

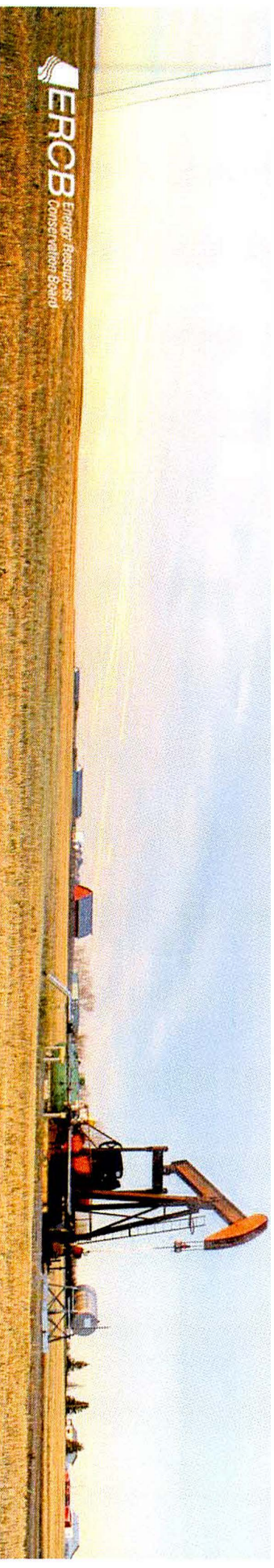
FLARING AND VENTING CAN WE HARMONIZE PROVINCIAL DEFINITIONS?

CAPP Accounting Committee
October 10, 2012

*Jim Spangelo
and James Vaughan, ERCB*

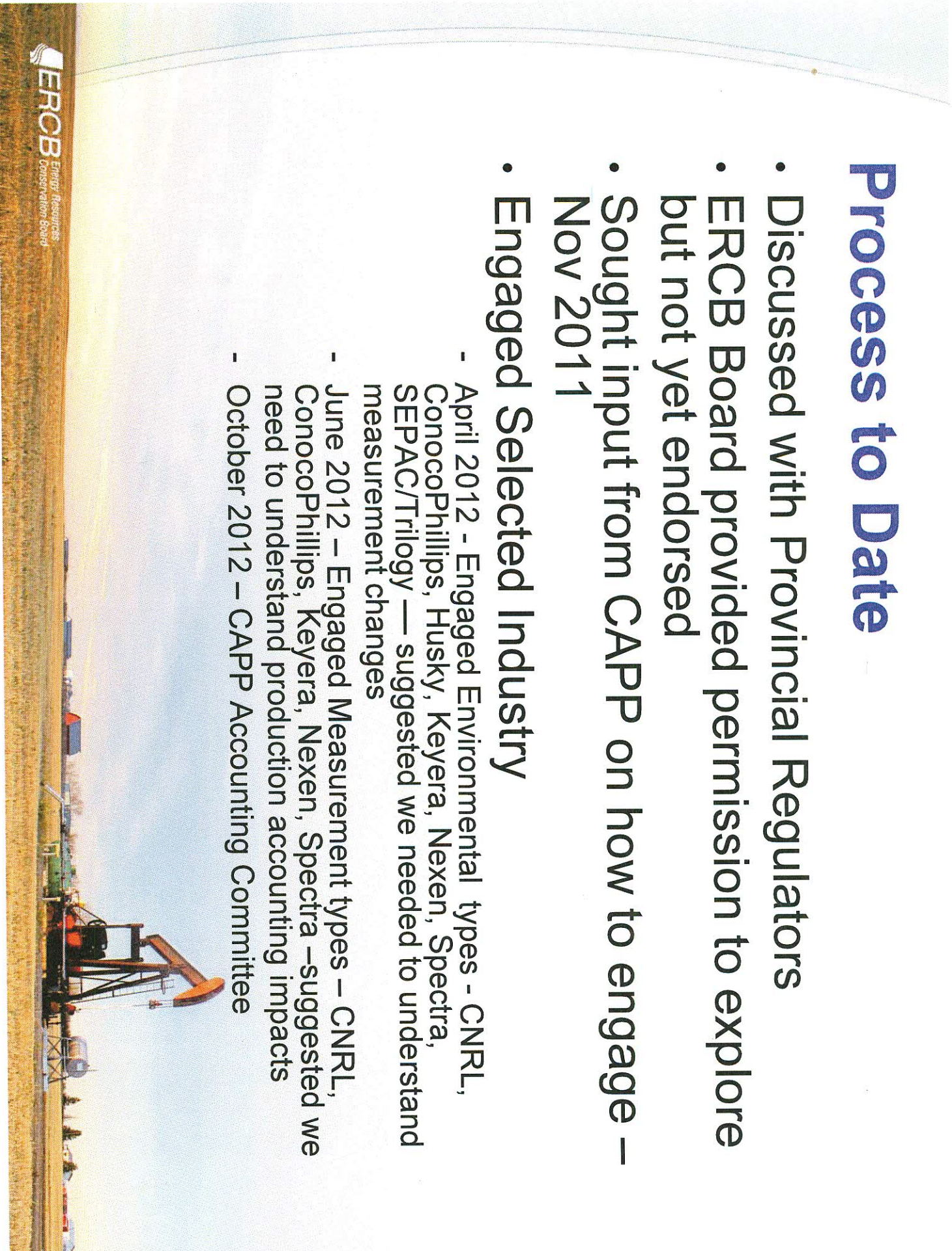
Proposal

Harmonization of flaring and vent definitions with other provincial regulators.



Process to Date

- Discussed with Provincial Regulators
- ERCB Board provided permission to explore but not yet endorsed
- Sought input from CAPP on how to engage – Nov 2011
- Engaged Selected Industry
 - April 2012 - Engaged Environmental types - CNRL, ConocoPhillips, Husky, Keyera, Nexen, Spectra, SEPAC/Trilogy — suggested we needed to understand measurement changes
 - June 2012 – Engaged Measurement types – CNRL, ConocoPhillips, Keyera, Nexen, Spectra—suggested we need to understand production accounting impacts
 - October 2012 – CAPP Accounting Committee



ADVANTAGES OF HARMONIZATION

- Prevent errors occurring because of different rules between provinces
- Cost savings to industry by not having to maintain and follow multiple definitions
- If reporting is consistent and clear, reporting is more complete
- Improved granularity will help improve conservation (numbers more visible)
- Quality of flare and vent numbers for Canada will improve
- Improved alignment with GHG reporting will help simplify industry reporting



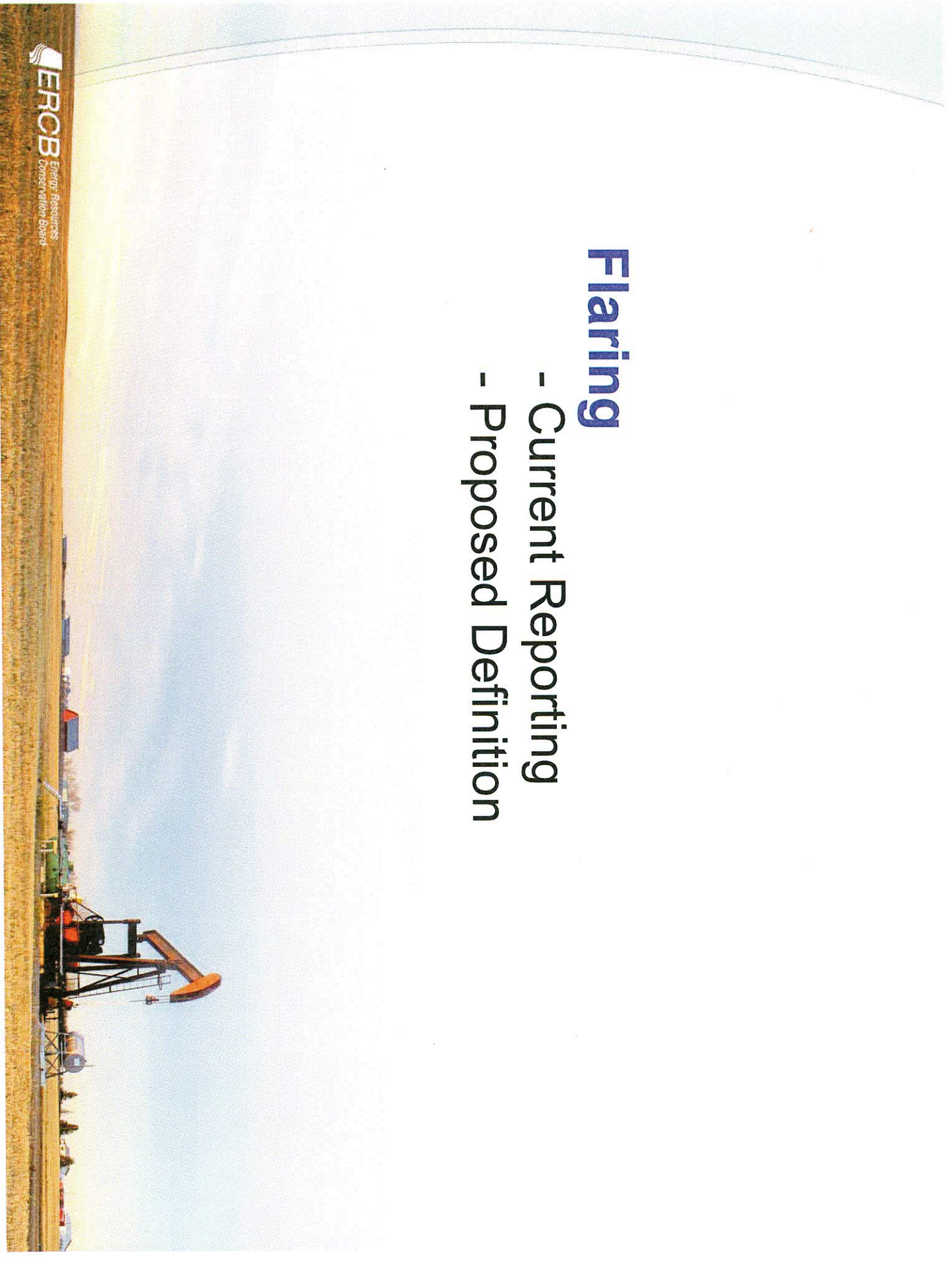
IMPACTS OF HARMONIZATION

- Cost to change production accounting and field data capture systems
 - Registry (potential changes to training modules, error/warning messages, reports, volumetric balancing rules and formulas, code tables, business rules validation tables etc.)
 - Other PA systems (Prism, Triangle, PAS, Qbyte, etc.)
 - Field data capture system – data logging system
- Consultation effort with others prior to and after change
- Training of PAs and Operators
- Greater granularity will result in extra cost for estimations



Flaring

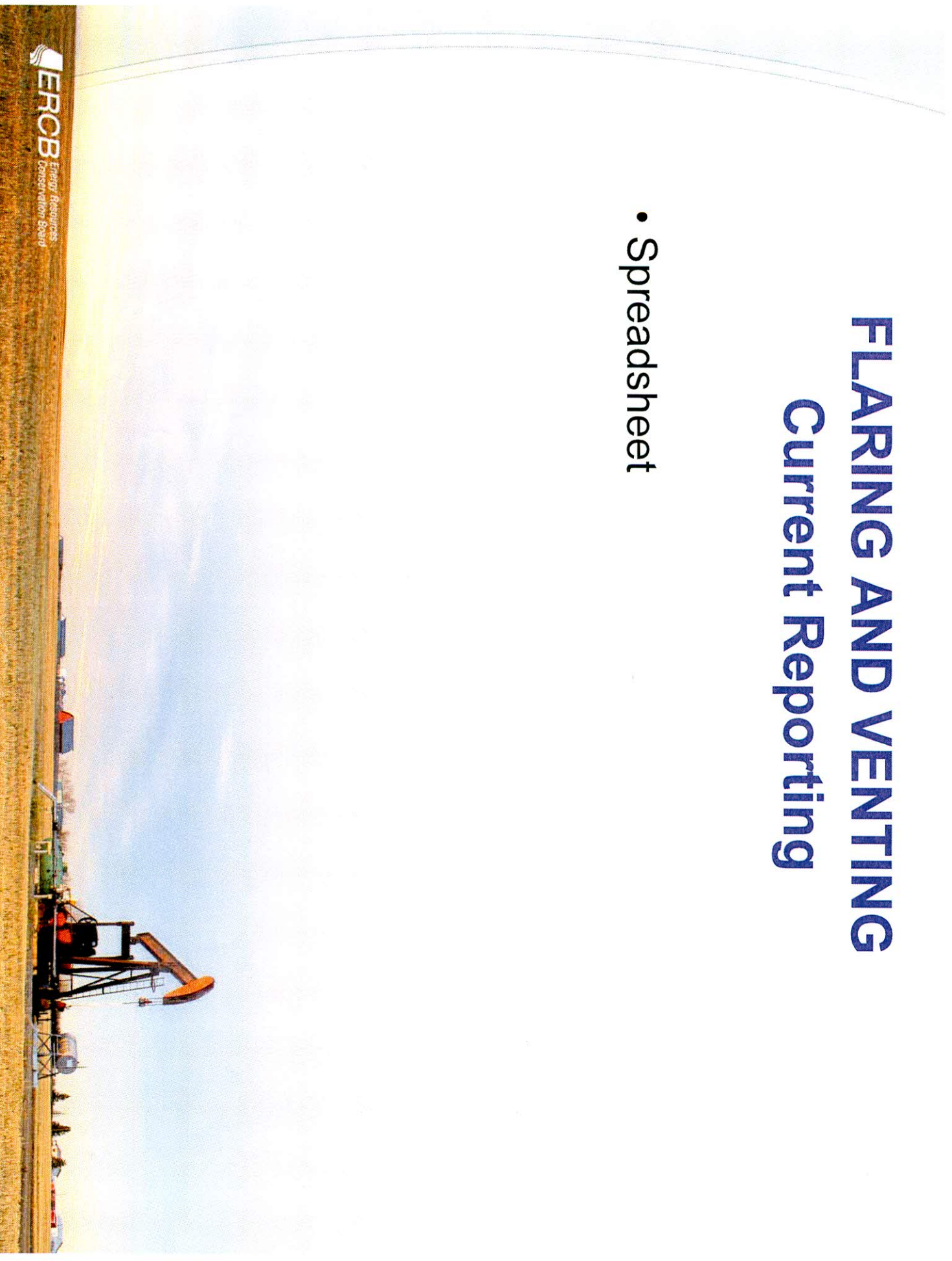
- Current Reporting
- Proposed Definition



FLARING AND VENTING

Current Reporting

- Spreadsheet



NEW PROPOSED FLARING DEFINITION

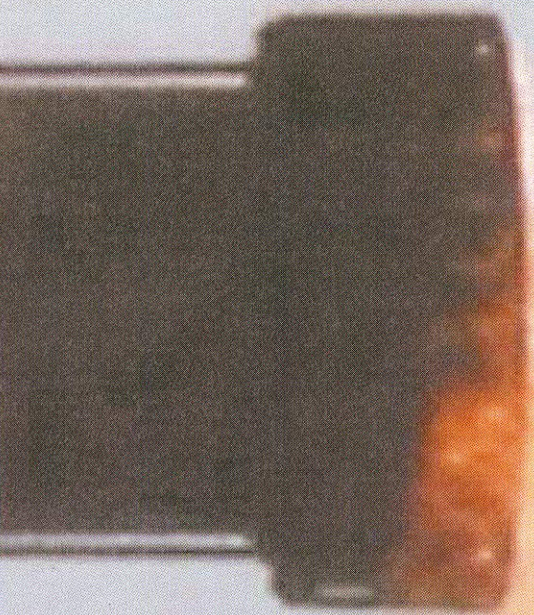
Flaring

- **Flaring** includes gas streams directed to a flare or incinerator stack for combustion. (*Tail gas directed to a sulphur plant incinerator and fuel gas directed to a sulphur plant incinerator are excluded.*)
- Flaring includes:
 - Flared fuel gas (fuel gas directed to flare to enhance dispersion and to improve combustion efficiency, purge gas, flare pilot gas),
 - Flared waste gas, and
 - Flared acid gas continuously or intermittently flared.
- Flared fuel gas, flared waste gas and flared acid gas should be separately reported.



WHY?

- Easy to understand
- Easier to verify based on field observations
- Brings more attention to fuel gas to flare
- Easier to measure a total flared number
- More consistent with other jurisdictions



Other Whys for Alberta

- Alberta specifies gas plant flare limits as percent of receipts – we don't want to penalize plants for flaring fuel gas and acid gas which aren't part of this limit now – we aren't planning to change limits
- Overall flare and vent numbers will go up (currently only looking at waste gas). We want to separately report on these numbers so that we can clearly show how the flared volumes we are reporting today are changing and explain any changes



Potential Impacts to Flare Reporting

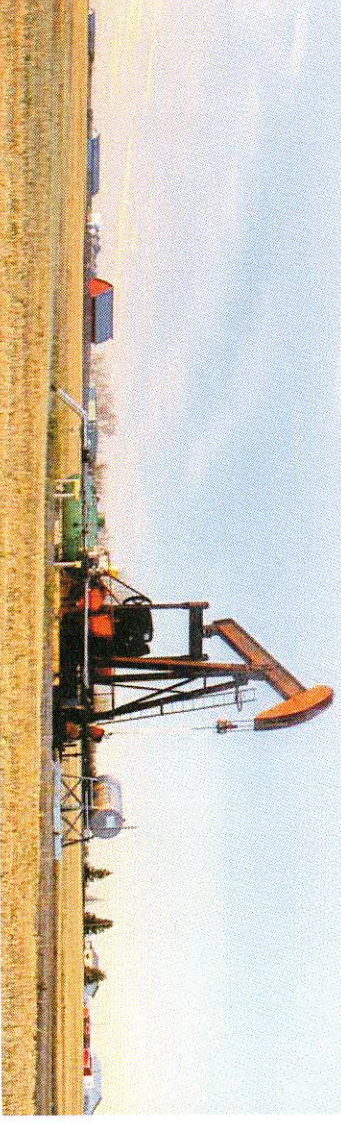
<u>Future Reporting?</u>	<u>Current Reporting</u>	<u>Approximate Number of Facilities Impacted in AB</u>
1 Flared Fuel Gas	Fuel	Assume maximum number impacted would be the number of facilities and wells having both flaring and fuel in a year
2 Flared Waste Gas	Flare	Essentially same as Flare (with the exception of about 100 sour gas plants (AGI and Srec) which would report intermittent AG flared as Flared Acid Gas (previously reported as Flare))
3 Flared Acid Gas		
- Continuous	AG SHR	Would impact approx 100 sour gas plants (AG Flaring Plants and maybe Oil Sands 345) who would now report AG SHR as Flared Acid Gas
- Intermittent	Flare	Impact to about 100 sour gas plants (AGI and Srec) and maybe Oil Sands 345 which would report intermittent AG flared as Flared Acid Gas (previously reported as Flare))



PROPOSED NEW VENT DEFINITION

Venting

- **Venting** is the direct emission from the intentional releases to the atmosphere of hydrocarbon or CO₂ gas.
 - Venting includes:
 - vented fuel gas
 - vented waste gas, and
 - vented CO₂ where the stream is primarily CO₂
- Each of these streams should be separately reported.
- Where gas contains CO₂ because of the nature of operation – such as well fracturing operations or underground combustion these vented amounts should be split between CO₂ reported as CO₂ and hydrocarbon reported as waste gas.



WHY?

- **Simple and Easy to Understand.** Anything vented is reported as vented. This makes it easy for regulators, industry and the public to understand. Thus venting will more likely get reported.
- **Consistent with Alberta, BC, and Federal GHG reporting** (for the most part)
- **Brings attention to anything vented** – even fuel gas
- **Improvements** made when moving away from hydrocarbon pneumatic devices are **more visible**. A number of companies are moving to either low bleed pneumatics or to air or solar power for running pumps and controllers. This reporting of vented fuel gas will allow companies to track their success.
- **Improved GHG reporting** – fuel is normally assumed to be combusted, this helps ensure that the 25 x GHG potential of methane vent gas is properly accounted for.

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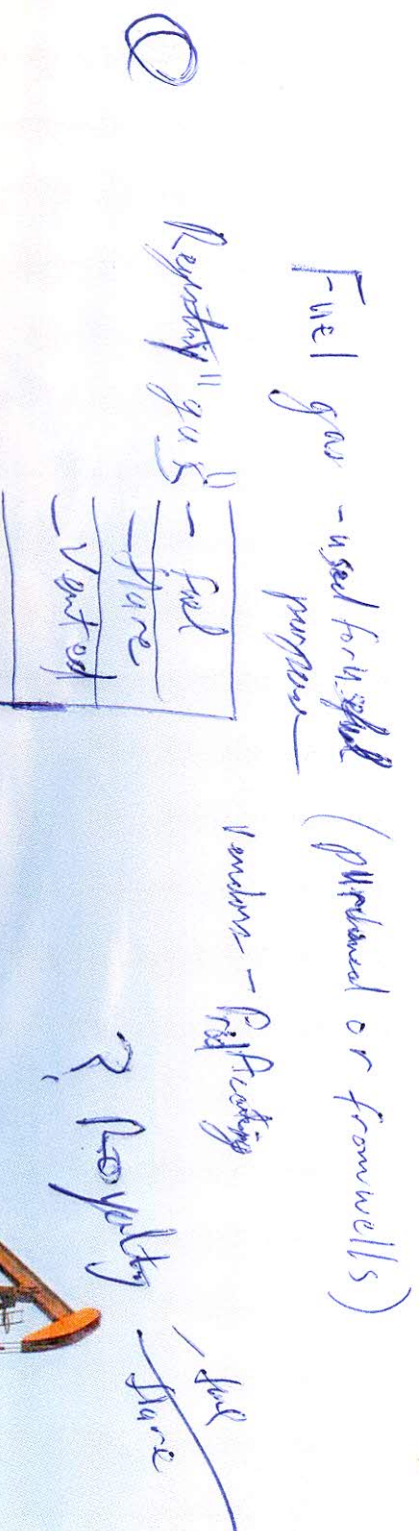
Potential Impacts to Vent Reporting

<u>Future Reporting?</u>	<u>Current Reporting</u>	<u>Approximate Number of Facilities Impacted</u>
1 Vented Fuel Gas	Fuel	Large Number? Assume maximum number of facilities impacted would be the number of facilities (bats, gs, cs) and wells having some fuel use (this will overestimate number of facilities venting fuel gas)
2 Vented Waste Gas	Vent	No Change
3 Vented CO2 (when primarily* CO2)	Vent CO2	No Change
* Would apply to operations such as well fracturing operations or underground combustion		
HC would be reported as Vented Waste Gas and CO2 as Vented CO2		

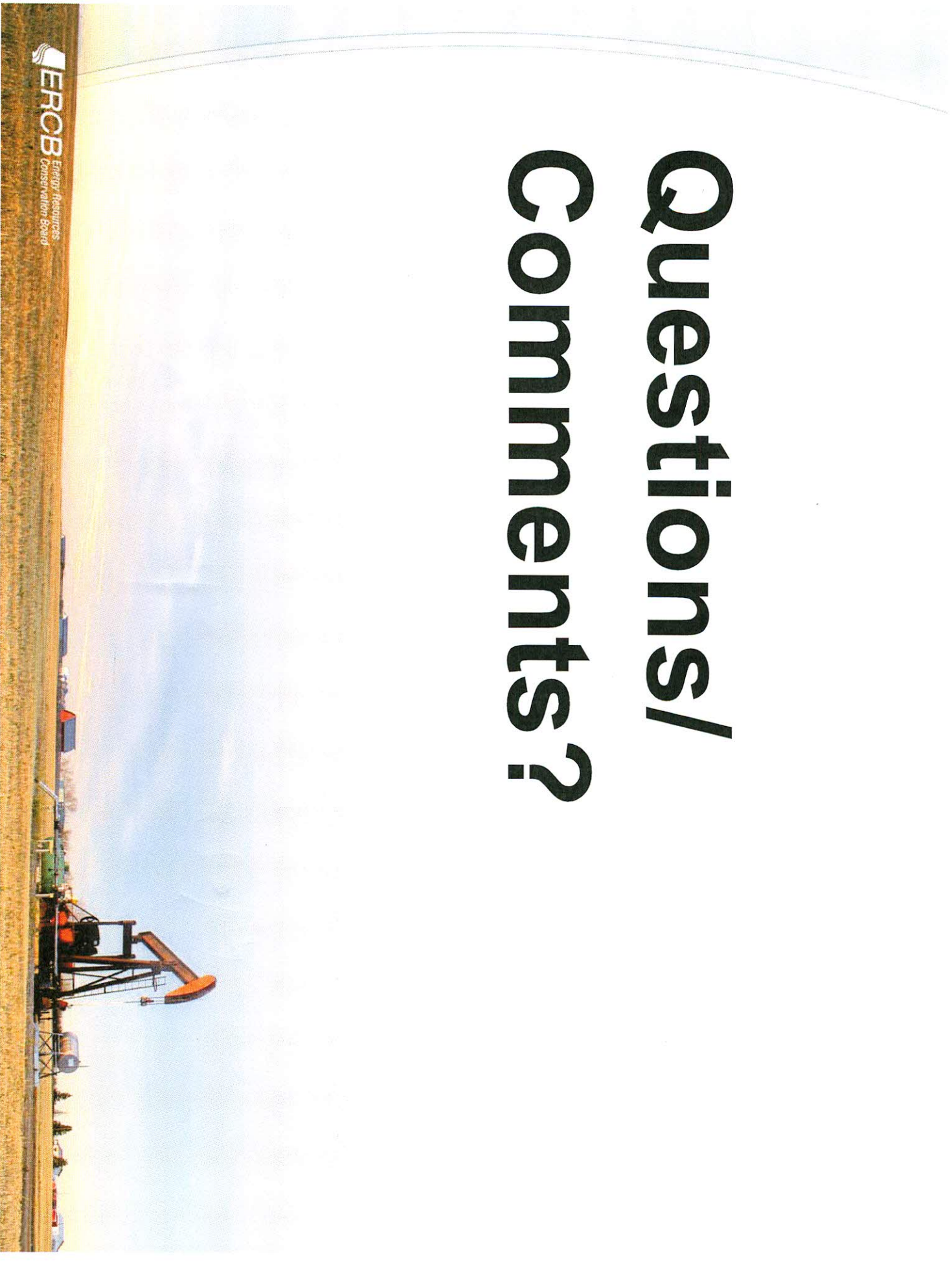


PATH FORWARD

- Production reporting – impacts/costs and benefits?
- Who to engage, how and when?
- Anything else?



Questions/ Comments?



Other Slides – Numbers Estimates



Draft – Estimated - AB Facilities in 2010 (Batteries and Wells) re Fuel Use

Oil, Gas and Bit Bats

<u>Counts (2011 data)</u>	<u>Gas Batteries</u>	<u>Oil and Bit Batteries</u>	<u>Total Batteries</u>
• Total number with flared gas	634	2,237	2,871
- Number with flared gas and fuel gas	469	1,314	1,783
• Total number with fuel gas	6,197	5,675	11,872
140 Facilities Reporting Acid Gas Shrinkage			

2011 Counts of Batteries (Oil, Gas, Bit Bats and Wells)

Total number with flared gas	4,015
- Number with both flared gas and fuel gas	1,991
Total number with some fuel gas	36,990

