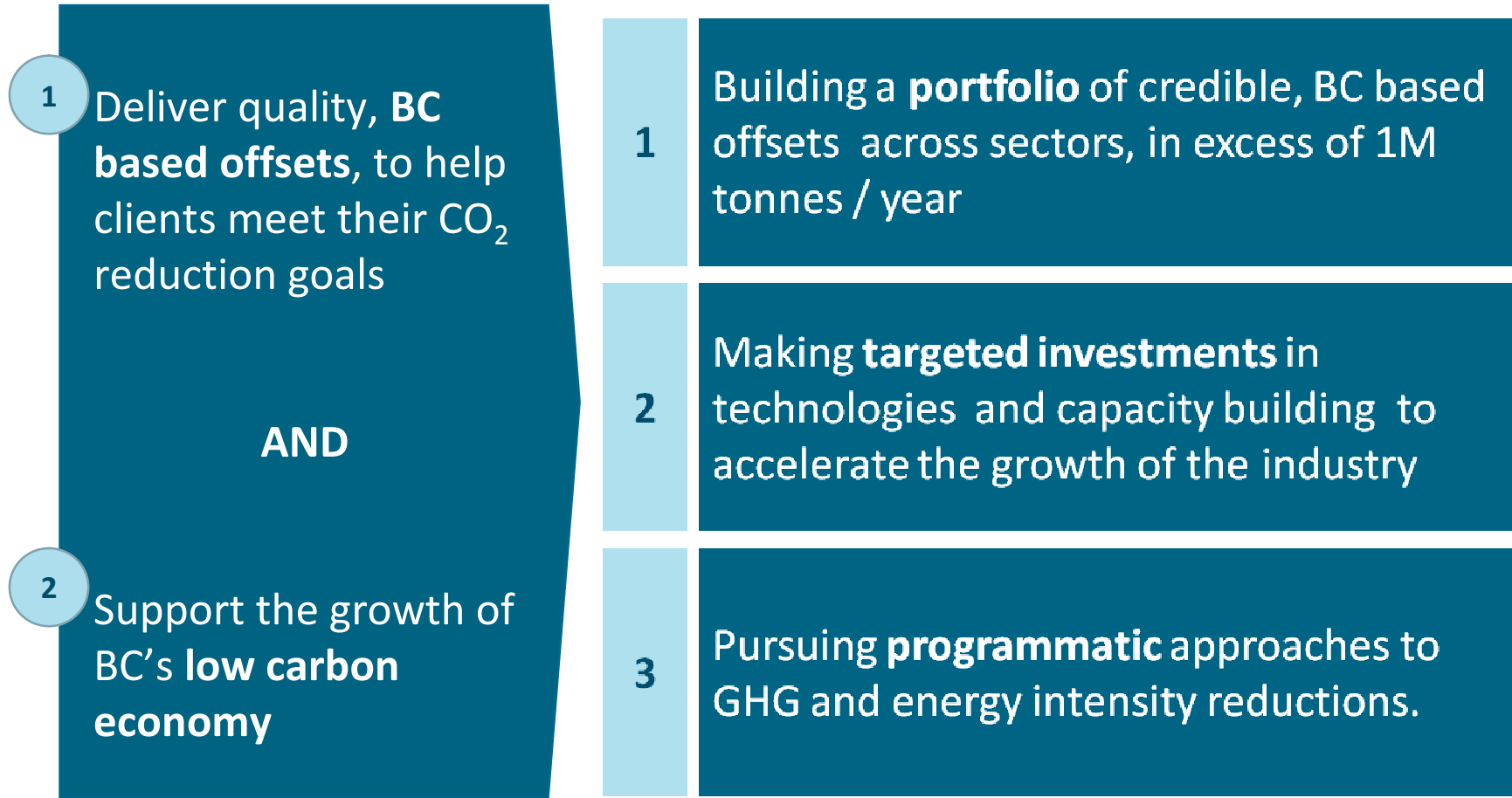


Fine Print: A reduction, avoidance or sequestration of one tonne of CO₂e from a *specific activity or project* (external to your organization).

Price on Carbon

\$ 25

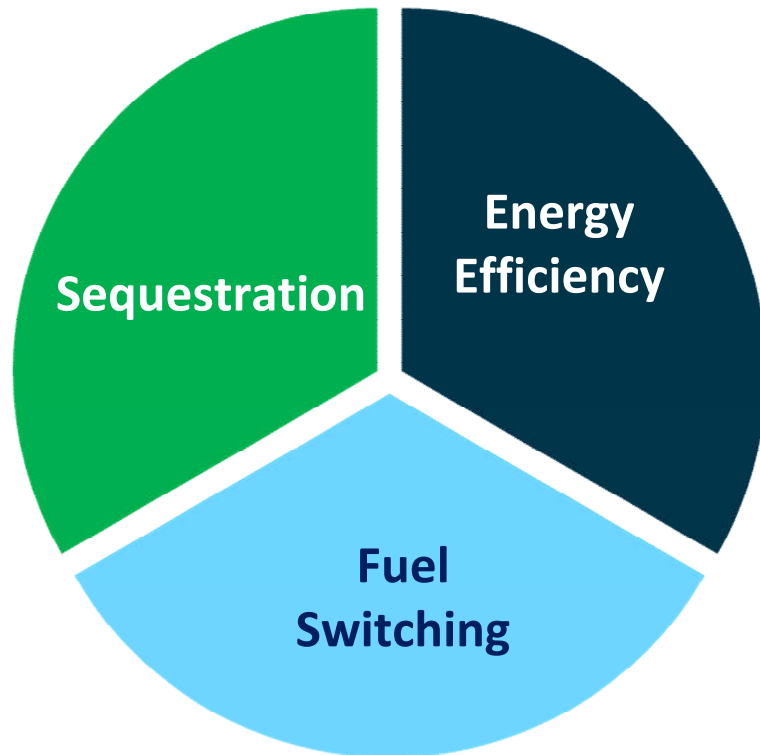
Pacific Carbon Trust



Offset Project Types

	Description	Forestry Examples
Energy Efficiency	<ul style="list-style-type: none"> ▪ Eliminate Waste ▪ Improve Productivity 	<ul style="list-style-type: none"> ➤ Exhaust heat capture and recovery ➤ Boiler rebuild ➤ Process control technology
Fuel Switching	<ul style="list-style-type: none"> ▪ Biomass ▪ Transition Fuels (Natural Gas) ▪ Electrification 	<ul style="list-style-type: none"> ➤ Lumber kilns switch from natural gas to shavings ➤ Power boiler switch from natural gas to biomass
Sequestration	<ul style="list-style-type: none"> ▪ Carbon Capture & Storage ▪ Soils ▪ Forestry 	<ul style="list-style-type: none"> ➤ Afforestation ➤ Improved forest management ➤ Forest conservation

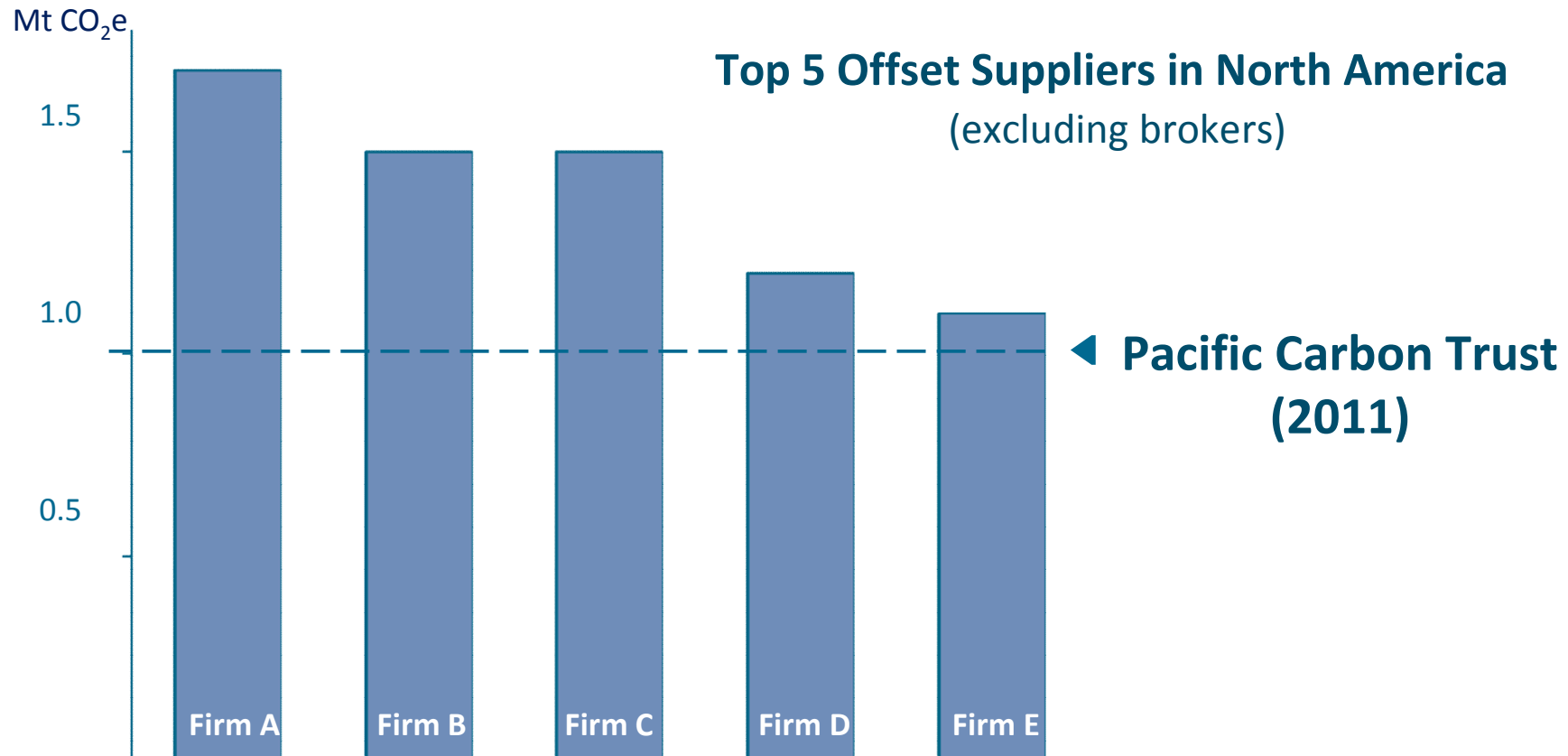
Developing a Balanced Portfolio



**PCT will purchase
up to
1,000,000
tonnes of carbon
offsets per year.**

**PCT will purchase a balanced portfolio, diversified across
key variables, including project type and geography.**

Offset Suppliers in North America



Source: Bloomberg New Energy Finance.

Confidential data from the State of the Voluntary Carbon Markets Report, 2009

Basic Beliefs on Forestry Carbon

- 1 Forest based carbon represents a potentially large, yet unexplored **revenue stream**.
- 2 There is significant and **growing interest** from **global** parties in making investments in BC's forest base in order to conserve / accelerate the sequestration of carbon.
- 3 Forest based carbon projects in BC represent a **cost competitive** source of high quality carbon which can be purchased by PCT.
- 4 BC's current system for managing **crown land** is silent on forest based carbon rights. It is a challenge to unlock the carbon value of the majority of BC's forests.

BC Forest Sector: Leadership in Emissions Reductions

- Total BC GHG emissions 67 million tonnes (2007)
- BC forest products sector emissions 2.5 to 3.0 million tonnes
- Canadian Forest Product Industry target to be carbon neutral by 2015

The BC forest sector has made significant reductions in GHG emissions and continues to reach for more improvements.

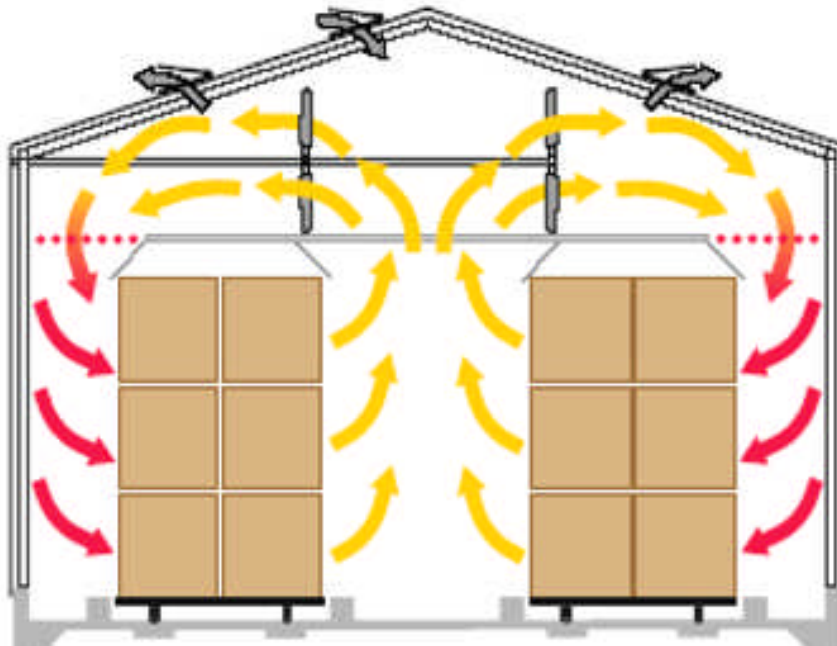
PCT and Forest Sector Engagement

- In discussion on 50 forest sector projects:
 - Fuel switching
 - Energy efficiency
 - Sequestration

- Signed Letters of Intent:
 - five (5) forest sector projects

Example: Fuel Switching Project

Lumber Kiln Fuel Switch: Natural Gas to Shavings



Baseline

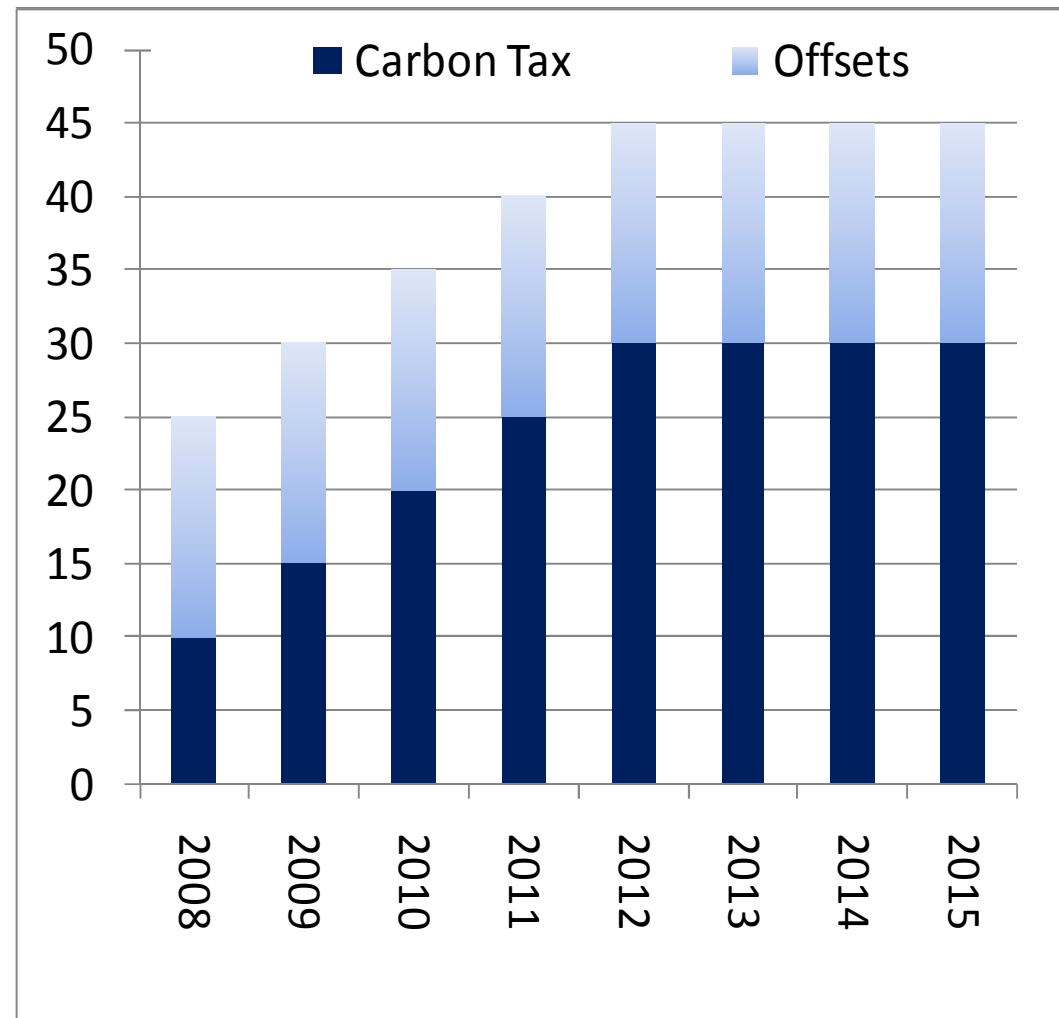
- 200 million bf lumber dried / year
- 240,000Gj of natural gas
- 12,000 tonnes CO₂e emissions/year

Offset Project

- 200 million bf lumber dried / year
- Shavings (carbon neutral)
- Sell 12,000 tonnes of offsets to PCT

Leverage BC's Carbon Tax

- For most offset projects, developers can sell PCT offsets and reduce their carbon tax = a double benefit.
- PCT can contract for offset-allowance convertibility under cap-and-trade.



Cap and Trade: An opportunity for early action

What We Have Heard

- Should we hold on to reductions for future compliance rather than sell offsets?
- Will taking action today negatively impact my allowance baseline?

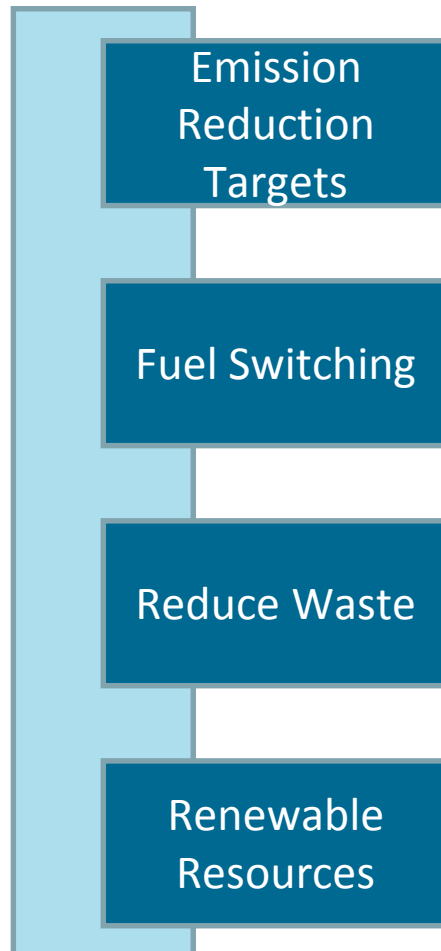
Developing Reality

- Allowance prices are highly uncertain – PCT offers price certainty
- It is highly unlikely that allowance prices will be high enough to justify holding on to reductions
- There is no penalty for early action
- Reducing your emissions lowers your total cost of compliance
- Get paid to learn how to operate in cap and trade environment
- Offset opportunity expires unless we enter into a contract before cap and trade

What contract terms do you need to enter this market?

Clean Energy Act

Objectives Relevant to Forest Sector



- To reduce BC greenhouse gas emissions by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007.
- To encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia.
- To reduce waste by encouraging the use of waste heat, biogas and biomass.
- To use and foster the development of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources.

Open for Business

Pacific Carbon Trust is
open for business,
willing to engage,
and putting a premium price
on carbon today.

Pacific Carbon Trust

