



Recycling GHG offset Protocol for Alberta

Recycling Conference

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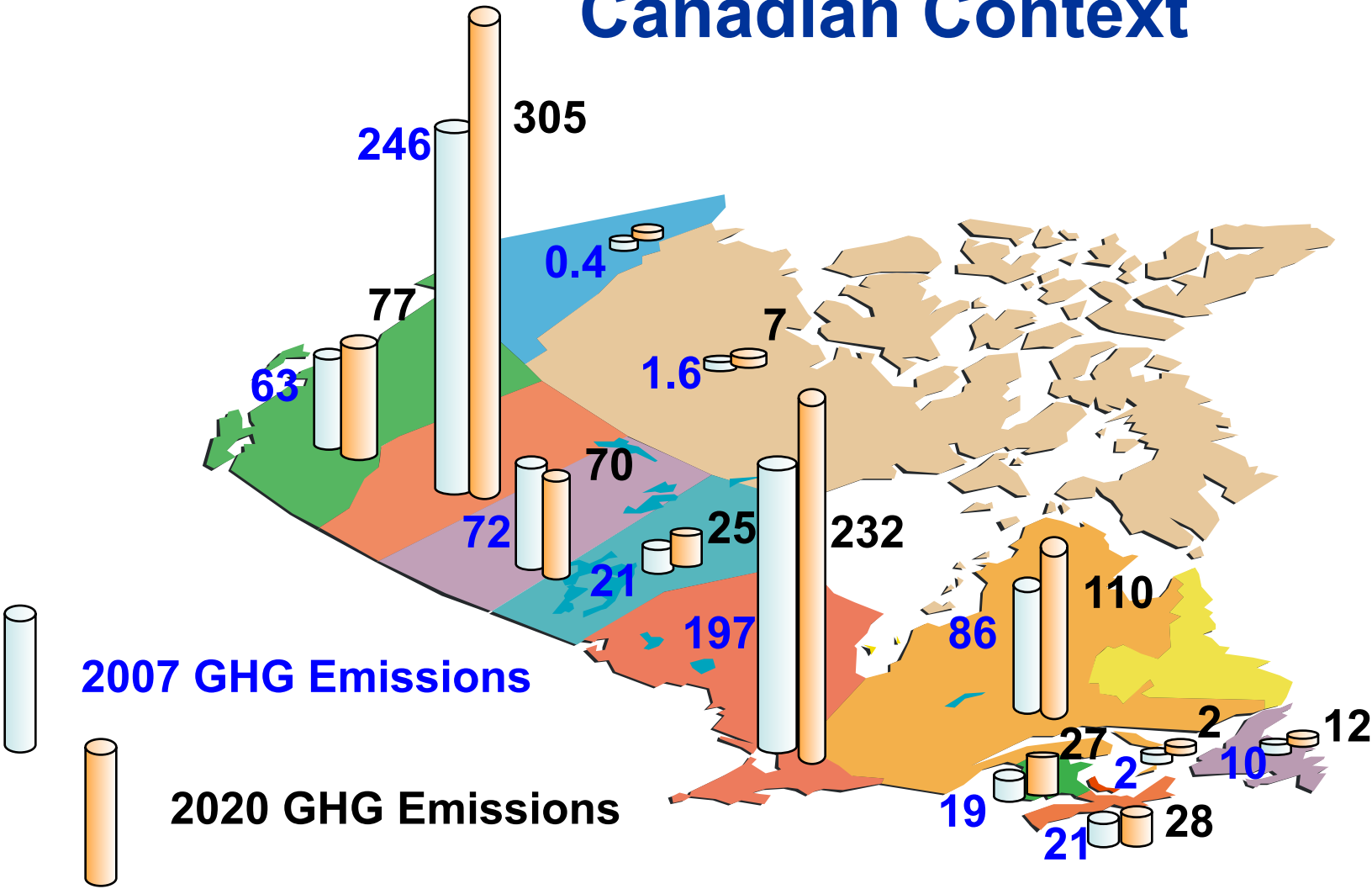
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Alberta

Freedom To Create. Spirit To Achieve.

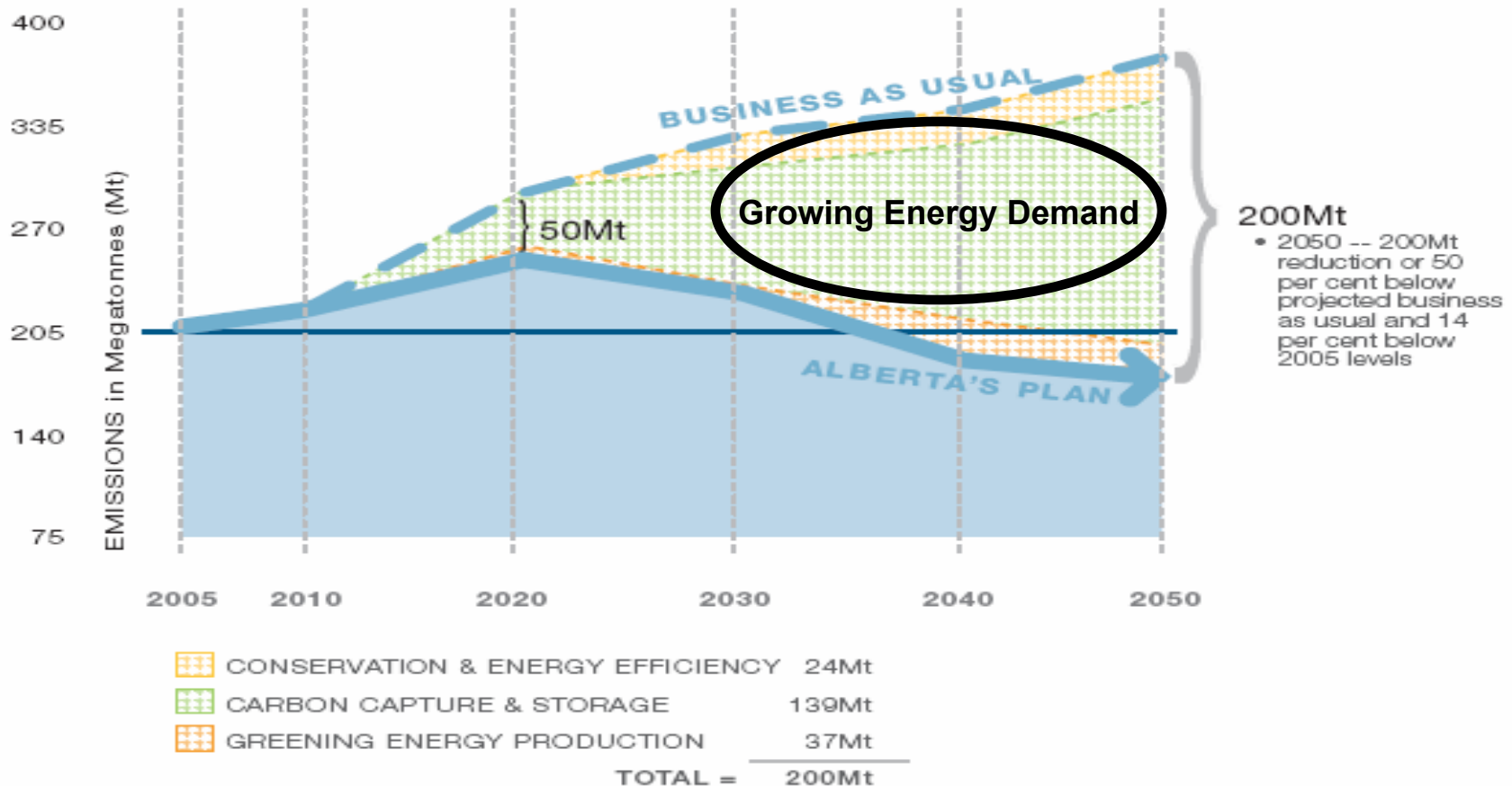
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Alberta's GHG Emissions in the Canadian Context



Alberta's 2008 Climate Change Strategy

ALBERTA'S REDUCTION COMMITMENTS



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Specified Gas Emitters Regulation

- Applies to all facilities in Alberta that produce over 100,000 tonnes of CO₂E
 - About 100 facilities that represent 50% of Alberta's overall emissions or 70% of industrial emissions
- Requires facilities to establish a baseline intensity
 - Based on average emissions intensity from 2003-2005 (emissions/production=baseline intensity)
- Intensity Limits applied – reductions relative to baseline intensity
 - Existing facilities - required to reduce their intensity by 12% from their baseline
 - New Facilities - phase-in of target for new facilities
- Essentially acts as an absolute limit/cap for facilities with stable or declining production

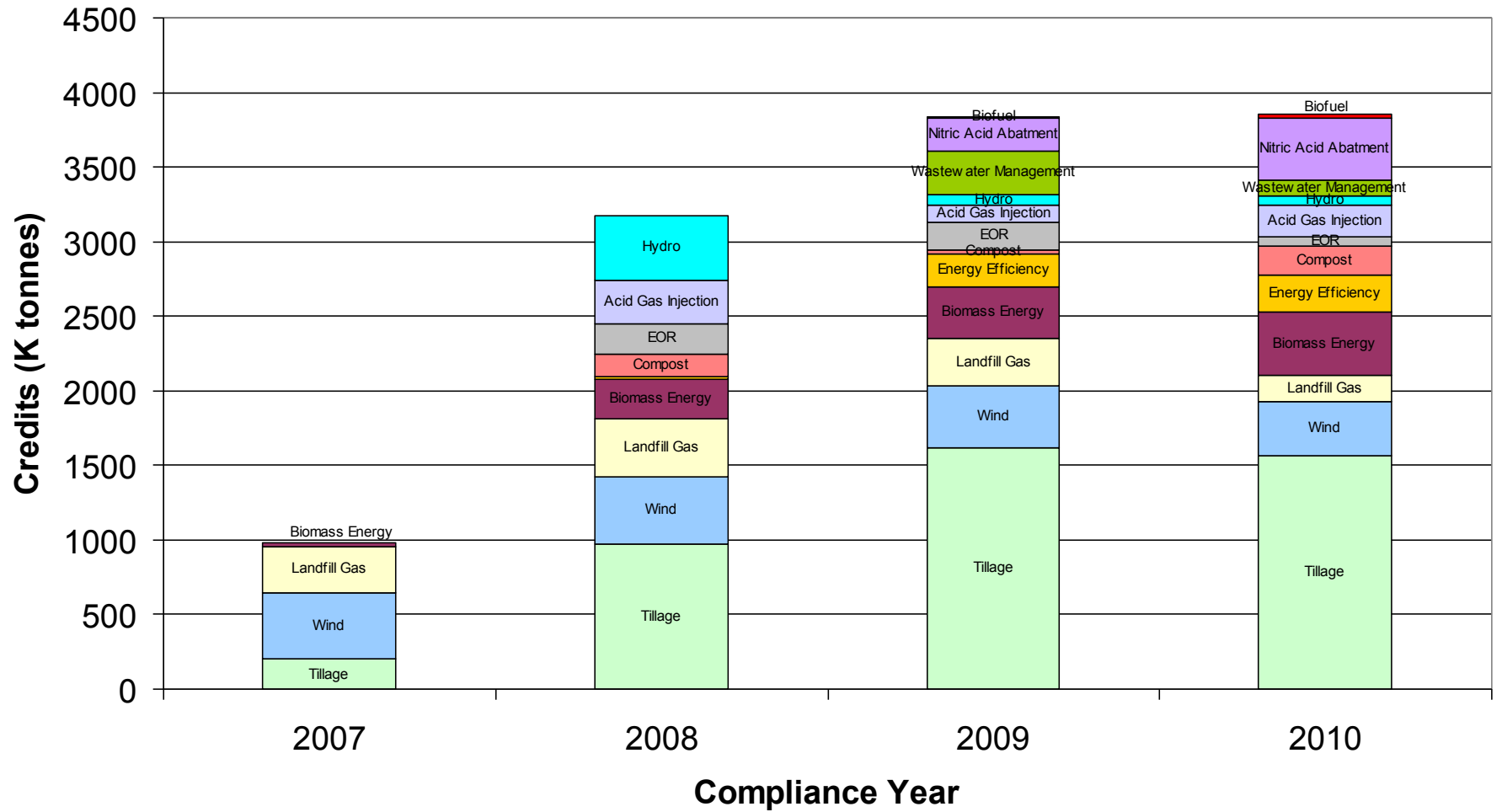
Options to Achieve Targets

- **Internal Abatement**
- **Emission Performance Credits (EPCs)**
 - These are credits created in the regulated system by facilities that achieve better than target performance
- **Emission Offsets**
 - Incentivizes reductions outside of the regulated facilities, unleashing ingenuity of the broader market
 - Rewards reduction activity not otherwise required by law
 - Action must be taken in Alberta on or after January 1, 2002 and must be third party verified.
- **Payment to the Climate Change and Emissions Management Fund**
 - Compliance payment to the Climate Change and Emissions Management Fund at \$15/tonne
 - Key mechanism to support transformative technologies and change
 - Safety valve - essentially caps industry's risk as we transition into a new regulatory and economic system
 - Fund is being managed by an arm's-length Board/Not-for-profit Corporation

Overview of the Regulatory Compliance Cycles

Compliance Cycle	Offset Credits	Fund Payment	EPC Credits
2007 (half year)	1 Mt	\$43 Million	0.25 Mt
2008	2.7 Mt	\$82 Million	0.57 Mt
2009	3.8 Mt	\$63 Million	1.2 Mt
2010	3.9 Mt	\$70.0 Million	1.9 Mt

Offset Credits Submitted For Compliance



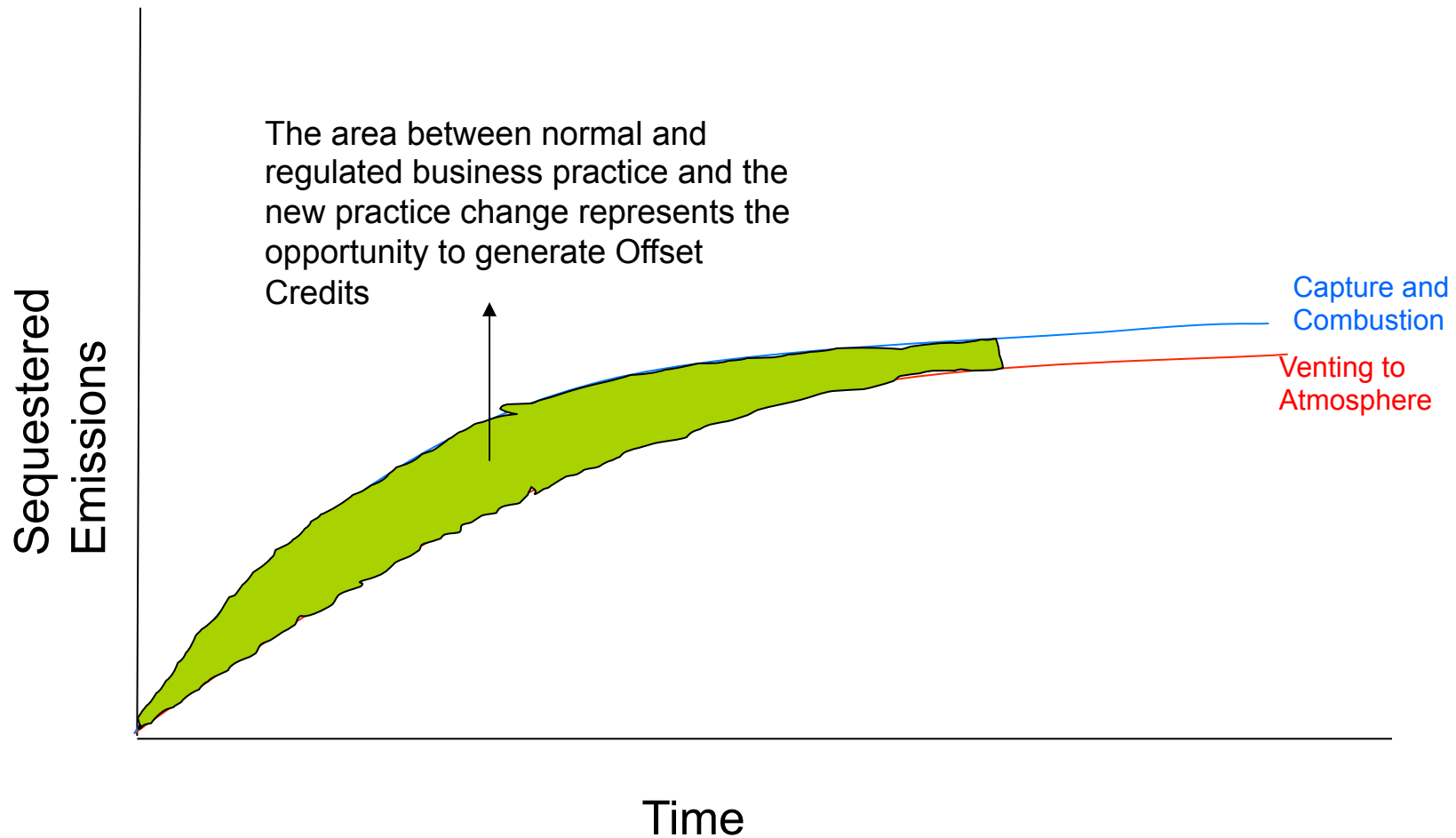
Alberta Offset System

- *Specified Gas Emitters Regulation* enables the system
 - Sets out the rules and the reduction obligations (Targets) for large emitting facilities.
 - Quantification protocols establish the eligible offset reduction opportunities
- **Eligibility Criteria**
 - Result from actions taken on or after Jan 1, 2002;
 - Reduction must be real, quantifiable or measurable;
 - Cannot occur at a regulated facility and must be from actions not otherwise required by law – must be from activity that is beyond business as usual;
 - Have clearly established ownership;
 - Be counted once for compliance purposes;
 - Be verified by a qualified third party;
 - Occur in Alberta
 - Meet requirements stated in Ministerial guidelines (systems guidance and offset protocols)

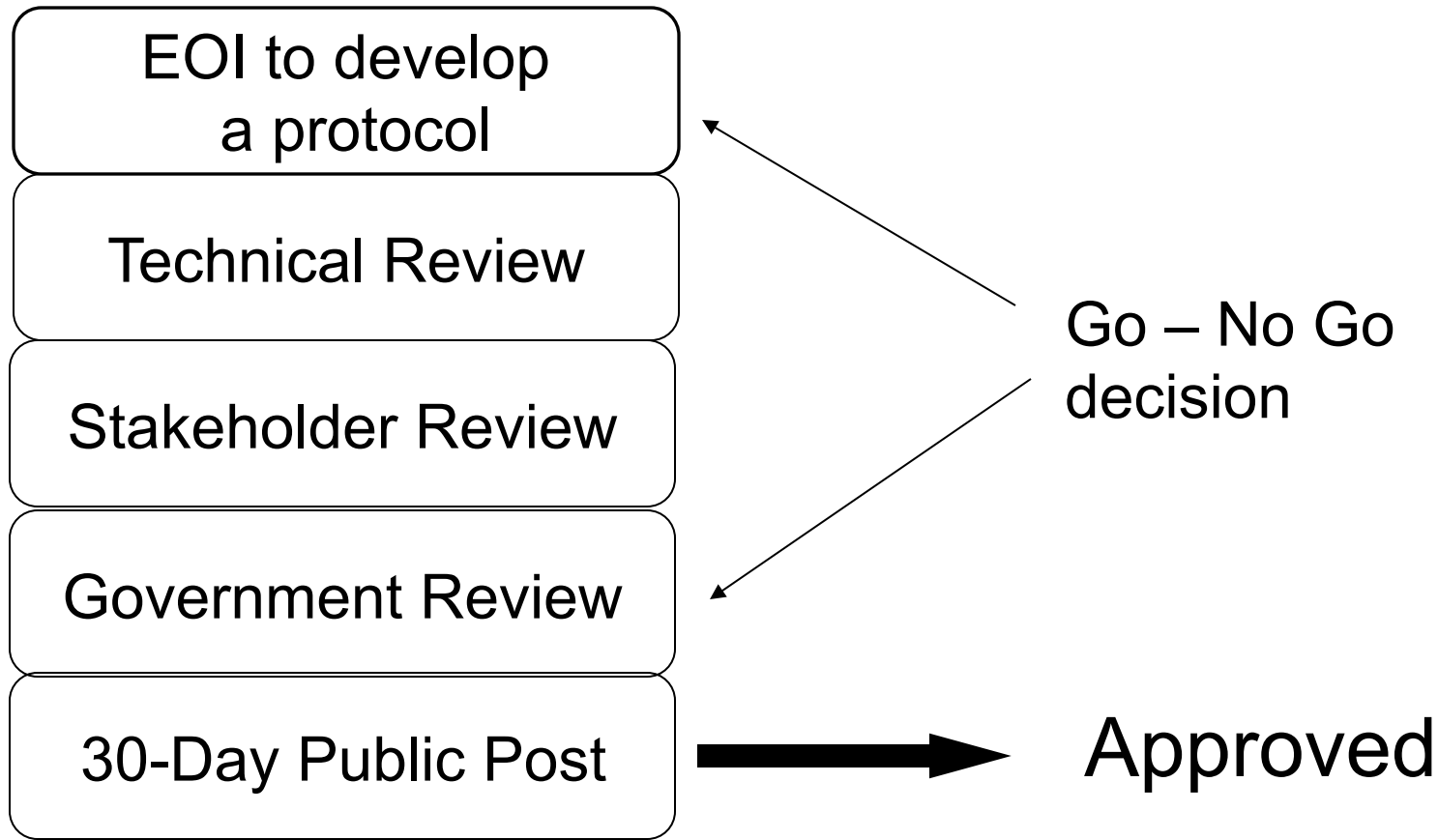
Other Protocol Considerations

- **Additionality** –
 - What is business as usual for the sector?
 - What are regulatory requirements that apply to this activity?
 - What is the level of up-take for the activity?
- **Permanence** –
 - Are reductions permanent?
 - Can emissions be re-released to the atmosphere?
- **Leakage** –
 - Do reductions apply for the full life-cycle of the activity?
 - Do reductions on site result in a shifting or displacement of emissions upstream or downstream of the activity?
- **Measurable** –
 - What is the state of the science?
 - Can emissions reductions be metered, measured, and monitored?
 - What is the level of uncertainty in the measurements?

What qualifies for an Offset



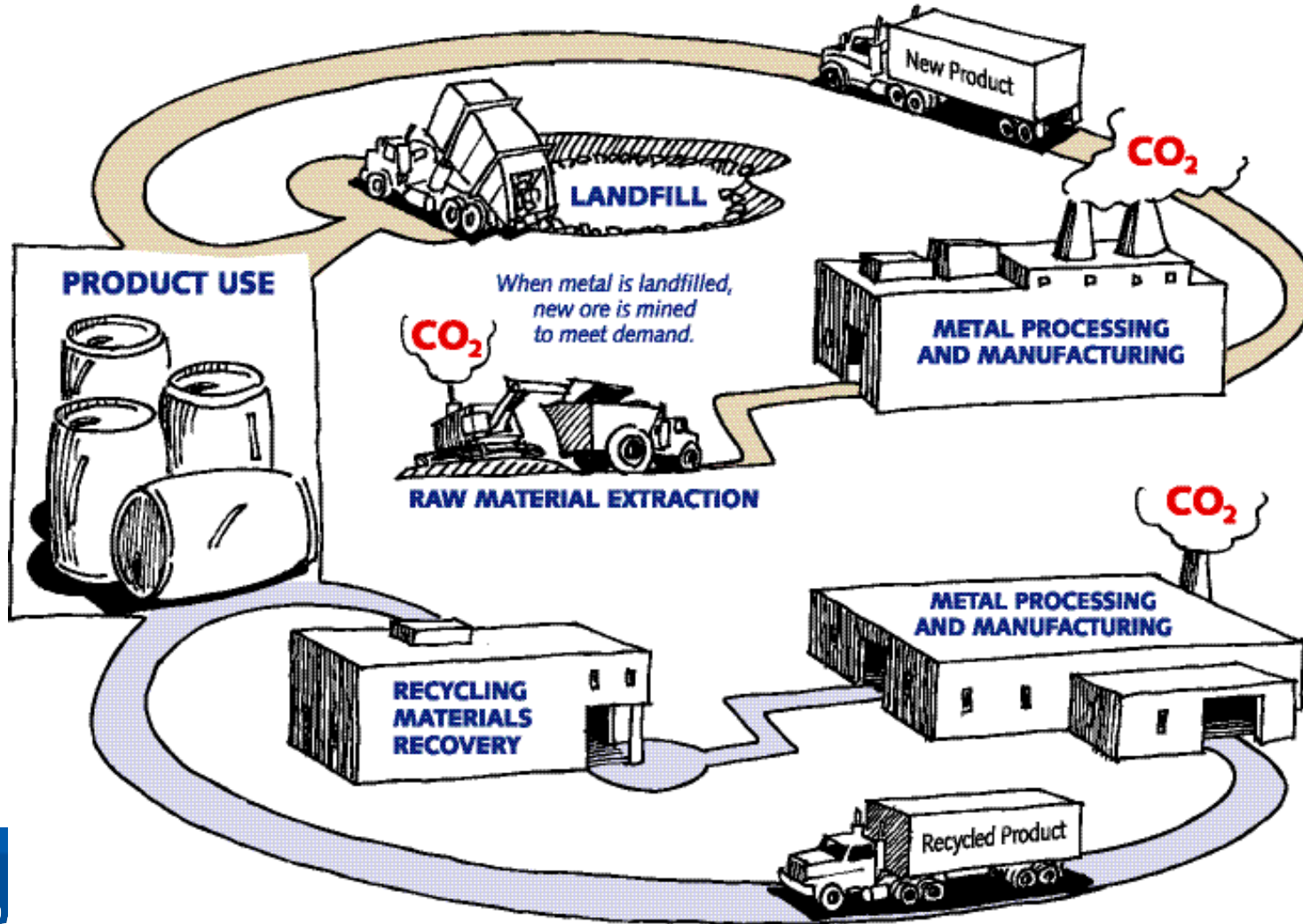
Protocol Development Process



Example Life-Cycle Analysis: Metals

GHG Emissions for Metals

Life Cycles for Landfilling vs. Recycling



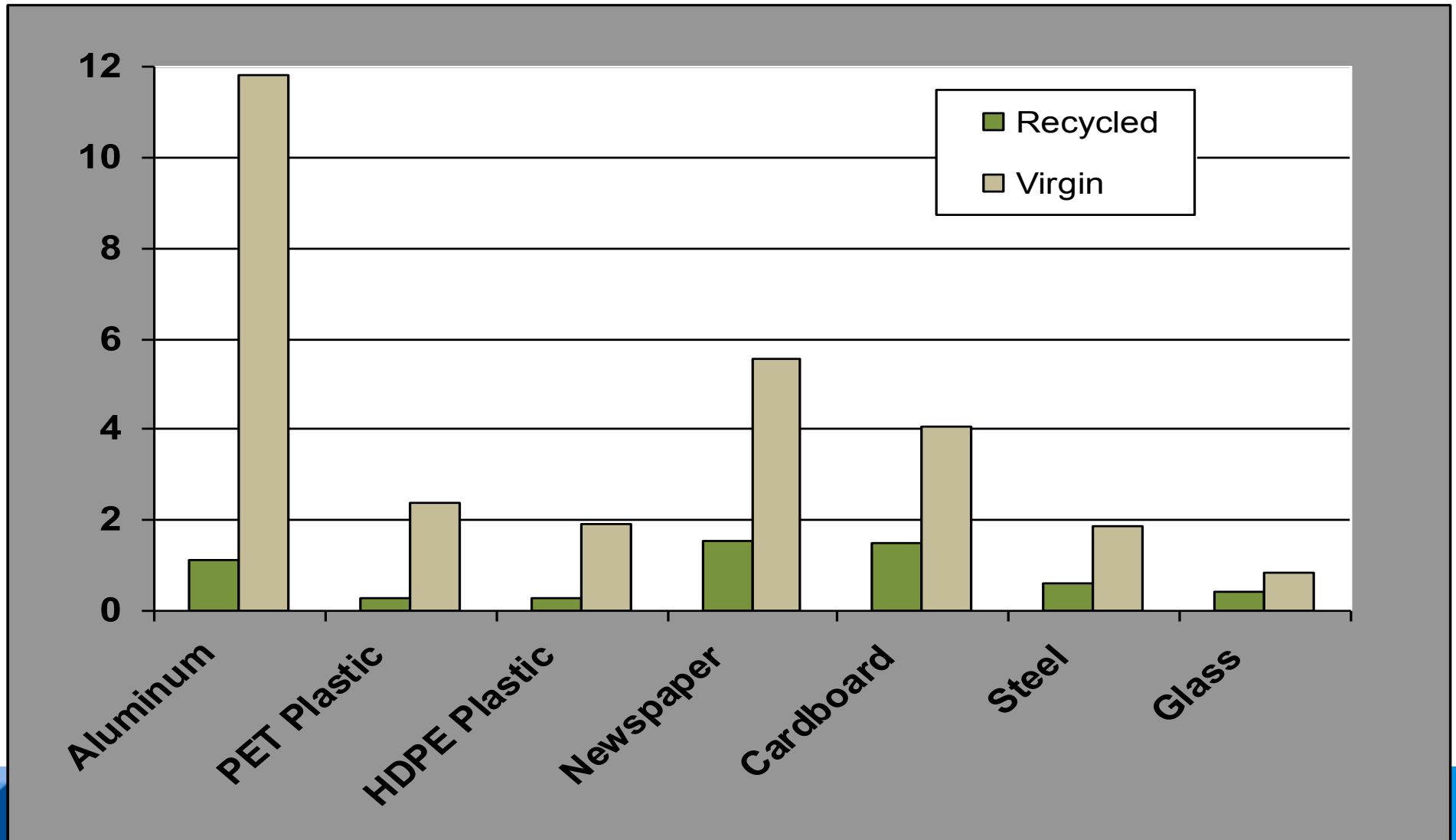
GHG Protocol

- **Goal to develop Quantification Protocol**
 - defined in the “Alberta Offset System Protocol Development Guidance Document”
 - apply to the greenhouse gas emissions associated with the diversion of waste through reuse, reduction, and recycling
- **Recycling Council of Alberta “protocol developer”**
- **Protocol developer submits:**
 - Technical Seed Document
 - establishes the scientific and technical basis for the proposed protocol
 - Technical Protocol Plan
 - initiates the protocol development process

Opportunities

- Replicable methods for the quantification of the GHG emission reductions associated with waste reduction and recycling
 - emission reductions are real and quantifiable
 - relatively large, and therefore inherently worthy of consideration in the offset system

CO₂ Emissions: Recycled & Virgin Content Products (kg eCO₂/kg)



Challenges

- **Reductions indirect**
 - take place at a different place and at a different time than the actual act of waste reduction or recycling
 - represent the most challenging aspect of making the case for the inclusion of waste reduction and recycling initiatives under SGER
- **Chain of custody**
 - Who owns the credits?
- **Funding**
 - TransCanada
 - Aggregators

Next steps

- **Funding – market analysis**
 - Protocol development costs
 - TransCanada, is it worth it for them?
- **Document preparation & submission**
 - Tight timelines
 - Peer, technical reviews
- **Approval**

Discussion

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