BUYING OFFSETS FOR COMPLIANCE

CLIMATE ACTION RESERVE WEBINAR

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SHELL ENERGY’S ENVIRONMENTAL SOLUTIONS

- Renewable Energy and emissions marketing and trading

- Renewable Energy
  - State compliance markets
  - Voluntary RECs
  - Eligible renewable fuels

- Emissions
  - Alberta GHG program
  - WCI carbon
  - Voluntary carbon
  - $SO_2$ and $NO_x$ markets
AGENDA

- Context
  - California’s cap
  - Retirement obligation timeline
- Possible compliance strategies
- Offset structure considerations
CALIFORNIA - RETIREMENT OBLIGATION TIMELINE

Annual Emissions

Retirement obligation

Tonnes

11/1/2014
11/1/2015
11/1/2016
11/1/2017
11/1/2018
11/1/2019
11/1/2020
11/1/2021

POSSIBLE COMPLIANCE STRATEGIES

- Wait for regulatory certainty
- Internal abatement
- Buy allowances at auction
- Forward-delivery allowance purchase
  - Fixed price forward delivery in Dec 2013 (ICE)
  - Contract financially settles at $10/tonne if tracking system not in place on delivery date
  - Delivery occurs even if program not “in force”
  - Limited liquidity at present
- Options (puts and calls)
- Offsets
Carbon Offsets

Offsets represent emission reductions that have been achieved outside of the capped sector.

1. Company A needs to meet its emissions cap
2. Company A invests in an emission reduction project that produces carbon offsets
3. Company A receives carbon credits for its investment

Carbon offsets programs can include:
- Reforestation
- Renewable energy
- Methane capture/combustion

One carbon credit = One tonne of greenhouse gas emission reductions
OFFSET PURCHASE CONSIDERATIONS

- Product?
  - ARB-issued offset, CRT with conversion etc
- Delivery dates
- Firm volume/project contingent?
- Fixed price/floating price/hybrid?
- Payment structure?
  - “Tear up” - no delivery/payment if program not “in force”
  - Staged payments linked to milestones
- Revocation?
  - No warranty/full warranty
  - Double verification
- Credit