

FMI Presentation Carbon Accounting vs Accounting for Carbon

Rick Nelson, Controller

March 1, 2011



Agenda

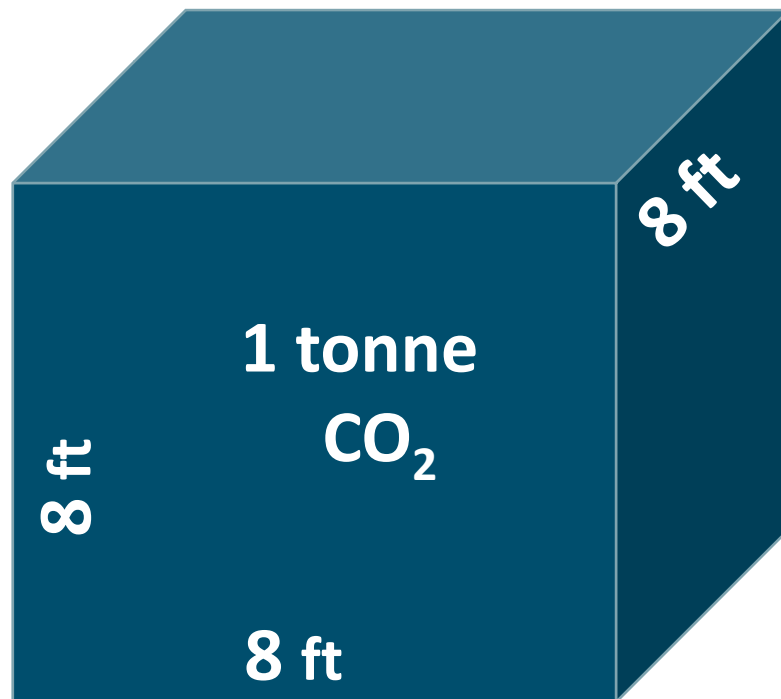
- Background Information
- Carbon Markets
- GHG Emission Reduction Projects
- Carbon Accounting
- Accounting for Carbon
- Cap and Trade
- Conclusion

Background Information

How much is one tonne of Carbon?

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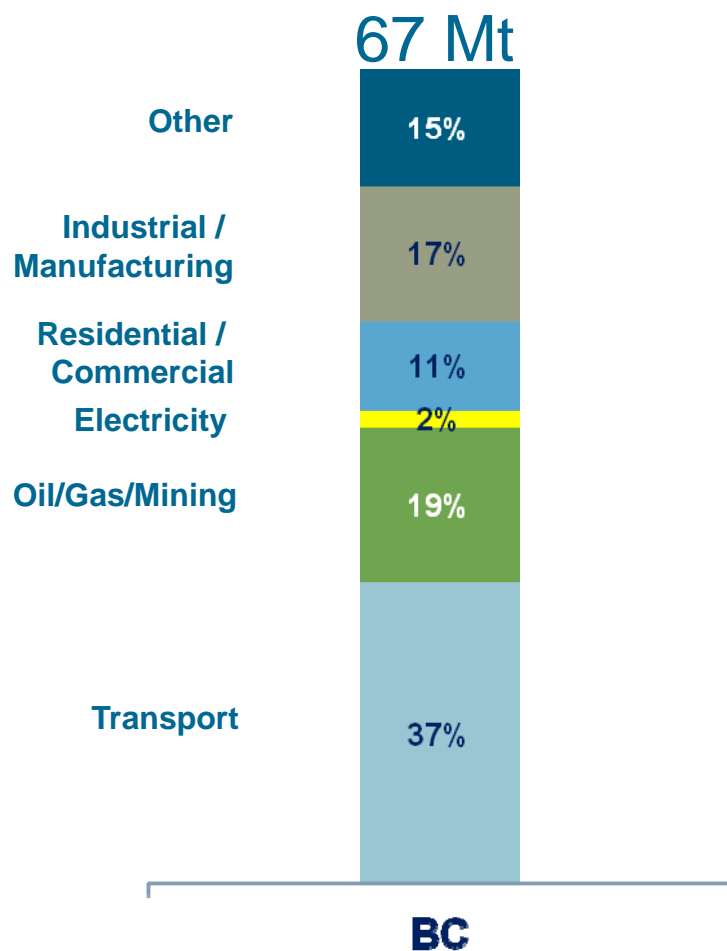


512 ft.³

Background Information

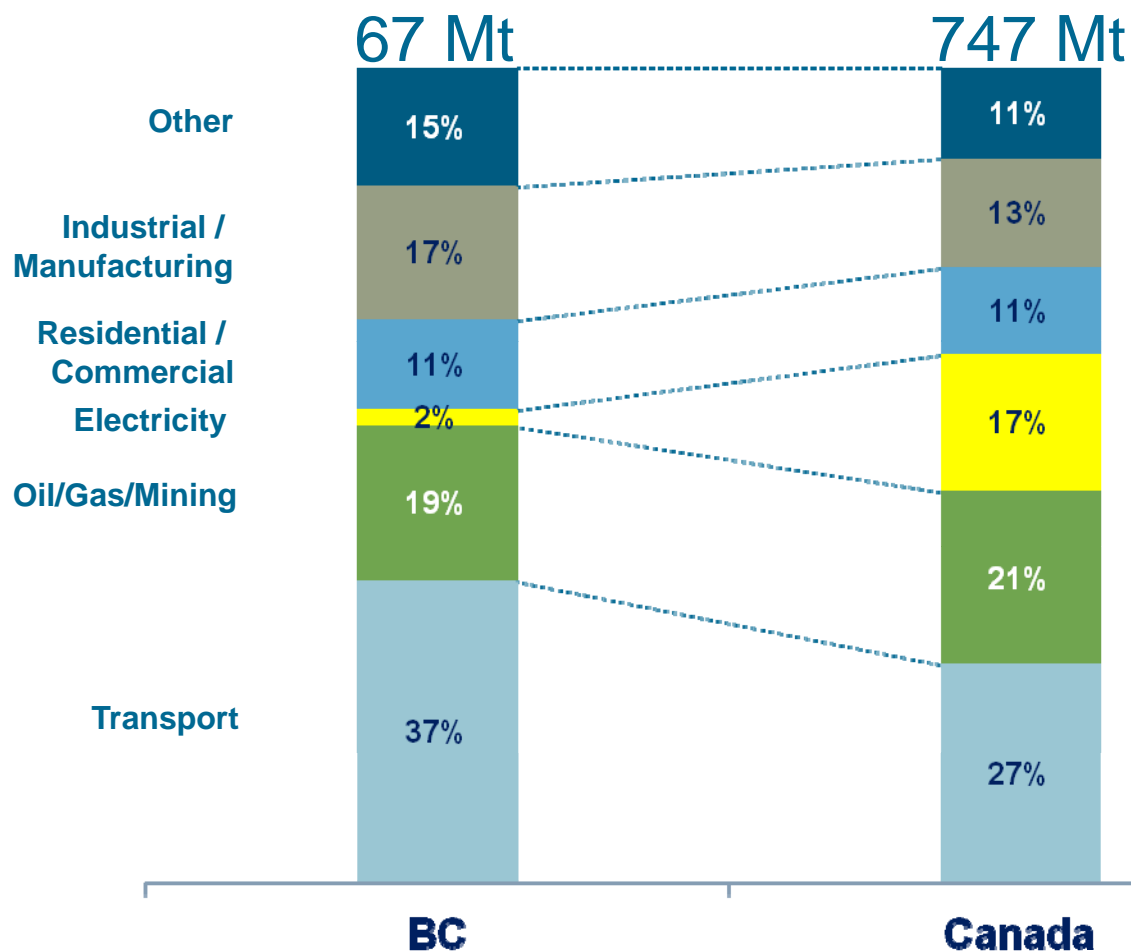
What are the annual Green House Gas (GHG) Emissions for BC measured in tonnes of carbon?

Background Information



BC's GHG Emissions profile

Background Information



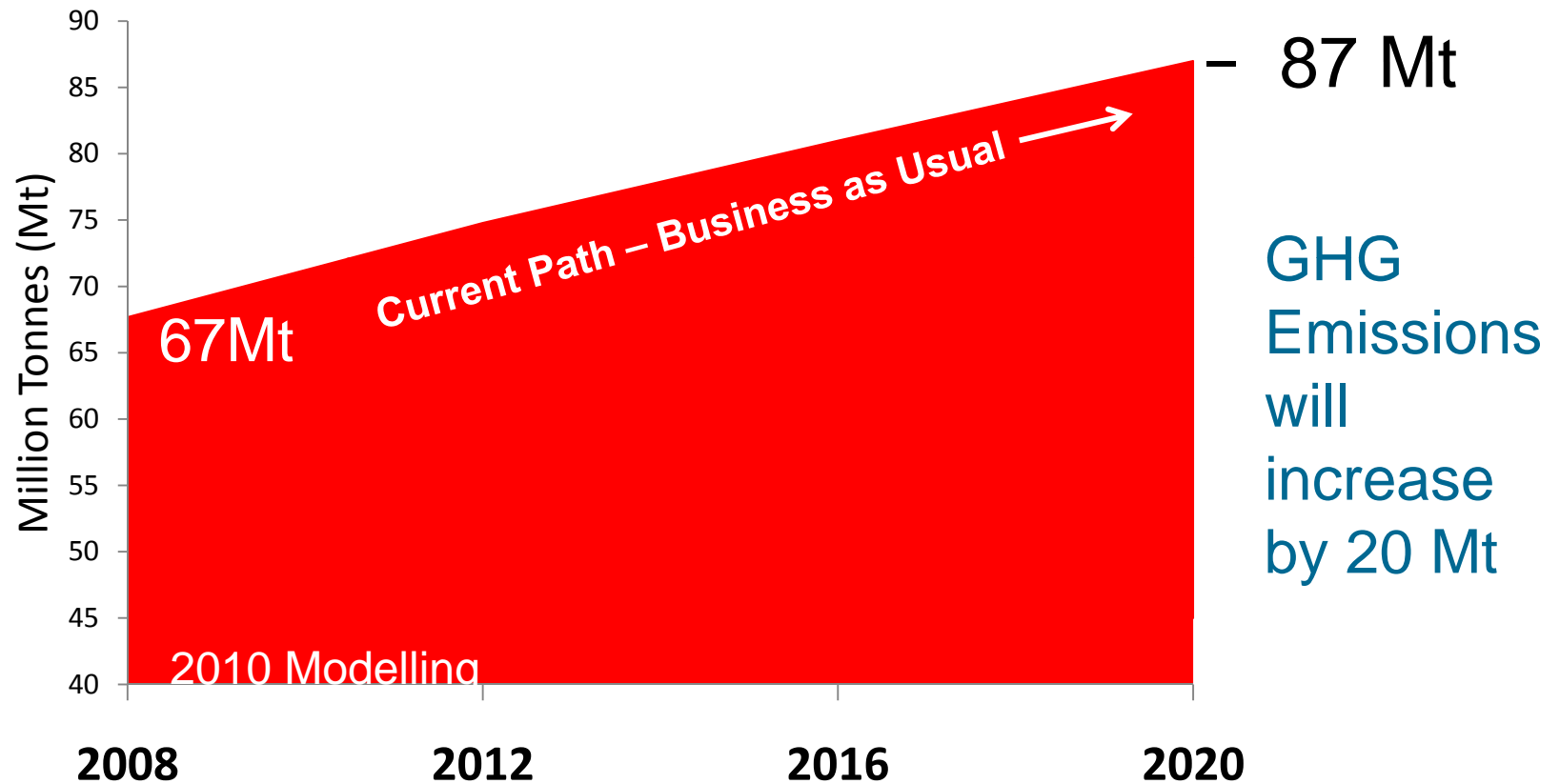
BC's and Canada's GHG Emissions profile

Source: Environment Canada
2007 GHG Emissions by Sector

Background Information

If GHG Emissions continue to grow at the current rate ...

Background Information

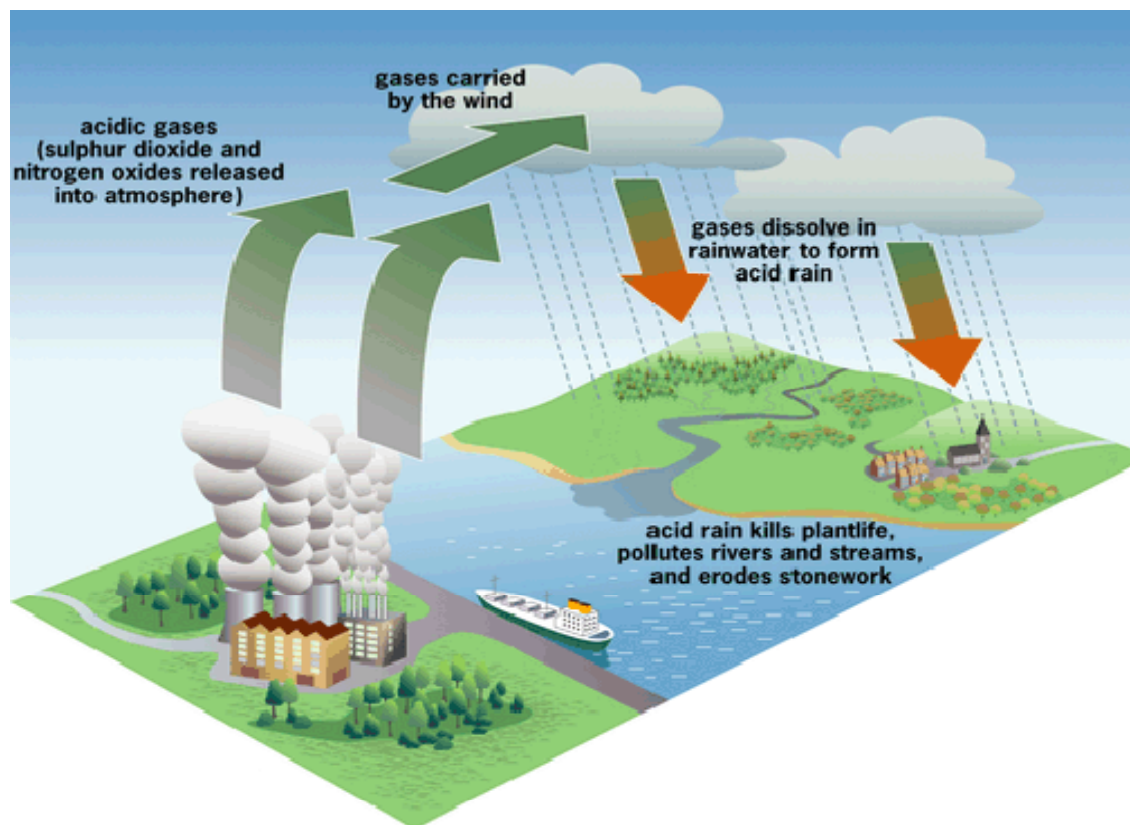


Background Information

What is the impact to the environment of GHG emissions?

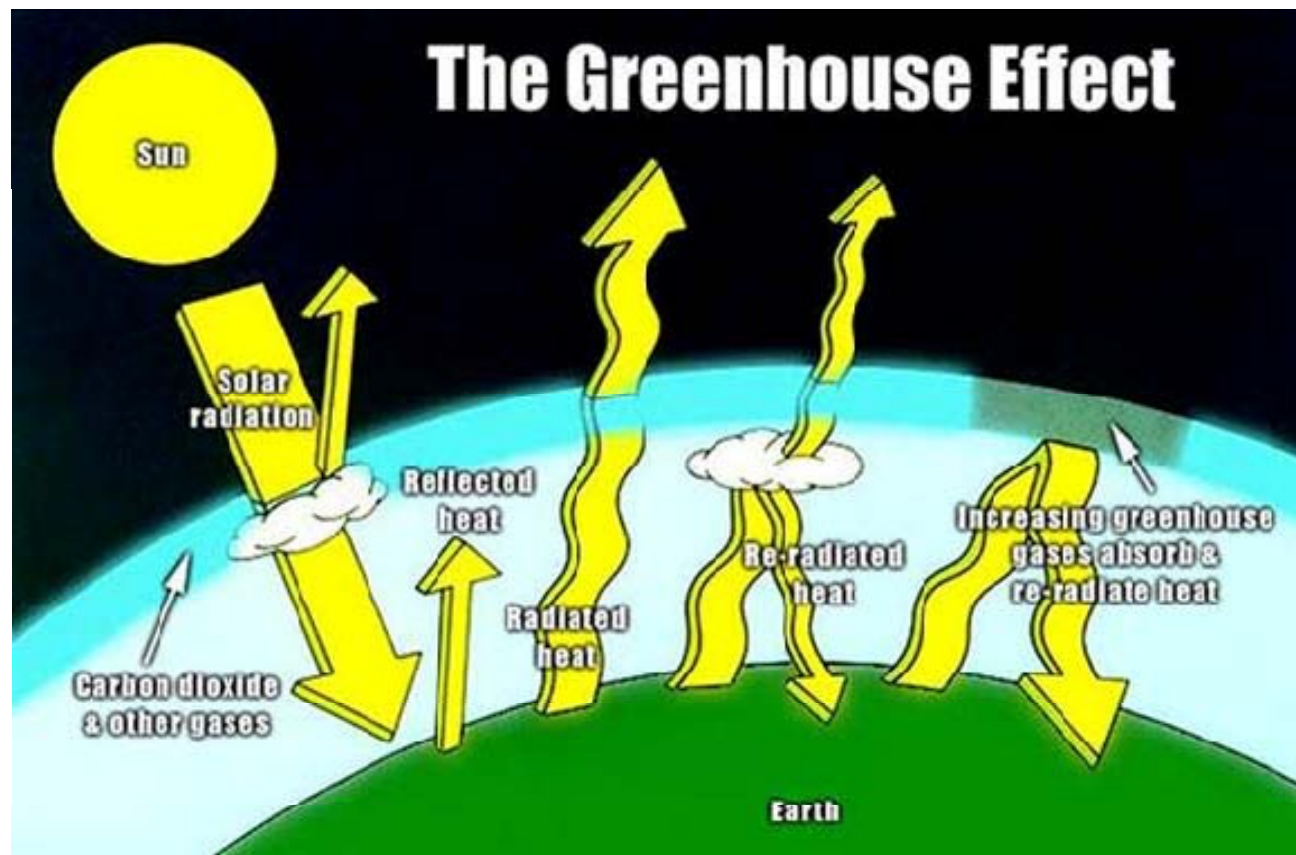
Background Information

1980s and early 1990s the concern was “Acid Rain”



Background Information

2000s the concern expanded to the “Greenhouse Effect”



Background Information

How do we provide financial incentives (or disincentives) for reducing GHG Emissions?

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➤ Carbon Tax

Background Information

How do we provide financial incentives (or disincentives) for reducing GHG Emissions?

- Carbon Tax
- Monetize carbon and create a “Carbon Market”

Carbon Markets

If monetized carbon becomes a “commodity” which can be traded on an exchange or sold directly to interested parties

- Emission Units (EUAs) are currently traded in Europe

Carbon Markets

If monetized carbon becomes a “commodity” which can be traded on an exchange or sold directly to interested parties

- Emission Unit Allowances (EUAs) are currently traded in Europe
- Carbon offsets are sold directly to interested parties

Carbon Markets

All of this is very new in North America, but Carbon Markets and carbon trading have existed in Europe and parts of Asia for years.

Carbon trading in Europe is a multi billion dollar business.

GHG Emission Reduction Projects

How do we provide financial incentives (or disincentives) for reducing GHG Emissions?

GHG Emission Reduction Projects

Carbon offsets and EUAs are a result of GHG Emission Reduction Projects.

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GHG Emission Reduction Projects must:

- Meet specific standards (eg. ISO 14065)
- Comply with specific protocols (eg. FCOP)
- Pass third party reviews/audits

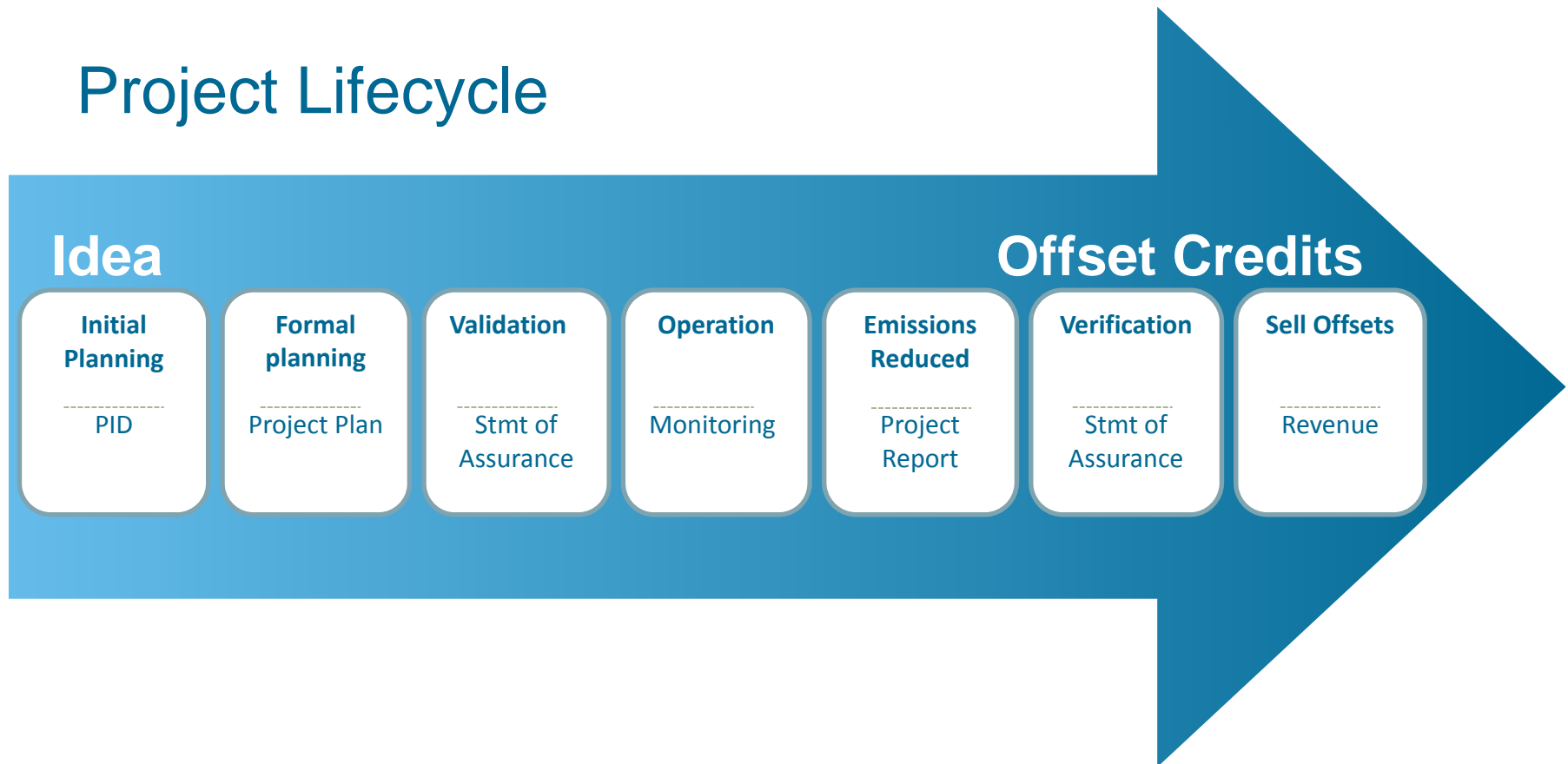
GHG Emission Reduction Projects

Opportunity	Description	Sample projects
Low carbon fuel supply opportunities	<ul style="list-style-type: none"> Facilitating switch to a fuel source with lower CO₂ emissions (e.g. From coal to natural gas) 	<ul style="list-style-type: none"> Switch from natural gas to biomass
Energy efficiency initiatives	<ul style="list-style-type: none"> Reducing amount of energy required to achieve similar output Minimizing waste energy lost from a process (e.g. methane loss) 	<ul style="list-style-type: none"> Elimination of waste methane from landfills Coal mine methane destruction Co-Gen / CHP
Terrestrial carbon sequestration	<ul style="list-style-type: none"> Increased storage of CO₂ in sinks, such as forests Capture and sequestration of CO₂ from industrial emissions 	<ul style="list-style-type: none"> Forestry projects Carbon Capture and Storage (CCS)

- Three primary types of GHG Emission Reduction projects

GHG Emission Reduction Projects

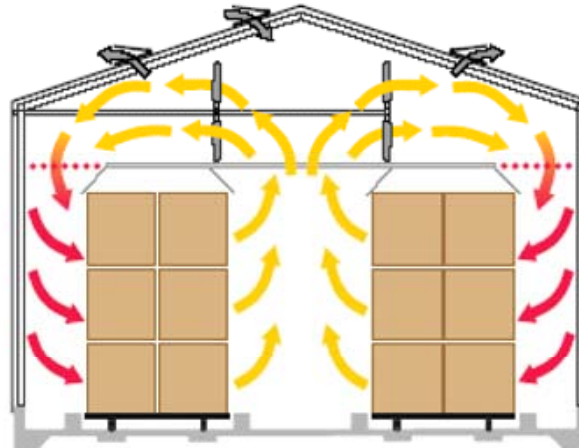
Project Lifecycle



Up to 18 months for completion

Lumber Kiln Fuel Switch

Before Natural Gas



After Wood Shavings

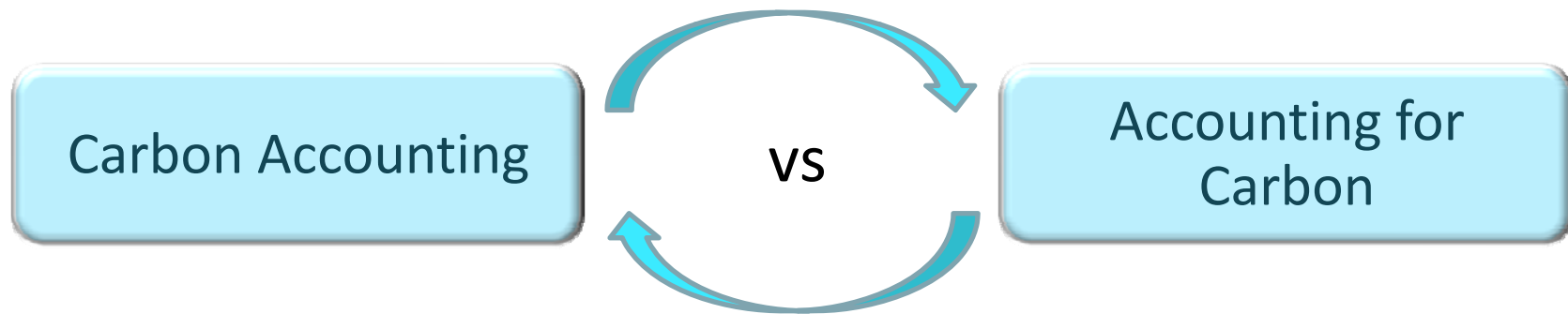
Baseline (Annual)

- 200 million bf lumber dried
- 240,000Gj of natural gas
- 12,000 tCO₂e emissions

Offset Project (Annual)

- 200 million bf lumber dried
- Wood Shavings (Biomass - carbon neutral)
- Carbon Offset Revenue = ~ \$120,000
 - 12,000 tCO₂e reduction @ \$10/tonne
- Carbon Tax Savings = \$240,000
 - @ \$20/tonne
- Fuel Savings = ??

Carbon Accounting



Carbon Accounting

IFRS standard (IFRIC 3) for the valuation of carbon offsets was issued by the CICA and subsequently withdrawn.

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IFRIC 3 concluded that carbon offsets and emissions allowances, whether issued by government or purchased in the market, are intangible assets to be accounted for in accordance with IAS 38, intangible assets.

Carbon Accounting

Record as inventory initially and COGS when sold.

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Revenues are accounted for in the period the transactions or events giving rise to the revenues occurred.

Carbon Accounting

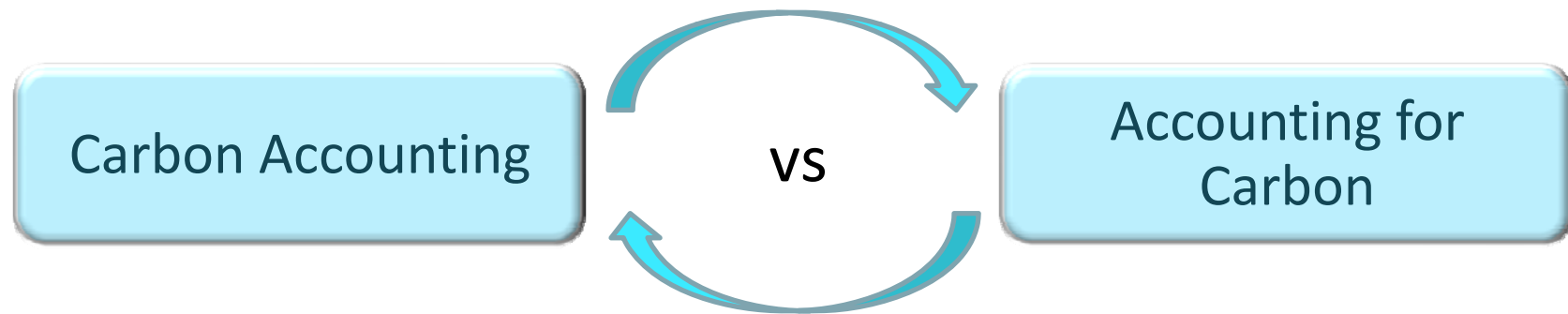
Emission Unit Allowances – revenue recognized when title transfers.

Carbon Accounting

Emission Unit Allowances – revenue recognized when title transfers.

Carbon Offsets – revenue recognized when offsets are retired (when payment is received).

Accounting for Carbon



Accounting for Carbon

1

Real

- Identifiable project that leads to GHG reductions
- Quantifiable GHG emissions from the project

2

Additional

- Over and above business as usual

3

Permanent

- Lasting impact (eg. 100 years +)

4

Verifiable

- Impacts can be identified, monitored, and audited

5

**Counted
Once**

- Clear, singular, ownership of the offset attributes of the project
- Public registry

Accounting for Carbon

Public facing registry.

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Each tonne must have a unique serial number to ensure it is counted only once.

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Ideally the registry is housed and managed by an independent third party.

Accounting for Carbon

Carbon Offset Registry

By Project																
Vintage	Project ID								Volume (tonnes)		Project Proponent	Project Name	Location	Verification Date	Project Type	Documents
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Cap & Trade Principles

What is “Cap & Trade”?

Cap & Trade Principles

The regulatory authority establishes a cap in absolute terms of GHG emissions for the year - for each participating installation.

Cap & Trade Principles

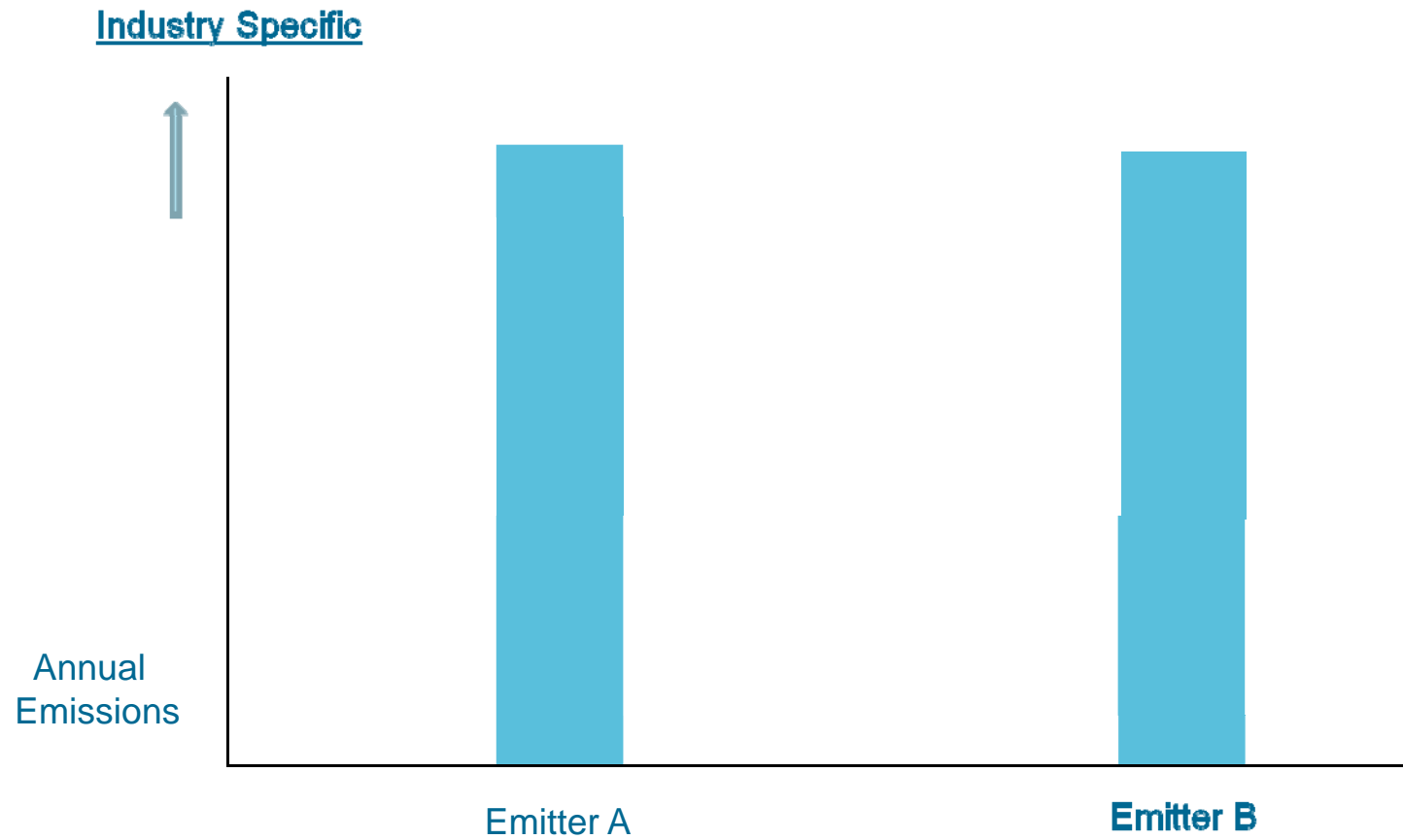
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At the end of each compliance period every installation in the scheme compares actual emissions with the allowances.

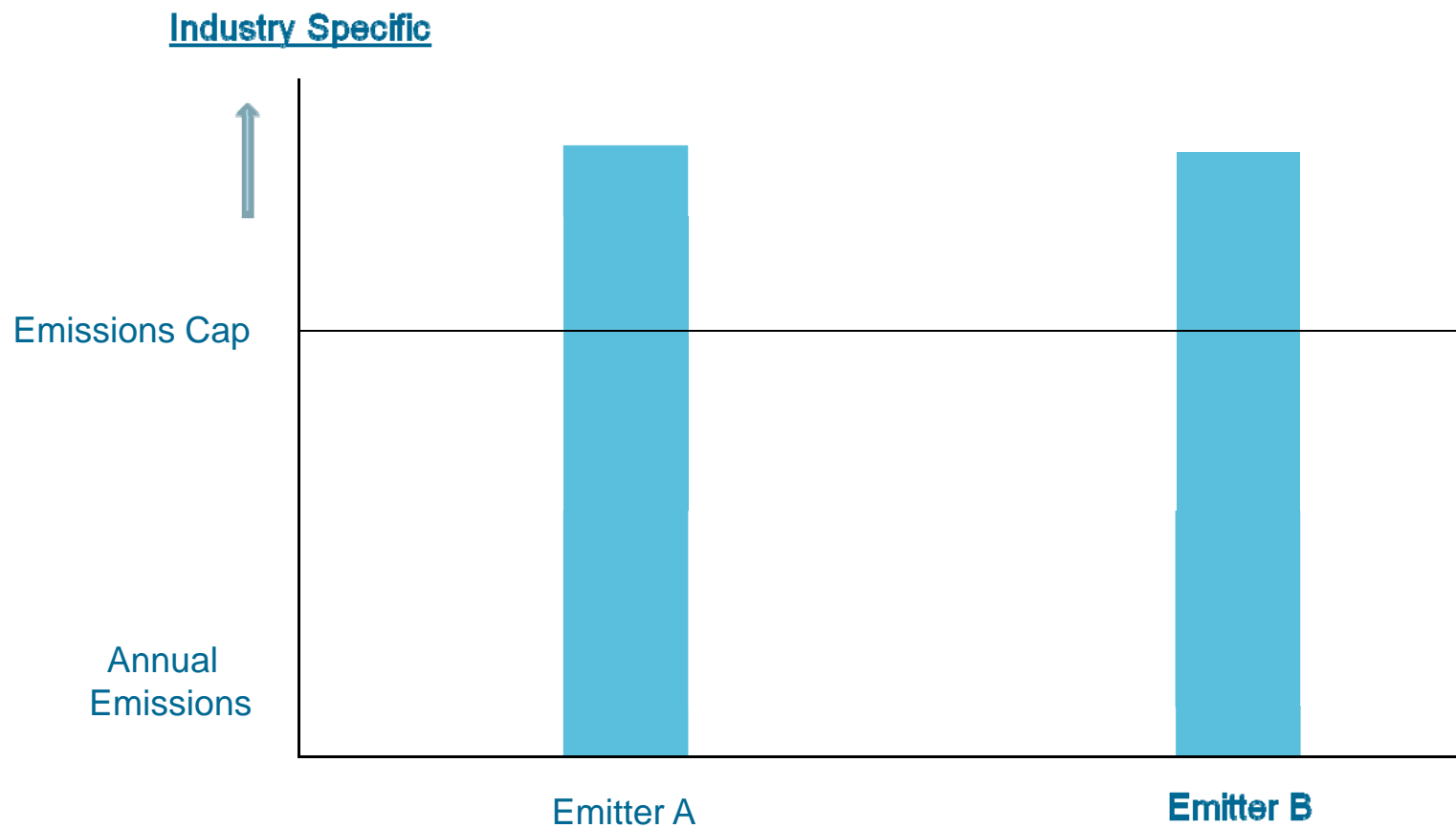
Cap & Trade Principles

If they find that they have more allowances than they need then they may sell the surplus allowances in the carbon market.

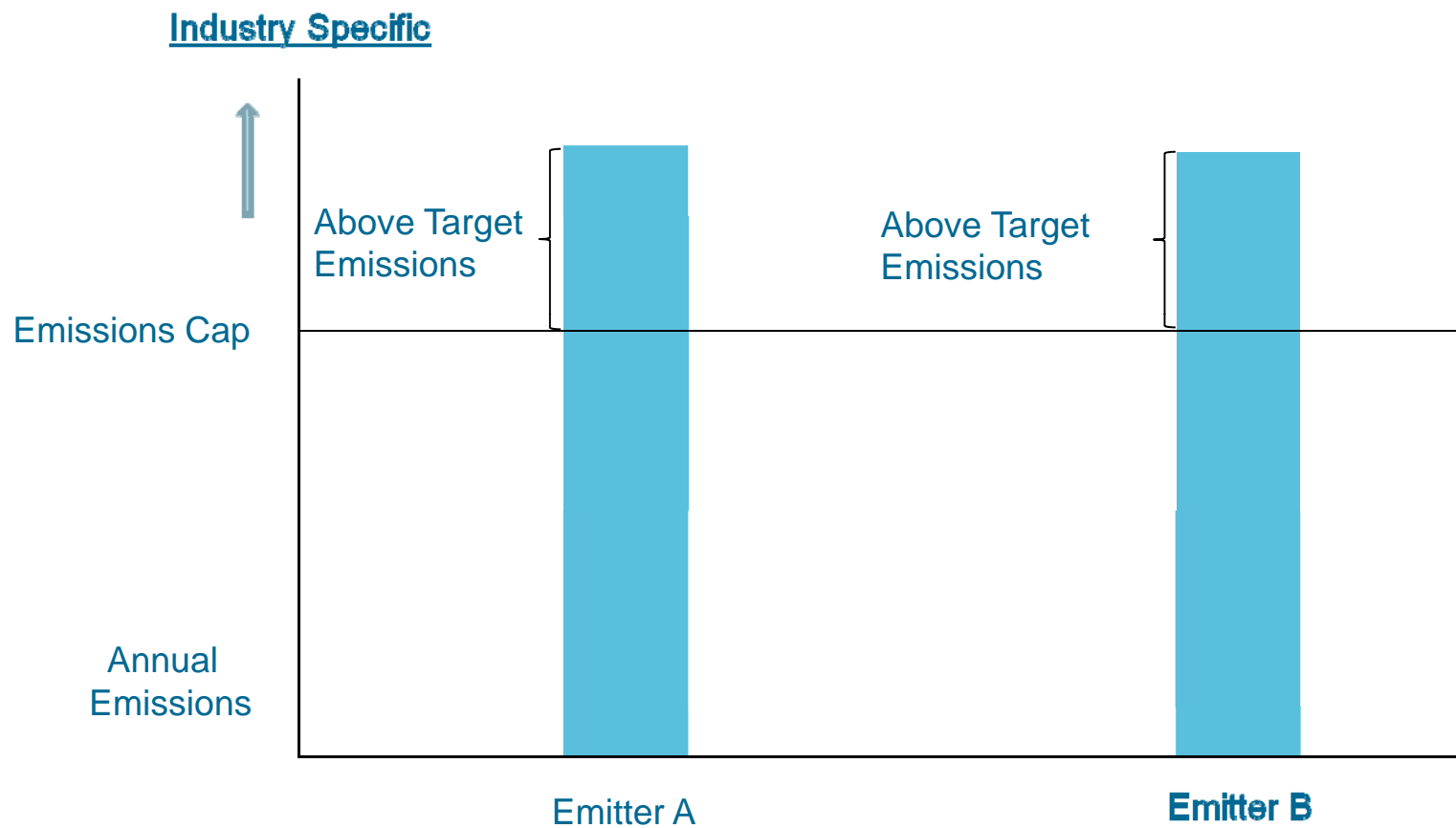
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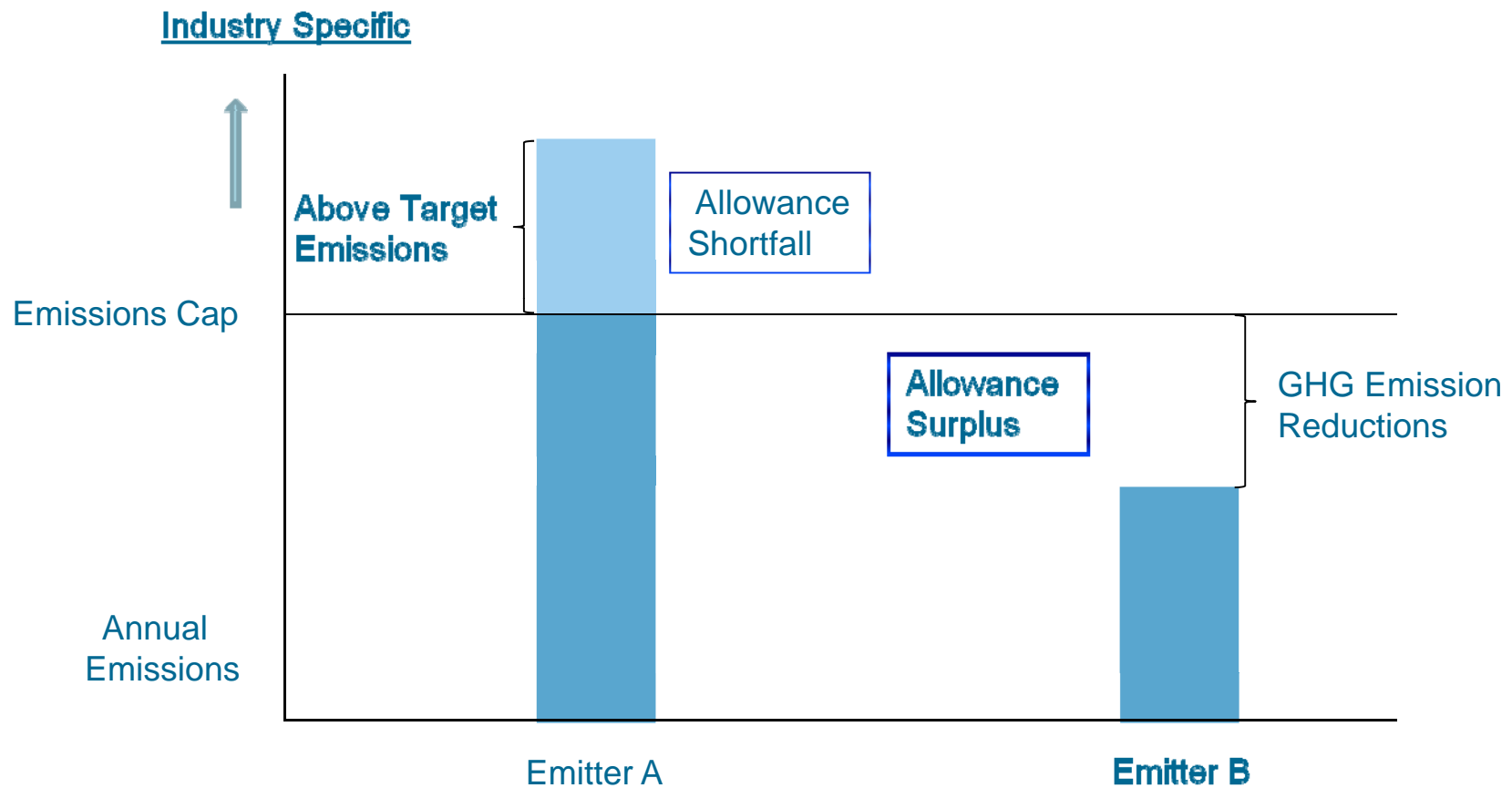
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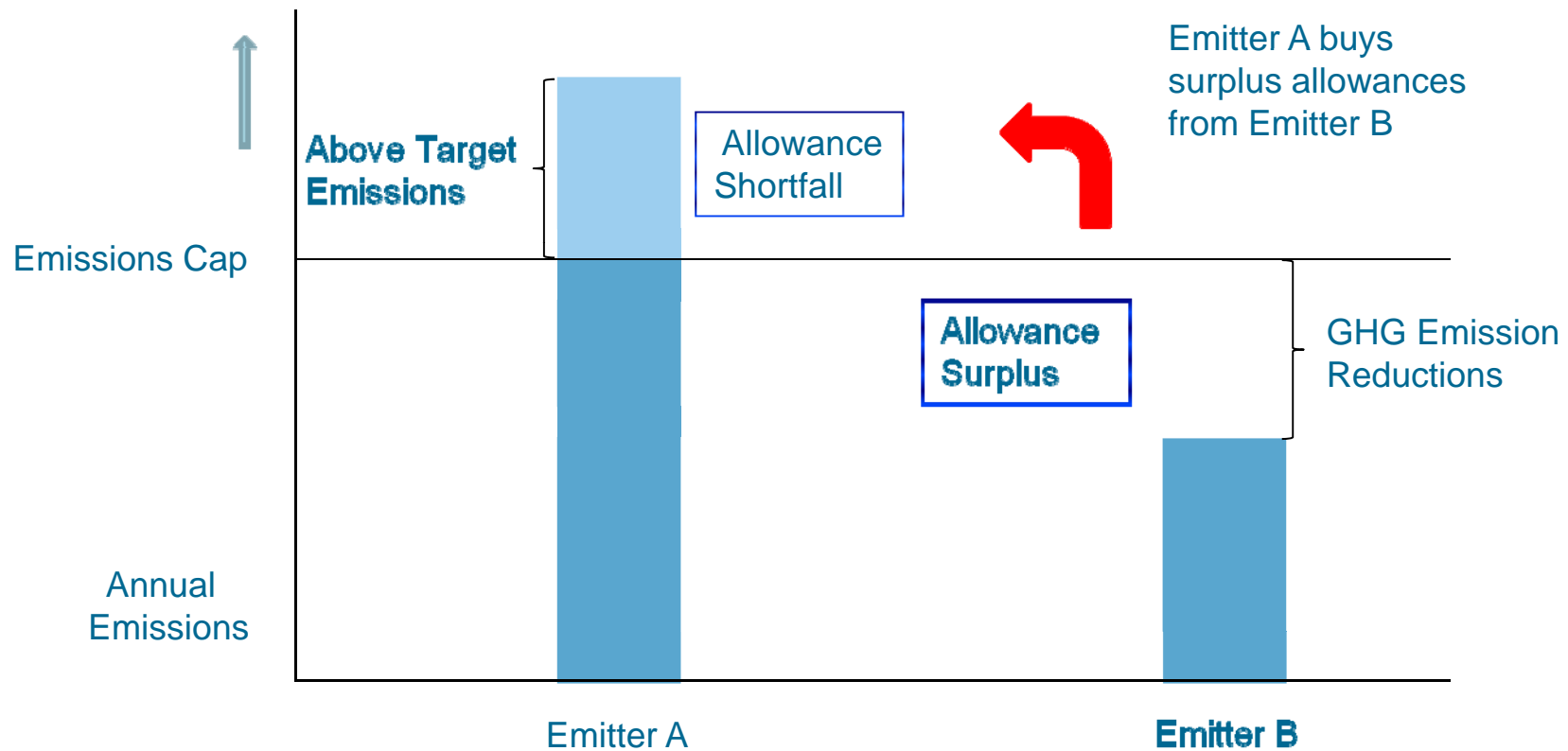


Cap & Trade Principles



Cap & Trade Principles

Industry Specific



Cap & Trade Principles

This is the system that is running in the EU since January 2005.

It is proposed for BC, Ontario, Quebec and some US states, but is still under development.

Conclusion

Carbon offsets and EUAs are very new to North America.

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Cap & Trade is also still evolving.

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Carbon offsets and EUAs are very new to North America.

Cap & Trade is also still evolving.

Carbon accounting and accounting for carbon, while relatively simple on the surface requires more formal, standardized guidance.

Conclusion

Questions?