



Carbon Offsets in Alberta: Where to From Here?

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Alberta's Carbon Offset Program

- Facilities that emit more than 100,000 tonnes of greenhouse gases a year to reduce baseline emissions intensities by 12 per cent, as of July 1, 2007.
- In order to meet the reduction targets, regulated facilities have four compliance options:
 - Reduce On-Site Emissions;
 - Purchase Alberta-based offset credits;
 - Contribute to the Climate Change and Emissions Management Fund; or
 - Purchase or use Emission Performance Credits

Alberta Only Please

- The Alberta Emission Offset Registry (AEOR) and the Alberta Emission Performance Credit (EPC) Registry, ...support the ability for regulated facilities to be compliant with the Regulation through the purchase of Alberta based carbon offset credits and/or purchase or use of Emission Performance Credits.

The Fine Print

- One carbon offset credit represents a one-tonne reduction or removal in greenhouse gas (GHG) emissions resulting from an independently verified GHG project.
- Carbon offset projects range in scope and involves implementation of a **new management practices, technology and/or control systems** that reduce or remove emissions of a given process.
- GHG projects listed on the AEOR are **real, demonstrable and quantifiable** reductions of emissions, and are **verified** by an independent third party.

The Rules

- 34 approved protocols
- 2 Under development
- 6 terminated
- Protocols are approved for 8 years with a possible 5 year extension
- Relevant to Biomass approx. 9

Sustainable Biomass

- NRCan
 - Biomass...is a renewable resource only if its rate of consumption does not exceed its rate of regeneration.”
- Alberta
 - Forest mill residues – must demonstrate that it was waste
 - Debris from forest harvesting on Crown land – must meet sustainability criteria set in their FM plans
- Note – bioenergy definitions – assume biomass products going to displace energy from fossil fuels.

Opportunities for Biomass

- Replacement of other fuel sources ie. burning for electricity
- Changing harvest practices
 - Better utilization
 - Afforestation?
 - Well site seismic line reclamation
 - Low impact seismic
 - Reducing the impact of other anthropogenic disturbances such as pipelines, roads etc.
- Additional benefits to caribou, birds etc.
- Minimize impacts on harvest levels

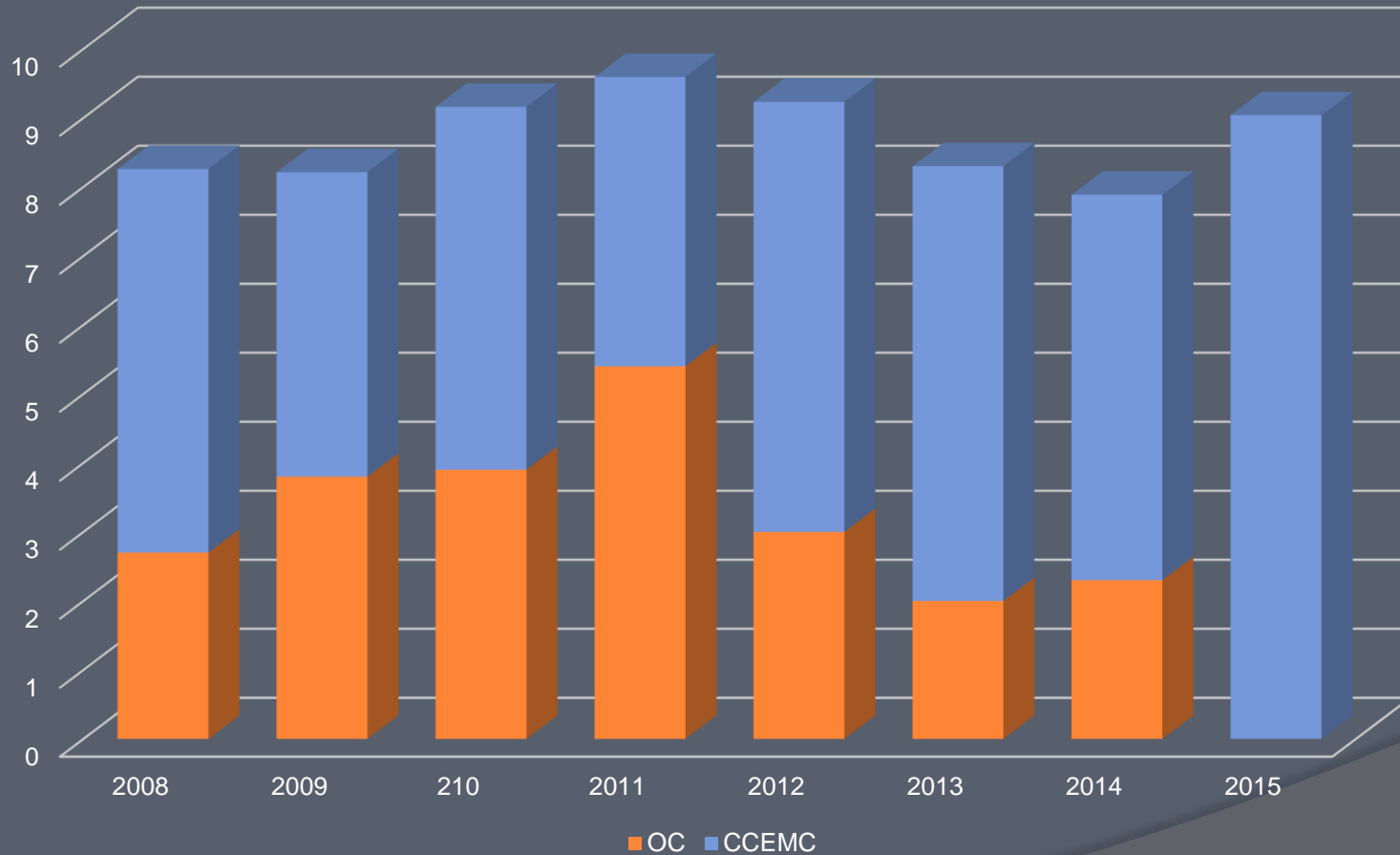
The Market Size

- A lot of work being done on the supply side
 - Renewable Energy Certificates (to be introduced)
 - Output Allocations (replacing SGER)
 - Offsets
 - EPC's
 - Emissions Reduction Alberta (formally CCEMC)
- Will all offsets be able to find a home?

You Can Pay Me Now or...

- Alberta price of carbon
 - Current \$15/tonne
 - 2017 \$20/tonne
 - 2018 \$30/tonne
 - 2019+ rise with inflation
- Federal Price
 - 2018 \$10/tonne - \$50/tonne in 2022
- What will be the value of offsets?
- Could there be an oversupply?
- Hedging?

Alberta Offsets Market (MT CO2e)



Source: AEP

Biomass Related

- Reduced fuel consumption through different truck configurations and/or
- Fuel switching
- Opportunities outside of Alberta?

What Next?

- Still a lot of uncertainty in Alberta
- Government supportive but opportunities (offsets) need to align with market