



Climate Change Central



Alberta Renewable Diesel Demonstration

Pollution Prevention Roundtable – June 11, 2008





Climate Change Central



Project Overview

Background and Project Scope



Setting the Context



Background

- Environment Canada issues Notice of Intent to Regulate a Renewable Fuel Standard for Canada contingent upon ‘successful demonstrations’
- Stakeholders propose a one-year cold weather operability study to alleviate industry concerns over commercial renewable diesel use in winter
- Partnership struck between fuel industry, trucking industry, federal and provincial governments, and managed by not-for-profit (C3)



Governance



- ARDD Steering Committee
 - Environment Canada
 - Natural Resources Canada
 - Agriculture Canada
 - Alberta Energy
 - Canada Petroleum Products Institute
 - Canadian Renewable Fuels Association
 - Shell Canada
 - Canadian Bioenergy Corporation
 - Canola Council of Canada



Stakeholders



- ARDD Advisory Committee
 - Detroit Diesel
 - Caterpillar
 - Canadian Vehicle Manufacturers Association
 - Association of International Automobile Manufacturers of Canada
 - Engine Manufacturers Association
 - Alberta Motor Transport Association
 - Canadian Trucking Alliance
 - British Columbia Trucking Association
 - Milligan Biotech
 - Neste Canada Ltd.



Setting the Context



Project Scope

- Demonstrate cold weather operability of B2 blends of ULSD with biodiesel (FAME) and hydrotreated renewable diesel (HT)
- Demonstrate viability of terminal-level injection blending and workable blend formulation to meet CGSB cloud point specifications
- Provide hands-on experience for long-haul trucking industry



Focus: Operability



Evaluate Fuels

- Cold weather physical characteristics
- Operability in cold Alberta winter
- Identify impediments: cloud point, low-temperature filtration etc.



Evaluate Operability

- Testing on-road operability in cold weather
- Suitable blend to meet CGSB cloud point targets
- Performs well through fuel infrastructure





Climate Change Central



Monitoring & Reporting

Protocols for Testing & Data Collection



Testing Protocols



Fuels

- Testing follows ASTM and CGSB protocols
- Fuel testing is done via 3rd party (Alberta Research Council)
- Testing is monitored by a technical committee of fuel experts



Vehicles

- Tracking for fuel consumption, distance, oil change, fuel filter change
- Idling & operational data on select units



Protocols for Data Gathering

Fuel Quality

- Test base renewable diesels
- Retain and test blend samples at loading rack
- Retain and test blend samples at distribution points
- Periodically test stored renewable diesels
- Protocols in place for additional testing if problems occur



Protocols for Data Gathering



Fleet Monitoring

- Fuel efficiency
- Maintenance Records
- Blocked filter testing
- Analysis of failed parts (injectors, pumps, etc)
- Driver feedback





Climate Change Central



Desired Outcomes

Successful Demonstration in Range of Climatic Conditions



Value for Wide Range of Stakeholders



Desired Outcomes:

- Address concerns of commercial carriers regarding cold weather operability, fuel quality, blending and handling (distribution)
- Increase knowledge of blend formulation to meet cloud point specification in northern climates
- Confirm fuel quality and performance can be maintained throughout supply chain
- Provide hands-on experience among commercial fleet operators
- Generate impartial, credible, multi-party observations for policy-makers to use in creating renewable fuel policy for Canada





Climate Change Central



Progress to Date



Steps to Launch



Key Elements:

- Fleets recruited – 70 trucks: 20 control, 25 on FAME, 25 on HT
- Blending facility constructed & commissioned (November 2007)
- Monitoring & testing protocols in place
- Renewable diesel fuels procured, blended and delivered to distribution points
- Quality testing done and cold weather properties known



Progress to Date

Supply Chain in Place



Blending Facility

- Shell's Sherwood Marketing Terminal



Cardlocks

- Flying J (3 sites)
- Yard tank (1 site)





Climate Change Central

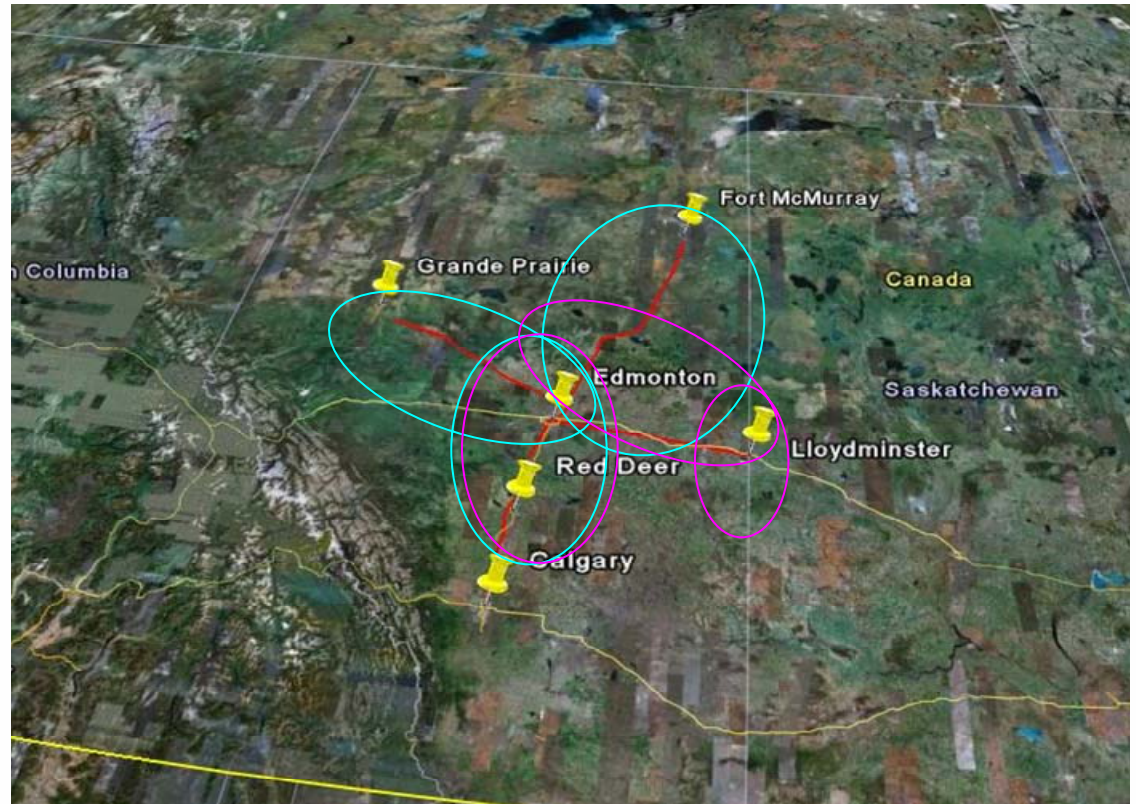
Progress to Date

Accomplishments



Operating Area

- FAME Operating Area 
- HT Operating Area 

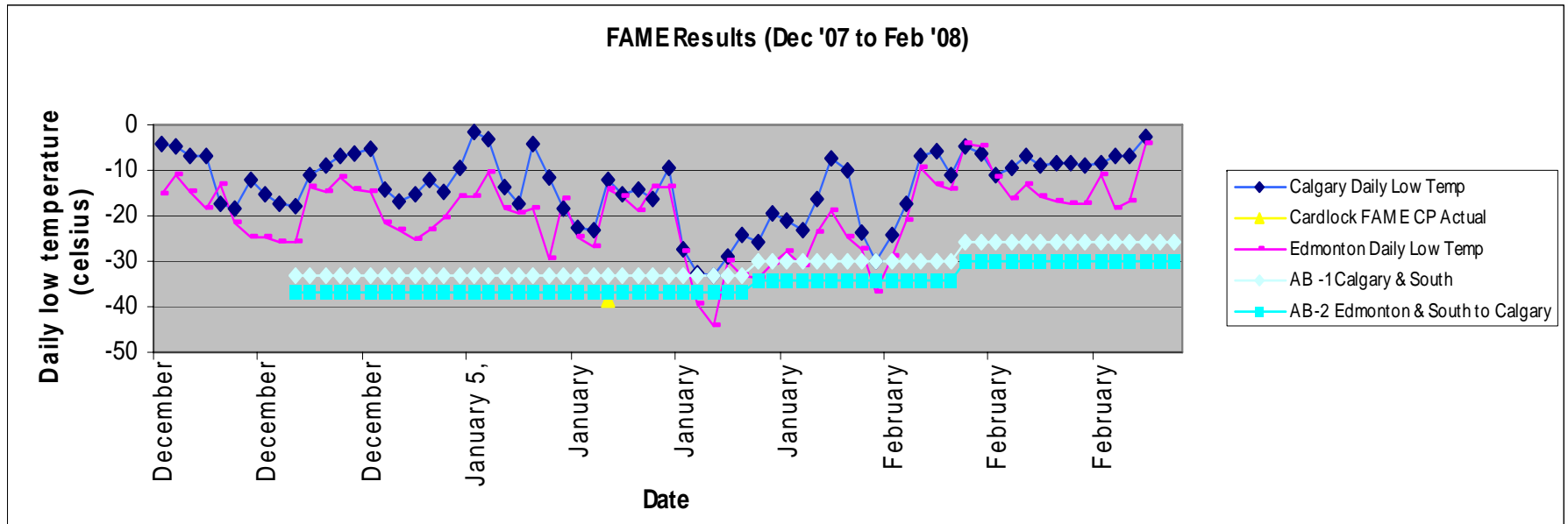


Climate Change Central

Winter Temperatures



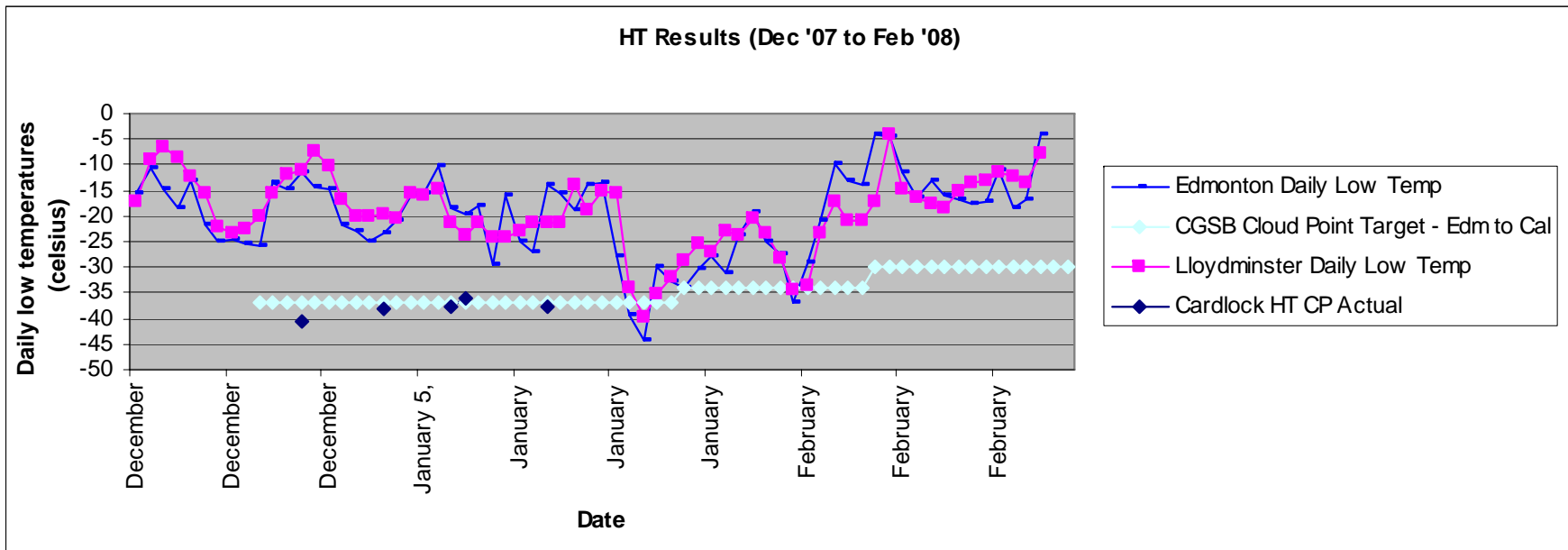
Initial FAME Results



Winter Temperatures



Initial HT Results



Accomplishments



Achievements to Date

- Successfully blended and distributed CGSB 3.520 compliant blends at B2 for winter cloud point targets (-37°C)
- Fuel quality and performance was maintained throughout the supply chain and infrastructure
- No reports of non-starts, plugged filters or loss of power
- Successful blending, handling and retailing in commercial cardlocks
- ‘Seamless integration’ from fuel handling point of view



Timeline for Completion



Target Dates:

- Cardlocks ready late 2007
- Fuels acquired December, 2007
- Official launch January, 2008
- Duration of demonstration – December, 2007 to September, 2008
- Interim report in late spring, 2008
- Final results published fall, 2008



Comments or Questions?

Please Contact:

John Rilett

Vice President

Climate Change Central

jrilett@climatechangecentral.com

(403) 517-2730

